

ASSESSMENTS OF IMPACTS OF THE MARITIME USAGE REPORT (AIMU) - ADDENDUM

Foynes Island: Additional Marine Site Investigations (Areas C & D)



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4 July 2025

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1 INTRODUCTION

Shannon Foynes Port Company (SFPC) appointed RPS to prepare an amendment application to their existing Maritime Usage Licence (Licence No. LIC230014) for Marine Site Investigation (SI) in two additional areas to support the planning and preliminary engineering design of the Foynes Deep Water Berth Development on Foynes Island an access bridge from Foynes Port to the south-east corner of Foynes Island and improvements to Foynes Yacht Club.

Following the award of the Maritime Usage Licence (MUL) for Marine SI at Foynes Island in October 2024, two further areas for SI activities have been identified to further inform the option appraisal and preliminary design of the Deep Water Berth and improvements to the existing infrastructure at Foynes Yacht Club. The purpose of this addendum is to consider the original Assessments of Impacts of the Maritime Usage (AIMU) report and to determine whether the impacts of the additional Marine SI areas would result in significant effects and to establish if additional mitigation to that proposed for the current MUL (Ref: LIC230014) is required. This addendum to the AIMU will be submitted as part of an application for the amendment of the current Maritime Area Usage Licence.

1.1 Overview of the Proposed Development and Marine Site Investigation Works

1.1.1 Project Context

The proposed development comprises additional marine site investigation (SI) works within two areas (referred to as C & D) surrounding Foynes Island, Foynes, Co. Limerick. The boundary of areas C & D are illustrated in Figure 1.1. Consent for these marine site investigations is being sought under an amendment to the existing MUL No. LIC230014 issued by MARA in October 2024, the areas for Marine SI consented under this licence are also included in Figure 1.1.

The scale of the SI works is commensurate with the level of detail required to facilitate the preliminary and detailed design and environmental assessment of the proposed Foynes Island Deepwater Development (“FIDD”) Project for development consent applications.

The quantity of site investigation required is based on the requirement for the following infrastructure within the wider port development proposals:

- 700m long open pile quay structure;
- Reclamation behind the full length of the quay structure;
- Potential enhancement works at Foynes Yacht Club as part of potential community gain proposals.

Boreholes/assumed depths may be refined further by site surveys, subsequent design changes and requirements arising as a result of the environmental assessment.

E: 523596.166m
N: 653836.349m

Area C
Area = 15.30ha

Area D
Area = 0.42ha

Antiquity Site 61

Oileán Fainge
Foyne's Island

Open Well

Baile na nGall
Ballyvaughan

An Chong
Corrig

Dairinis Durnish

Robertstown River
Abraigh Bhaile Róibard

0 300 600
Meters

Signed: Kelly Gurney CEng MICE NECR Reg
RPS Consulting Engineers
Elmwood House, 74 Boucher Road, Belfast, BT12 6RZ
CYAL50270502
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Dated: 10/03/2025

E: 526438.266m
N: 653836.349m

NOTES

1. Varying Dimensions:
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services:
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings:
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4. Datum

Map Series | Map Sheets

12,500 4795-D
12,500 4795-B
12,500 4858-B
12,500 4794-D
12,500 4795-C
12,500 4858-A
12,500 4795-A
15,000 4794
15,000 4795

CD4	Area Revised Issue for Statutory Approval	B.M.	08/08/20
CD3	Area Revised Issue for Statutory Approval	B.M.	04/08/20
CD2	Area Revised Issue for Statutory Approval	B.M.	27/05/20
CD1	Issue for Approval	M.H.	27/05/20
rev	amendments	check	date

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Client
Shannon Foynes Port Company

Project
Foyne's Island Deepwater Development - Marine SI

Title
Licence Map Part 2

Project Number IBM0845	Sheet Size A3	Drawing Scale 1:5000
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Drawing Number
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Drawn By M.H.	Status A1	Revision C04
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Checked By S.A.H.	Approved By S.A.H.	Date 22/02/2023
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| Foynes Island Assessments of Impacts of the Maritime Usage Report (AIMU) | D01 | July 2025

1.1.2 The Applicant

The applicant for the amendment to the MUL No. LIC230014 is SFPC. SFPC is responsible for the operation of Ireland's deepest sheltered commercial harbour and has jurisdiction over all marine activities on a 500km² area on the Shannon Estuary, stretching from Kerry to Loop Head to Limerick City.

The turnover value of current trade handled by the port is €8.5 billion per annum, with associated economic benefits of €1.9 billion per annum supporting over 3,900 jobs. AIM

SFPC operates one of the deepest ports in Europe, with depths of up to 32m and handling capacity for large vessels up to 200,000 deadweight tonnes.

SFPC is also an EU Core Network Port (TEN-T) and a Tier 1 Port in the Irish National Ports Policy.

In order to fully realise the potential of its deep-water advantage, future expansion and development of the port is guided by its Masterplan, Vision 2041, which is the driving force behind the port expansion to Foynes Island and hence the Marine SI.

1.2 Format of the Assessments of Impacts of the Maritime Usage Report

1.2.1 Purpose of Report

The purpose of this addendum to the AIMU report for MUL No. LIC230014 is to provide responsible authorities with objective information on which to assess the environmental effects of the proposed additional Marine SI on the receiving environment, in accordance with the Maritime Area Planning Act 2021. This AIMU report Addendum is part of an application to amend the current Maritime Usage Area License (Licence No. LIC230014) and documents whether they has been any significant change to the receiving environment in the vicinity of the activity / works as identified in the AIMU Report for MUL No. LIC230014. The addendum also assesses if the additional Marine SI proposed as an amendment to MUL No. LIC230014 will increase the significance of environmental effects identified in the original AIMU Report for the Marine SI works and whether additional mitigation measures to those already being implemented under MUL No. LIC230014 are required to ensure any significant effects are addressed.

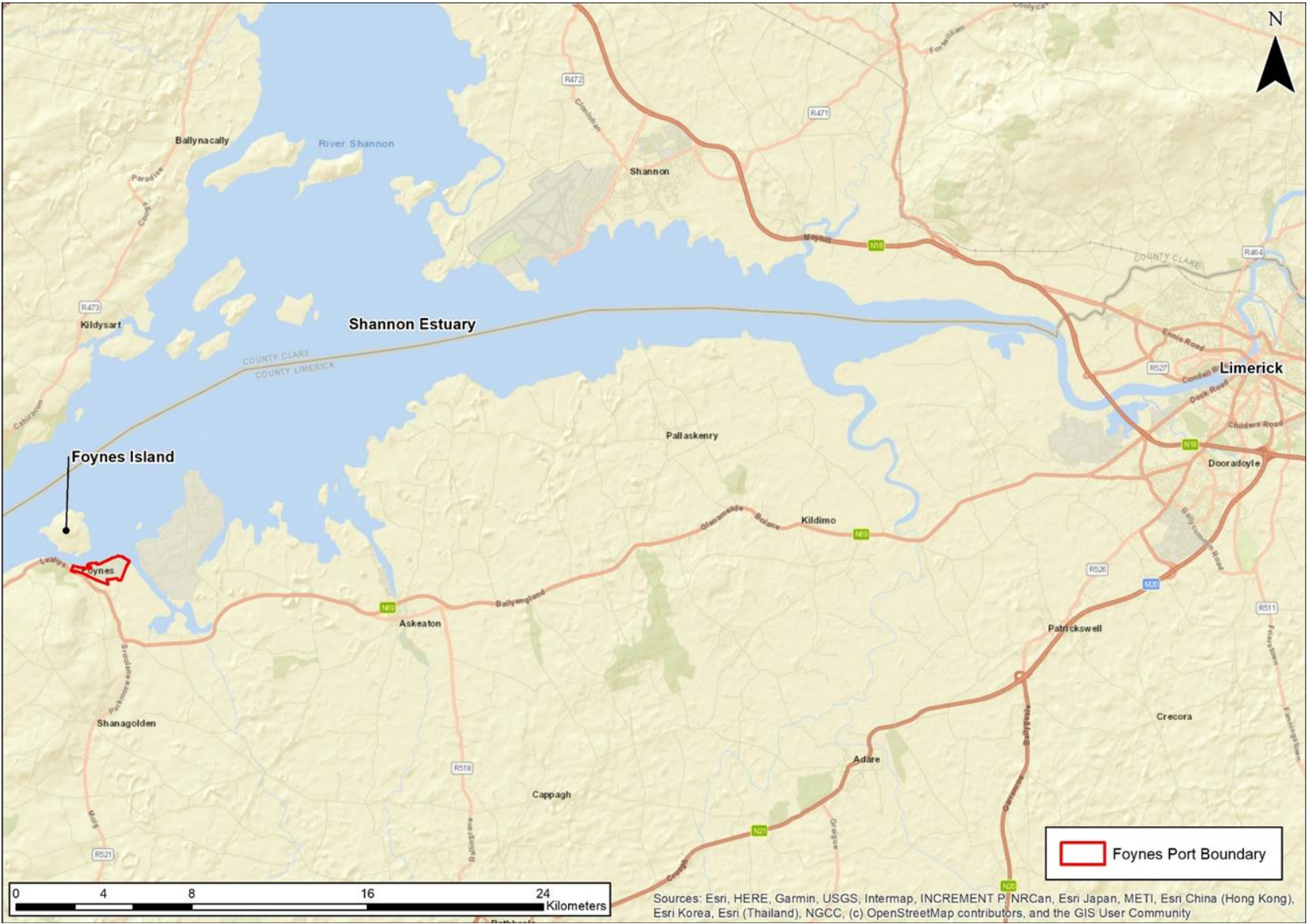


Figure 1.2: Foyes Port Location Map

1.2.2 Report Structure

This AIMU Addendum report uses the grouped structure method to describe the existing environment, the potential impacts of the proposed activity/works thereon and the proposed mitigation measures. Potential impacts are identified, assessed, and mitigated under the following topic chapters:

- Biodiversity
- Land, Soils, Geology & Hydrogeology
- Water
- Air, Climate & Noise
- Landscape & Visual
- Archaeology & Cultural Heritage
- Material Assets (Traffic & Transport and Coastal Processes)
- Shipping & Navigation
- Major Accidents & Disasters

Chapter 2 of this report sets out the Background to the Proposed Works consented under MUL LIC230014, including the relevant policy and the additional Marine SI as part of the amendment to the licence.

1.2.3 Assessment of Environmental Impacts

The assessment of the effects of the Marine SI works is premised upon an understanding of the likely magnitude of predicted impacts and the sensitivity to change of affected receptors. This provides for a determination of the likely significance of effects.

The baseline scenario relating to each environmental factor is used to identify potential receptors. The sensitivity of a given receptor is dependent on the receptor concerned, and the effect to which it is subject. For this reason, the sensitivity considers:

- The vulnerability of the receptor;
- The capacity of the receptor to recover; and
- The value/importance of the receptor.

An impact is defined as a physical change to the environment which is attributable to the implementation of the project. The magnitude of impacts generally takes into account factors such as:

- The extent of the impact;
- The duration of the impact;

- The frequency of the impact; and
- The capacity for the impact to be reversed.

The significance of an effect, defined in terms of the express consequence of an impact, is determined with regard to the magnitude of the impact and the sensitivity or value of the receptor. Table 1.1 provides an indication of the general categorisation of the scale of significance.

Table 1.1: Assessment of significance matrix

Sensitivity	Magnitude of Impact			
	Negligible	Low	Medium	High
Negligible	Negligible	Negligible or minor	Negligible or minor	Minor
Low	Negligible or minor	Negligible or minor	Minor	Minor or moderate
Medium	Negligible or minor	Minor	Moderate	Moderate or major
High	Minor	Minor or Moderate	Moderate or major	Major

Effects are also considered, and categorised, in terms of being direct and indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, and positive and negative, as appropriate.

2 PROJECT DESCRIPTION

2.1 Introduction

This section of the AIMU Addendum report provides a description of the proposed works consented under the existing licence (MUL LIC230014), and the additional Marine SI proposed under the amendment to the licence.

As presented in Chapter 1.1 of this report, the proposed activity / works involves two additional Marine SI areas to those previously licenced MUL No. LIC230014 to support the planning and preliminary engineering design of the Foynes Deep Water Berth Development on Foynes Island. The proposed Deep Water Berth Development is a fundamental part of Shannon Estuary's plan for delivering Offshore Renewable Energy, as outlines in the Vision 2041 Strategic Review 2022¹. The original Maritime Usage Licence was granted for Marine SI works on 14th October 2024 and this AIMU addendum is submitted as part of an application to extend the licenced activity to additional areas.

2.2 Existing Licence MUL LIC230014

2.2.1 Site Location

The Marine SI works are being carried out to support the option appraisal, planning and preliminary engineering design of the Foynes Deep Water Berth Development on Foynes Island. Foynes Port is located in south-western Ireland in County Limerick. The Port lies on the south bank of the Shannon Estuary, approximately 30km downstream of the city of Limerick. Foynes Island is located approximately 500m north of Foynes Port in the Shannon Estuary. **Error! Reference source not found.** shows the location of Foynes Port and Foynes Island.

2.3 Existing Marine SI Licence

The Marine SI, licenced within MUL No. LIC230014, is taking place in the Maritime Area as shown in **Error! Reference source not found.**

MUL No. LIC230014 provides consent for a two phase approach to the consented Marine SI works.

1. The Phase 1 works, completed in February 2025, provided geophysical data and preliminary site investigation information with the objective of providing initial ground conditions for the purposes of option appraisal and informing the preliminary geotechnical design of marine structures and bridge piers. The preliminary site investigation information, gathered under the Phase 1 Marine SI campaign, will also assist with the preparation of the Environmental Impact Assessment, Appropriate

¹ <https://sfpc.ie/vision-2041-strategic-review/>

Assessment and associated Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS), which will be submitted in support of the planning application for the main project, the Foynes Island Deepwater Development.

2. Phase 2 works shall constitute a detailed site investigation with the objective of adding to the data gained from the preliminary site investigation. After the completion of the Phase 2 works, the full set of site investigation data will provide information on the ground conditions at the extent recommended by Eurocode geotechnical design guidance.

The various activities for the Marine SI works consented under MUL No. LIC230014 are outlined in the subsections below in the sequence that they are undertaken.



Figure 2.1: Existing Maritime Usage Licence Areas for Marine SI (Licence No. LIC230014)

2.3.1 Marine Geophysical Survey

The marine geophysical survey was completed in December 2024 under MUL No. LIC230014 and covered the areas of the development footprint under water (where accessible). The aims of the survey were to:

- Identify and map potential geohazards;
- Identify and map potential archaeological sites and features;

- Facilitate the development of a ground model in support of the wider design; and
- Provide data and information in support of Environmental Impact Assessment.

A range of instruments were deployed for this survey including:

- GNSS positioning;
- Motion Reference Unit;
- Multibeam Echosounder;
- Sound Velocity Profiler;
- Sub-bottom Profiler, chirp;
- Side-scan Sonar, dual frequency, low and high;
- Magnetometer, caesium;
- Navigation, acquisition and processing suite;
- Post-processing navigation suite; and
- Charting software.

The survey was undertaken by a competent and experienced marine hydrographer using a Department of Marine licenced survey vessel capable of accessing all survey areas at high water.

2.3.1.1 Side Scan Sonar Survey

Method: Vessel towing a submerged pod (Sonar Device).

Vessel: Dept of Marine licensed survey vessel capable of accessing all project areas at High Water

Main Lines - 20 metre spacing in shallow water and no more than 50 metres in deeper water

Cross Lines – 200 metre spacing

Additional infill lines in shallow areas to allow for full device-suite coverage at 100% and greater; no data gaps. Swathe width achieved 25% overlap with neighbouring lines

A review of water depths was carried out in advance to ensure that the above requirements were met. There were locations within Area A and Area B that were not accessible for survey due to water depths or moorings, therefore complete coverage over the area was not achievable.

2.3.1.2 Sub-Bottom Profiling Survey

Method: Vessel towing a submerged pod (Pinger).

Vessel: Dept of Marine licensed survey vessel capable of accessing all project areas at High Water.

Main Lines - 20 metre spacing in shallow water and no more than 50 metres in deeper water.

Cross Lines – 200 metre spacing.

Additional infill lines in shallow areas to allow for full device-suite coverage at 100% and greater; no data gaps. Swathe width to achieve 25% overlap with neighbouring lines.

A review of water depths was carried out in advance to ensure that the above requirements were met. There were locations within Area A and Area B that were not accessible for survey due to water depths or moorings, therefore complete coverage over the area was not achievable.

2.3.1.3 Magnetometer Survey

Method: Vessel towing a submerged pod (Magnetometer).

Vessel: Dept of Marine licensed survey vessel capable of accessing all project areas at High Water.

Main Lines - 20 metre spacing in shallow water and no more than 50 metres in deeper water.

Cross Lines – 200 metre spacing.

Additional infill lines in shallow areas to allow for full device-suite coverage at 100% and greater; no data gaps. Swathe width to achieve 25% overlap with neighbouring lines.

A review of water depths was carried out in advance to ensure that the above requirements were met. There were locations within Area A and Area B that were not accessible for survey due to water depths or moorings, therefore complete coverage over the area was not achievable.

2.3.2 Geotechnical and Sediment Sampling

2.3.2.1 Piled Quay and Reclamation Area Boreholes

The geotechnical and sediment sampling comprises two phases.

Phase 1 was completed in February 2025 and included the following :

- Area A – drilling of 26 of the 71 boreholes originally programmed. Presence of reef and accessibility meant a number of boreholes had to be descope;
- Area B – drilling of 3 of the 8 boreholes. Presence of reef and accessibility meant a number of boreholes had to be descope.

Phase 1 boreholes were between 7 and 33 metres in depth. The boreholes had a diameter of 180mm.

Phase 2 involves:

- Area A – drilling of 62 boreholes
- Area B – drilling of 22 boreholes

Phase 2 boreholes will be circa 30m deep, or 10m into competent rock (whichever occurs first). These boreholes will have a diameter of 180mm. Figure 2.2 shows the locations for the boreholes within the foreshore licence area.

The boreholes are drilled firstly using cable percussive techniques. If rock is to be penetrated, then rotary drilling follows on. The machinery used is approximately 2m tall when it is in transit and approximately 7m tall when the borehole is being driven. The machinery is supported by a suitable jack-up barge.

For each borehole the footprint of the works on the foreshore is four 1m² legs of the jackup barge and the 180mm (8") temporary steel casing. The 180mm steel casing is the diameter of the borehole.

There are no permanent structures, all site investigation is facilitated by temporary works. The moving marine plant will remain on site for the duration of the works.



Figure 2.2: Phase 1 and Phase 2 Borehole Locations within Existing Maritime Usage Areas (Note only 29 boreholes were drilled under phase 1 as a number were descope due to the presence of reef habitat and accessibility issues)

2.3.2.2 Surface grab sample

Surface grab samples were collected in Phase 1 from 16 locations (AREA A) within the immediate footprint of the proposed development. Twelve of these sample locations occurred in the subtidal area, and 4 locations in the intertidal area. In addition, a subtidal reef habitat has been identified along the centre of the main Shannon channel which is immediately adjacent to the development. A number of drop down video locations were also surveyed within and adjacent to this reef community however due to the turbid conditions in the estuary the videos did not provide any interpretable information. A walkover survey was also undertaken on the hard-benthos intertidal areas within and immediately adjacent to the footprint of the hardstand area.

Benthic faunal samples were collected from 8 locations (AREA B) within the vicinity of the proposed bridge location. Five of these sample locations occurred in the subtidal area and 3 occurred in the intertidal area at the southern landfall point of the bridge. A walkover survey was undertaken along the hard-benthos intertidal areas at both landfall locations of the bridge.

Subtidal sampling involved the following:

- Single 0.1m² grab samples collected at each of the subtidal sampling stations;
- An additional grab will be collected for Grainsize and Loss on Ignition;
- Ancillary information will be recorded on pre-prepared data record sheets;
- Samples will be positioned using the vessel's GPS. Sample positions will be recorded when on site;
- Photographs will be taken of each sample; and
- Drop down video footage will be collected from circa 5-10 locations within and adjacent to an extensive reef area located within Lower Shannon SAC.

Intertidal sampling involved the following:

- Single stove-pipe core (0.028m²) will be collected at each intertidal sample station;
- A surface scrape was collected at each site;
- Ancillary information was recorded on pre-prepared data record sheets;
- Samples were positioned using a hand-held GPS. Sample positions were recorded when on site; and
- Photographs of the site were taken at each location.

Figure 2.3 shows the locations of the surface grab samples within the foreshore licence area.

As a requirement of Condition 28 of MUL No. LIC230014 a number of samples were also taken at the borehole locations to determine if reef habitat was present, where the sample suggest the nature of the

substrate was consistent with reef habitat the borehole was either relocated to avoid the reef or descope from the schedule of boreholes.

2.3.3 Environmental Sampling

One surface scrape at each intertidal sampling station and 1 additional grab sample at each subtidal sampling station was also undertaken for environmental analysis.

2.3.4 Plant used during Marine SI

Typical plant used during the Marine SI has been outlined below, but the choice of plant will ultimately be determined by the SI Contractor and their proposed methodology. The following plant is likely to be required:

- Jack-up barge (2 no.) – CG1 and CG2
- marine support vessels (Ocean Battler/Ocean Supporter) for all barge moves, vibrocore operations and supply/equipment transfers
- CTV (SBS Guardian/Ocean Quest) to assist with all crew transfers.
- Department of Marine licensed survey vessel capable of accessing all project areas at High Water.



Figure 2.3: Surface Grab Sample Locations within Existing Maritime Usage Area (Licence No. LIC230014)

2.4 Existing Conditions for MUL No. LIC230014

It has been assumed that all existing conditions associated with MUL No. LIC230014 will be adhered to where they apply to the additional Marine SI proposed as part of the amendment to the MUL. **Error! Reference source not found.** outlines these conditions.

Table 2.1 Existing Conditions

Section	Condition	Proposed Condition
1. Conditions	1.1	In this Licence, the terms are as defined in Part 1 section 2(1), Part 5 and Part 6 of the Act are applicable unless otherwise stated here. (a) “Act” means the Maritime Area Planning Act 2021 (b) “Commencement Date” means the date identified as the Commencement Date on the Particulars Schedule (c) “Condition” means (i) a provision of this Licence as set out in the Particulars Schedule and/or the numbered clauses which contains a condition which may be attached to this Licence by virtue of Section 120 of the Act; and (ii) each of the Specific Conditions (d) “Force Majeure” means an event or circumstance or a combination of events and/or circumstances not within the reasonable control of the Holder which has the effect of delaying or preventing the Holder from complying with its obligations under this Licence or the Act provided that Force Majeure shall not include lack of funds and/or the inability of the Holder to pay, the mechanical or electrical breakdown or failure of machinery, plant or other facilities owned or utilised by the Grantor in carrying out the Permitted Maritime Usage or any strike or industrial action save for a strike or industrial action of a national or industry wide character (e) “the Grantor” means the Maritime Area Regulatory Authority (f) “the Holder” means the person who has been granted this Licence as set out in the Particulars Schedule (g) “Law” means any Act of the Oireachtas, regulation, statutory instrument, bye law, European Community obligation, direction of a regulatory or other competent authority, condition of any licence, authorisation, licence or other permission granted by any regulatory or other competent authority and any decision of a court of competent jurisdiction, but does not include this Licence (h) “This Licence” means this licence (including for the avoidance of doubt the foregoing Particulars Schedule and Recitals) and its appendices

Section	Condition	Proposed Condition
		(i) “Licensed Area” means that part of the maritime area as identified in Appendix 1 (j) “Particulars Schedule” means the schedule of information on page 3 of this Licence (k) “Permitted Maritime Usage” means the maritime usage identified as the Permitted Maritime Usage in the Particulars Schedule (l) “Pre-commencement Conditions” means any Condition which requires the Grantor to carry out an obligation under that Condition before commencing the Permitted Maritime Usage (m) “Specific Conditions” means the conditions as referenced in condition 6 and set out in Appendix 2 (n) “State Persons” means Ireland, any Minister of the Government and where the context so requires, any organ of the State (including the Grantor) (o) “State Territory” means the Republic of Ireland (p) “Term” means the period of time identified as the Term in the Particulars Schedule commencing on the Commencement Date
2. Interpretation	2.1	Any requirement in this Licence for the Holder not to do any act or thing includes an obligation not to permit or suffer such act or thing to be done and to use best endeavours to prevent such act or thing being done by another person.
	2.2	To the extent that there is a conflict between this Licence and the applicable provisions of the Act, the interpretation of the Act shall prevail.
	2.3	Any reference to a statute or a statutory instrument includes any amendments or re-enactments for the time being in force.
	2.4	Unless the context requires otherwise, words in the singular may include the plural and vice versa.
	2.5	Headings are inserted for convenience only and do not affect the construction or interpretation of this Licence.
3. Grant of Licence	3.1	This Licence is granted by the Grantor to the Holder pursuant to section 119(1)(a) of the Act.
	3.2	This Licence permits the Holder to occupy and use the Licensed Area for the Term on a non-exclusive basis for the purpose of carrying out the Permitted Maritime Usage in accordance with the Conditions and the requirements of the Act.
	3.3	This Licence does not confer on the Holder any estate or proprietary interest in the Licensed Area or any other part of the maritime area and for the avoidance of doubt the Grantor and/or any other State Persons authorised so to do may at any stage during the Term grant maritime area consents or licences in respect of the Licensed Area.

AIMU ADDENDUM – FOYNES ISLAND MARINE SI AREAS C & D

Section	Condition	Proposed Condition
4. Commencement of the Permitted Maritime Usage	4.1	Notwithstanding the Commencement Date, the Holder shall not commence any activities, operations, works or development associated with the Permitted Maritime Usage in the Licensed Area unless and until: i) the Holder has complied with all Pre-Commencement Conditions; and ii) the Holder has provided the Grantor a minimum of 14 days advance notice in writing of the Holder's intention to commence the Permitted Maritime Usage in the form and manner as set out in Appendix 3, unless otherwise agreed with the Grantor. This notification shall include an up to date Programme of Works for the completion of the Permitted maritime usage.
5. Compliance with this Licence and the Act	5.1	The Holder shall not use the Licensed Area for any purpose other than the Permitted Maritime Usage.
	5.2	The Holder shall ensure that its contractors, and their subcontractors, are made aware of all Conditions.
6. Specific Conditions	6.1	The Holder shall comply with the Specific Conditions.
	6.2	If the Holder becomes aware that the Permitted Maritime Usage authorised by this Licence does not comply with the Specific Conditions the Holder shall immediately: (i) notify the Grantor in writing with particulars of the non-compliance; and (ii) unless the Grantor otherwise agrees in writing, take all reasonable and timely steps to ensure that the Permitted Maritime Usage is undertaken in accordance with the Specific Conditions and that any adverse consequences of not complying with the Specific Conditions are rectified to the satisfaction of the Grantor as soon as reasonably possible.
7. Change in Circumstances	7.1	The Holder shall provide the Grantor with notice in writing at the earliest possible opportunity of any material change of circumstances within the meaning of section 136 of the Act.
8. Indemnity	8.1	The Holder shall keep the Grantor, the State Persons, and their officers, servants, visitors, agents and employees fully indemnified from and against all or any actions, proceedings, claims, demands, losses, costs, fees, expenses, damages, penalties and other liabilities: (i) arising directly or indirectly from the undertaking of the Permitted Maritime Usage the subject of this Licence; and (ii) arising directly or indirectly from a failure by the Holder to comply with:

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Section	Condition	Proposed Condition
		a) a Condition; b) a condition deemed to be attached to this Licence in accordance with the Act; c) any provision of the Act relevant to this Licence;
	8.2	Without prejudice to the generality of the foregoing, the Holder shall make good all loss sustained by the Grantor in consequence of any breach by the Holder of any Conditions.
9. Insurance	9.1	Without prejudice to the Holder's liability to indemnify the Grantor, the Holder shall: (i) effect and keep in force a public liability insurance policy of indemnity in the joint names of the Grantor and the Holder in an insurance office licensed to operate in the State Territory with a limit of € 6,500,000.00 (six million five hundred thousand euro) in respect of any one claim or a series of claims arising out of a single occurrence for any damage, loss or injury which may occur to any property (not being the property of the Grantor or the Holder) or to any person by or arising out of the admission of any person to the Licensed Area, and to extend such policy so that the Grantor is indemnified by the insurers in the same manner as the Holder; (ii) effect and keep in force an employer's liability insurance policy of indemnity in the name of the Holder in an insurance office licensed to operate in the State Territory with a limit of €13,000,000.00 (thirteen million euro) for any one claim or a series of claims arising out of a single occurrence and to extend such policy so that the Grantor is indemnified by the insurers in the same manner as the Holder in respect of all actions, costs, proceedings, losses, damages, or claims for personal injuries by employees of the Holder. This policy should include an indemnity to principles clause with a specific indemnity to the Grantor; (iii) whenever required to do so by the Grantor, produce to the Grantor for inspection the said policy or policies together with the latest receipt of the premium paid for renewal of the said policy or policies together with evidence of waiver of subrogation rights against the Grantor by the Holder's insurers, and to comply with all conditions pertaining to any such policy or policies; (iv) not do or omit to do anything which might cause any policy of insurance (if required) relating to the Licensed Area or any other part of the maritime area affected by the Permitted Maritime Usage to become void or voidable, wholly or in part, nor (unless the Holder has previously notified the Grantor and the Holder has agreed to pay the increased premium) to do anything whereby any abnormal or loaded premium may become payable;

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Section	Condition	Proposed Condition
		(v) immediately notify the Grantor in writing of the making of any claim under any policy of insurance and to provide the Grantor with all information in relation to any such claim; (vi) ensure that any contractors, servants, agents, invitees or visitors of the Holder engaged in connection with activities in the Licensed Area or otherwise in connection with this Licence have appropriate insurance and that all copies of such insurance policies shall be provided to the Grantor as soon as is reasonably practicable;
10. Rights And Obligations Of The Licence Holder On Termination Or Expiry Of The Licence	10.1	The Holder shall remove all plant, machinery, equipment or any other thing used in connection with the Permitted Maritime Usage from the Licensed Area (or if applicable from any other part of the maritime area) and restore the Licensed Area (and if applicable any other part of the maritime area) to the condition it was prior to the commencement of the Permitted Maritime Usage to the satisfaction of the Grantor.
11. Force Majeure	11.1	Except as otherwise provided by this Licence, the Holder is rendered wholly or partially incapable of performing all or any of its obligations under this Licence or the Act, by reason of Force Majeure: (i) as soon as is reasonably practicable, the Holder shall notify the Grantor, identifying the nature of the event, its expected duration and the particular obligations affected and shall furnish reports at such intervals reasonably requested by the other party during the period of Force Majeure; (ii) this Licence shall remain in effect but the Holder's obligations, except for an obligation to make payment of money shall be suspended, provided that the suspension shall be of no greater scope and no longer duration than is required by the Force Majeure; (iii) the Holder shall use all reasonable efforts to remedy its inability to perform all or any of its obligations under this Licence by reason of Force Majeure and shall do all things reasonably practicable to mitigate the consequences of the Force Majeure and shall resume full performance of its obligations under this Licence as soon as is reasonably practicable;
12. Inspections	12.1	The Holder of a licence shall facilitate and shall not obstruct the Grantor in: (i) entering the Licensed Area for the purposes of enabling the Grantor to carry out inspections (including periodic inspections) for the purposes of ascertaining whether or not subparagraph applies.

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Section	Condition	Proposed Condition
		(ii) entering the Licensed Area if the Grantor gives the Holder notice in writing that the Grantor is satisfied that the Holder has materially contravened: (a) a Condition; (b) a condition deemed to be attached to a Licence in accordance with the Act; (c) a provision of this Act relevant to this Licence,
13. Exercise of Rights	13.1	Save as may be permitted under this Licence, the Holder shall exercise this Licence in such a manner as to cause no damage or injury to the Licensed Area, any occupants of the Licensed Area and any other part of the maritime area affected by the Permitted Maritime Usage and to forthwith from time to time with due diligence repair and make compensation for any such damage or injury that may be so caused.
14. Notices	14.1	Any notice to be given by the Holder under this Licence shall either be sent by registered post or by email.
	14.2	Where the notice is sent by registered post, the notice shall be furnished or sent to the address of the Grantor as contained in the Particulars Schedule.
	14.3	Where the notice is delivered by email, it shall be issued to the e-mail address of the Grantor as contained in the Particulars Schedule.
	14.4	All notices shall be deemed to have been served as follows: (i) if posted by registered post, at the expiration of 48 hours after the envelope containing the same was delivered into the custody of An Post (and not returned undelivered); (ii) if communicated by email, on the next calendar day following transmission.
15. Amendments to this Licence	15.1	Section 125 of the Act shall apply to any application by the Holder to amend this Licence.
16. Surrender	16.1	Sections 126 and 127 of the Act shall apply to any application by the Holder to surrender this Licence.
17. Automatic Termination	17.1	Without prejudice to any other remedies available pursuant to this Licence and at law, this Licence shall terminate immediately upon the occurrence of any of the events provided for in section 144(1) of the Act.
18. Termination for Breach	18.1	Without prejudice to any other remedies available pursuant to this Licence and at law, the Grantor may terminate this Licence for breach in accordance with section 144A of the Act.
19. Governor Law and Jurisdiction	19.1	This Licence and all other documents relating to it shall be governed by and construed only in accordance with the laws of the Republic of Ireland.
Specific Conditions		
20.		Prior to the commencement of the Permitted Maritime Usage, the Holder shall engage with other relevant consent holders for the maritime area the subject of this licence, specifically the holder of

AIMU ADDENDUM – FOYNES ISLAND MARINE SI AREAS C & D

Section	Condition	Proposed Condition
		Foreshore Lease File reference: FS005110 for oil discharging jetty and pipeline on trestle ashore, to plan and schedule the Permitted Maritime Usage to ensure any disruption, if any, to the other relevant consent holders is managed appropriately. Records of all engagements and consultations held and agreements reached, if any, shall be maintained by the Holder and made available to the Grantor if requested.
21.		The Permitted Maritime Usage shall be carried out in accordance with the plans and particulars submitted in support of the application for this Licence.
22.		This Licence is for the purposes of licensing under the Act and nothing in this licence shall be construed as negating the Holder's statutory obligations or requirements under any other Law.
23.		Prior to the commencement of the Permitted Maritime Usage, the Holder shall consult and comply with the requirements of the Underwater Archaeology Unit of the Department of Housing Local Government and Heritage, National Monuments Service, G37, Custom House, Custom House Quay, Dublin 1, D01 W6X0.
24.		Prior to the commencement of the Permitted Maritime Usage, the Holder shall consult and comply with the requirements of the Underwater Archaeology Unit of the Department of Housing Local Government and Heritage, National Monuments Service, G37, Custom House, Custom House Quay, Dublin 1, D01 W6X0.
25.		The Holder shall not damage or interfere with any third party's property, infrastructure or fishing gear while carrying out the Permitted Maritime Usage.
26.		The Holder shall ensure that all vessels engaged in this Permitted Maritime Usage conform to Irish Certification standards for vessels, as required by the Marine Survey Office.
27.		The Holder shall ensure that all vessels used in this Permitted Maritime Usage take all reasonable practical measures to ensure they are free of invasive marine species on their hulls and in their ballast water.
28. Reef Habitat Protection		No borehole activity shall take place in Reef habitat (EU Annex 1 habitat code 1170). All borehole activity shall be undertaken under the direct supervision of a suitably qualified person or persons with appropriate geophysical and/or benthic ecology experience in identifying Reef habitat, who shall be present on the survey vessel/drill rig during borehole activity and who shall be empowered to halt such borehole activity where necessary to protect Reef habitat.
29. Marine Mammals		i. The Holder shall appoint a marine mammal observer for the purposes of overseeing the activity. The Holder shall ensure the marine mammal observer shall satisfy the requirements of National Parks and Wildlife Service guidance. ii. The Holder shall implement risk control and mitigation measures for marine mammals in strict accordance with National Parks and Wildlife guidance.

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Section	Condition	Proposed Condition
		iii. The Holder, upon completion of the Permitted Maritime Activity, shall forward all reporting to offshore@npws.gov.ie and compliance@mara.gov.ie .
30. In-combination effects		i. Prior to the commencement of the Permitted Maritime Usage, the Holder shall coordinate with other authorisation holders carrying out geophysical, seismic and geotechnical activities within a 10 km radius of the site boundary. ii. Where a vessel to vessel distance of greater than 10 km cannot be maintained with respect to geophysical, seismic and geotechnical activities, the Holder shall co-ordinate with other authorisation holders to prevent temporal overlap of the activities. Where the Holder can submit evidence that there is a vessel to vessel distance of greater than 10 km, no temporal co-ordination of activities is required. iii. Where the Holder becomes aware of temporal overlap that cannot be resolved within the prescribed distance, the Holder shall notify the Grantor who shall determine the timing of activities. iv. Records of all engagements held and agreements reached, if any, shall be maintained by the Holder and made available to the Grantor if requested.
31.		On completion of the activity, the Holder shall provide the United Kingdom Hydrographic Office (UKHO) at hdc@hdc.hydro.gov.uk with the final bathymetric data from this Permitted Maritime Usage so that the appropriate charts can be updated.
32.		Upon completion of the Permitted Maritime Activity, the Holder shall submit details of all acoustic surveys undertaken in accordance with this licence to Marine Environment, Department of Housing, Local Government and Heritage at marine.env@housing.gov.ie . This data shall be provided in the reporting format of the OSPAR Impulsive Noise registry.
33.		The Holder shall keep the following documents together and available for inspection by the Grantor: i. a copy of the licence related to this Permitted Maritime Usage; ii. all correspondence with the Grantor; iii. up to date drawings, plans and maps relating to the Permitted Maritime Usage; iv. Such records and/or photographs required to demonstrate compliance by the Holder with the Specific Conditions;

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Section	Condition	Proposed Condition
		v. marine positional log, to demonstrate compliance with the terms of the licence, including ensuring that the activity occurs within the licensed area; and, vi. any elements of the licence application and associated documentation referenced in this licence.
34. Accidental Events		The Holder shall ensure that there is an oil pollution emergency plan on-board any survey vessels. This plan should specify: i. Information on the location and detail of spill response resources on-board; ii. Information on crew training in relation to oil pollution response; iii. How crew will interface with other site investigation operators, where applicable.

2.5 Amendments to Existing Licence MUL No. LIC230014

2.5.1 Site Location

The additional Marine SI areas (Area C and Area D) are located in close proximity to the current licenced areas under MUL No. LIC230014. Area C is adjacent to Area A in the existing Licence and Area D is located to the south of Foynes Island, surrounding the existing Foynes Yacht Club marina. The locations of these additional areas are outlined in Figure 2.4.

As optional appraisal and preliminary designs of the original development footprint progressed, it emerged that additional site investigation information is required east of the proposed deep water quay (Area A in existing MUL) in Area C of the proposed amendment (see Figure 2.5). The spatial extent of Area C is 15.30 ha.

Also, as part of the preliminary design and EIAR stage of the original development footprint, consultations were held with main stakeholders including Foynes Yacht Club. Following this consultation, it was determined that as part of the Community Gain elements of the project, the feasibility of carrying out works at Foynes Yacht Club to improve their mooring facilities would be investigated. The spatial extent of Area D is 0.42 ha. The proposed marine SI works within these additional areas are illustrated in Figure 2.5.

AIMU ADDENDUM – FOYNES ISLAND MARINE SI AREAS C & D

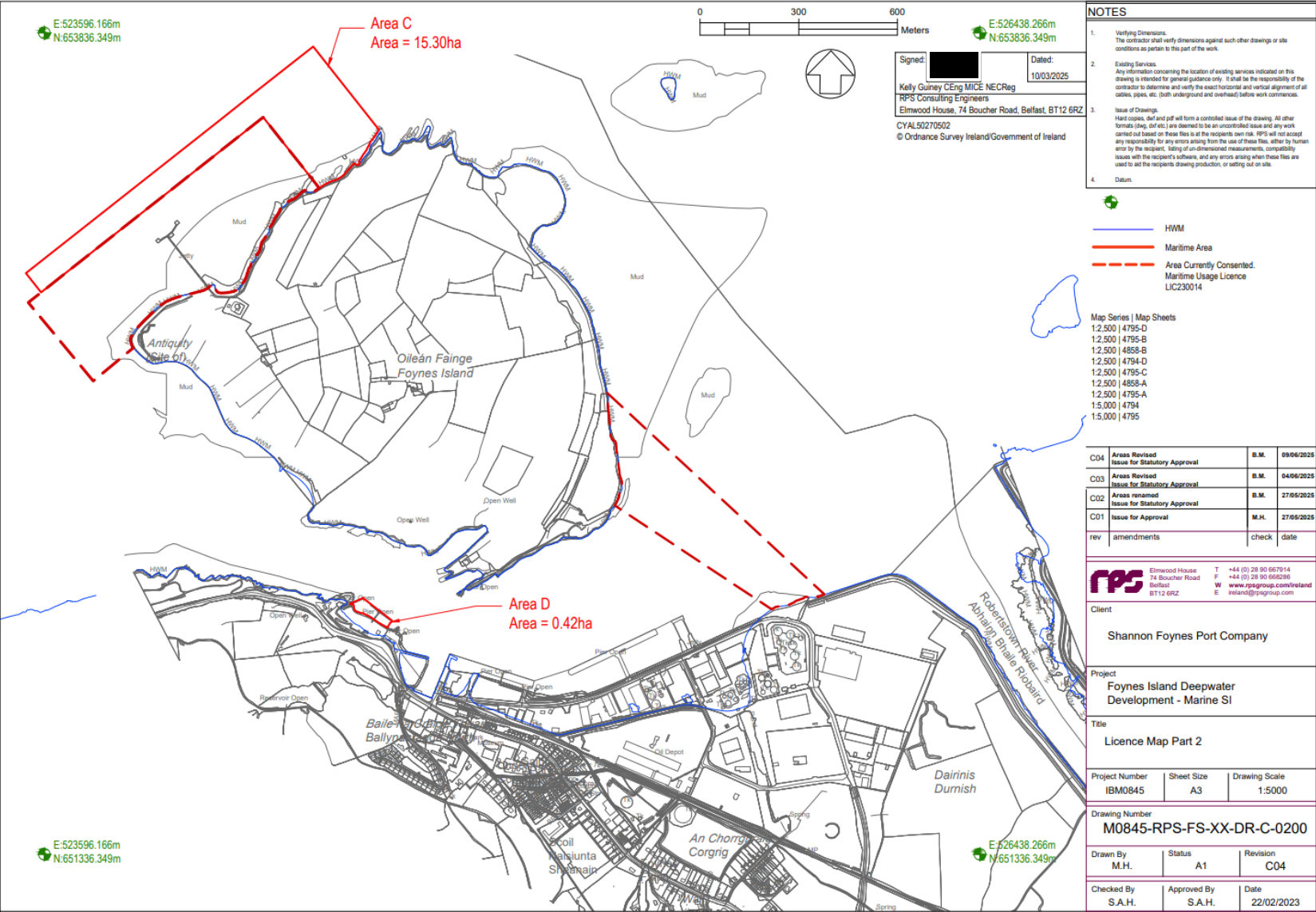


Figure 2.4 Location of Marine SI Areas C and D in Relation to Existing Licenced Areas Under Licence No. LIC230014

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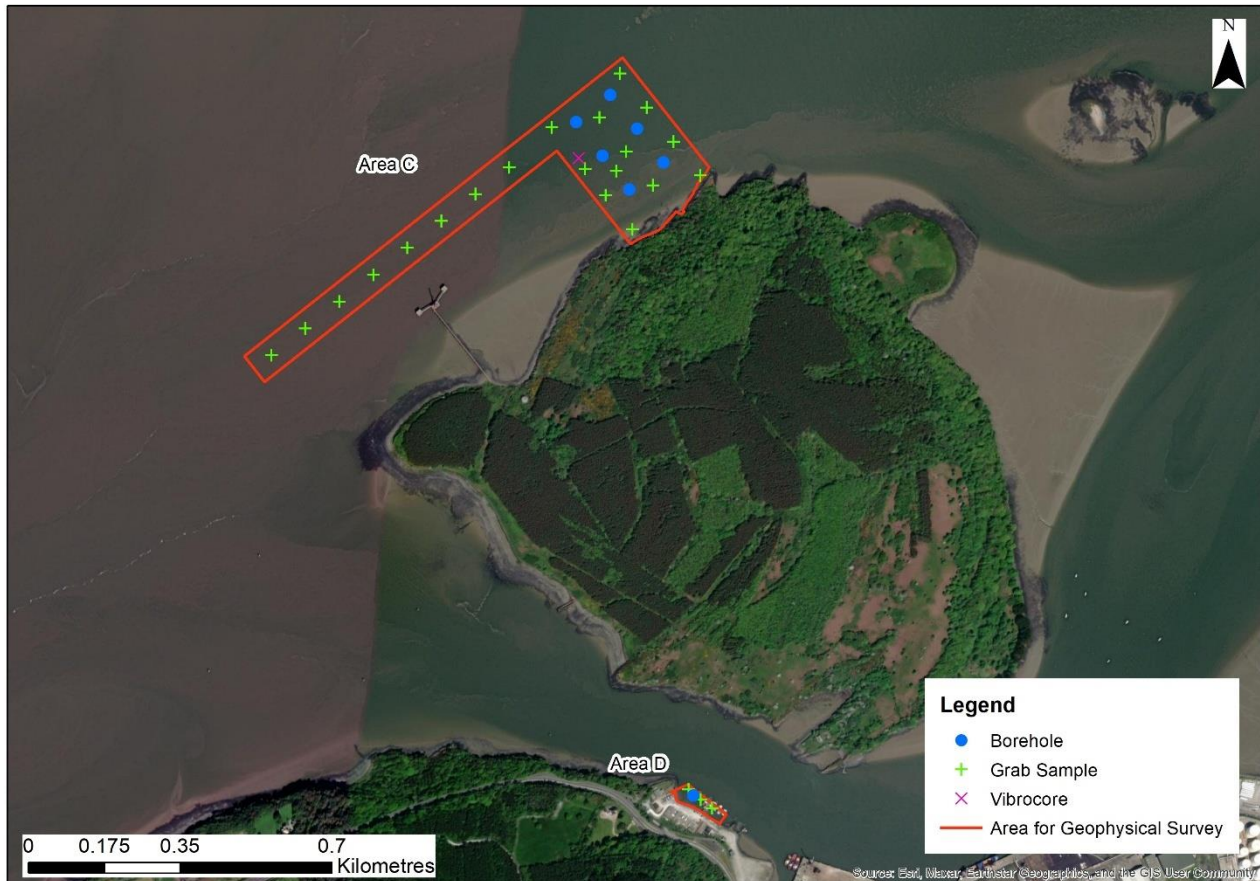


Figure 2.5 Proposed Marine SI within Areas C & D

2.5.2 Proposed Works

2.5.2.1 Marine Geophysical Survey

A marine geophysical survey will be carried out and will cover the full area of the development footprint under water (where accessible). The geophysical survey will follow the same methodology as that licenced under MUL No. LIC230014. The aims of the survey are to:

- Identify and map potential geohazards;
- Identify and map potential archaeological sites and features;
- Facilitate the development of a ground model in support of the wider design; and
- Provide data and information in support of Environmental Impact Assessment.
- A range of instruments will be deployed for this survey including:
 - GNSS positioning;
 - Motion Reference Unit;
 - Multibeam Echosounder;
 - Sound Velocity Profiler;
 - Sub-bottom Profiler, chirp;
 - Side-scan Sonar, dual frequency, low and high;

- Magnetometer, caesium;
- Navigation, acquisition and processing suite;
- Post-processing navigation suite; and
- Charting software.

2.5.2.2 Marine Site Investigations

Proposed marine SI works include the following main components over the two separate sites, C and D. The methods and activities employed will be the same as those licenced under MUL No. LIC230014.

Site C

- 6nr. Boreholes
- 20nr. Grab Sample Locations
- 1 vibrocore

Location: Indicative locations shown in Site Layout Map 1 of 2 Site Investigation Drg No. M0845-RPS-FS-XX-DR-C-0201 (Rev C09). Locations may vary on site depending on the opinion of the on-board benthic ecologist should reef habitat be present.

Site D

- 1nr. Boreholes
- 3nr. Grab Sample Locations

Location: Indicative locations shown in Site Layout Map 2 of 2 Site Investigation Drg No. M0845-RPS-FS-XX-DR-C-0202 (Rev C06). Locations may vary on site depending on the opinion of the on-board benthic ecologist should reef habitat be present.

2.5.2.3 Boreholes

The proposed borehole locations are illustrated above in Figure 2.5.

The boreholes are to be drilled firstly using cable percussive techniques. If rock is to be penetrated, then rotary drilling will follow on. The machinery to be used is approximately 2m tall when it is in transit and approximately 7m tall when the borehole is being driven. The machinery will be supported by a suitable jack-up barge. A typical jack-up barge arrangement will be similar to that shown in Figure 2.7.

For each borehole the footprint of the works on the foreshore will be four approximately 1 m² legs of the jack-up barge and the 180mm temporary steel casing. The 180mm steel casing is the diameter of the borehole.

There will be no permanent structures, all site investigation will be facilitated by temporary works. The moving marine plant will remain on site for the duration of the works.

Associated sampling and testing (both in-situ and geotechnical/geo-environmental laboratory testing).

Proposed marine SI works will not require access to Foynes Island itself and will be conducted entirely from vessels within the marine environment.

The proposed boreholes under this amendment would be undertaken at strategic times over the duration of the original MUL (LIC230014).



Figure 2.6 Typical Jack-up Barge Arrangement for Marine SI Works

2.5.2.4 Surface Grab Sample

It is proposed to collect surface grab samples from 20 locations within Area C. It is expected that 18 of the surface grab sample locations and the vibrocore will occur in the subtidal area, and 2 surface grab samples will occur in the intertidal area. An additional 3 grab samples will be collected in Area D, all subtidal. In addition, a subtidal reef habitat has been identified along the centre of the main Shannon channel which is immediately adjacent to the development. It is expected that drop down video locations will be surveyed within and adjacent to this reef community. A walkover survey will be undertaken on the hard-benthos intertidal areas within and immediately adjacent to the footprint of the hardstand area.

Subtidal sampling will involve the following:

- Single 0.1m² grab samples collected at each of the subtidal sampling stations;
- Single vibrocore collected in Area A to a depth of 2m and diameter of approximately 75mm
- An additional grab will be collected for Grainsize and Loss on Ignition;

- Ancillary information will be recorded on pre-prepared data record sheets;
- Samples will be positioned using the vessel's GPS. Sample positions will be recorded when on site;
- Photographs will be taken of each sample; and
- Drop down video footage will be collected from circa 5-10 locations within and adjacent to an extensive reef area located within Lower Shannon SAC.

Intertidal sampling will include the following:

- Single stove-pipe core (0.028m²) will be collected at each intertidal sample station;
- A surface scrape will be collected at each site;
- Ancillary information will be recorded on pre-prepared data record sheets;
- Samples will be positioned using a hand-held GPS. Sample positions will be recorded when on site; and
- Photographs of the site will be collected at each location.

3 NEED AND ALTERNATIVES

3.1 Introduction

The proposed activity/works (Maritime Usage) of the existing Maritime Usage Licence has not changed due to the additional Marine SI areas. Therefore, there are no changes to the existing need or use of the Marine SI to inform the development of alternatives.

4 LEGISLATIVE CONTEXT

The Legislative Context of the existing Maritime Usage Licence AIMU report is amended as follows in Section 4.1.

4.1 Marine Area Planning Act

The Maritime Area Planning Act establishes a new planning system for Ireland's maritime area, underpinned by a statutory Marine Planning Policy Statement and guided by the National Marine Planning Framework.

The application for a Maritime Usage Area License is pursuant to Part 5 (sections 110 to 133) of the Maritime Area Planning Act 2021 (MAPA). The Minister may grant a Maritime Usage Area Licence, in the opinion of the Minister, it is in the public interest to do so, subject to the provisions of the Act.

MARA cannot issue a licence to a maritime usage for which an Environmental Impact Assessment (EIA) is required. If an EIA is required, an applicant must apply for a MAC.

The current application to amend the existing Maritime Usage Licence is subject to Section 125 of the Act. The holder of a licence who wishes to amend the licence in any material way shall make a licence application for such amendment and, in the case of such application, section 117 and the other provisions of this Part (including section 122) applicable to a licence application and its determination under section 119 shall, with all necessary modifications, apply accordingly.

Subject to subsections (3) and (4), the Minister may by regulations specify classes of amendments to a licence that are, for the purposes of this section, non-material.

5 PLANNING & DEVELOPMENT

5.1 Policy Context

There have been no changes to the Policy Context of the original Maritime Usage Area application due to the addition of further areas for Marine SI.

5.2 Pre-Application Consultation

A pre-application consultation meeting was held with MARA on 19th December 2024 to discuss the process of applying for an amendment to an existing licence. MARA stated that there are two options for obtaining permission to carry out Marine SI in the proposed additional areas:

1. Apply for an entirely new MUL
2. Apply for a license amendment

As MARA don't yet have a mechanism in place for applying for license amendments, an application to amend an existing licence should follow the same structure and process as a new licence application using the existing MUL application form.

MARA advised that there would be no advantage in terms of timescale between applying for a licence amendment or applying for a new license as both procedures would take up to a year to process (based on current license processing times). Also, that a new and updated Appropriate Assessment would be required to accompany the license amendment or new license application.

6 LAND, SOILS, GEOLOGY & HYDROGEOLOGY

6.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on land, soils, geology and hydrogeology and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

6.2 Receiving Environment

There are no changes to the receiving environment baseline condition.

6.3 Potential Impacts

There are no changes to the previously identified potential impacts.

6.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

7 WATER

7.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on water quality, hydrology and flooding and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

7.2 Receiving Environment

There are no changes to the receiving environment baseline condition.

7.3 Potential Impacts

There are no changes to the previously identified potential impacts.

7.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

8 BIODIVERSITY

8.1 Introduction

This chapter of the AIMU Addendum identifies, describes and assesses the potential impacts and effects of the proposed development on biodiversity and has been completed in accordance with the guidance set out in Section 1.2.3.

Separate documents providing Supporting Information for Screening for Appropriate Assessment (SISAA), Natura Impact Statement (NIS) and Annex IV Species Risk Assessment and have been prepared and are included as Appendix A, Appendix B and Appendix C respectively.

8.2 Receiving Environment

There are no changes to the receiving environment baseline condition.

8.3 Potential Impacts

There are no changes to the previously identified potential impacts to biodiversity as a result of the additional marine SI areas. For further details, please refer to the SISAA (Appendix A), NIS (Appendix B) and Annex IV Species Risk Assessment (Appendix B).

8.4 Mitigation Measures

There are no changes to previously recommended mitigation measures. However, a commitment to the protection of Reef habitat and marine mammals as per the conditions of the existing Licence for Marine SI is outlined below in Section 8.4.1 and Section 8.4.2.

For further details of these measures, please refer to the NIS (Appendix A), Annex IV Species Risk Assessment (Appendix B) and the SSIA (Appendix C).

8.4.1 Benthic Ecology / Marine Habitats

As per condition 28 of the existing Marine Area Usage Licence, no borehole activity will take place in areas of Reef habitat and all borehole activity will be undertaken under the direct supervision of suitably qualified persons with appropriate geophysical and/or benthic ecology experience in identifying Reef habitat. These personnel will be present on the survey vessel/drill rig during borehole activity and will be empowered to halt such borehole activity where necessary to protect Reef habitat. No further mitigation measures are recommended for Benthic Ecology/habitats as a result of this amendment, as the proposed works were deemed to only have **Minor** impacts on benthic ecology and related receptors in the area.

8.4.2 Marine Mammals

As per condition 29 of the existing Marine Area Usage Licence, all activity will be undertaken under the direct supervision of a suitably qualified marine mammal observer who will ensure that works are carried out in strict accordance with the National Parks and Wildlife guidance. These personnel will be present on the survey

vessel/drill rig during borehole activity and will be empowered to halt such borehole activity where necessary to protect marine mammals. All reporting will be forwarded to the National Parks and Wildlife Service. For further information on mitigation measures which will be implemented to protect marine mammals refer to the NIS (Appendix A), Annex IV Species Risk Assessment (Appendix B) and the SSIA (Appendix C).

9 FISHERIES & AQUACULTURE

9.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on Fisheries and Aquaculture and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

9.2 Receiving Environment

There are no changes to the receiving environment baseline conditions.

9.3 Potential Impacts

There are no changes to previously identified potential impacts to fisheries and aquaculture due to the additional Marine SI areas.

9.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

10 AIR QUALITY

10.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on air quality and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

10.2 Receiving Environment

There are no changes to the receiving environment baseline conditions.

10.3 Potential Impacts

There are no changes to previously identified potential impacts to air quality due to the additional Marine SI areas.

10.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

11 NOISE

11.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on noise and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

11.2 Receiving Environment

There are no changes to the receiving environment baseline conditions.

11.3 Potential Impacts

There are no changes to previously identified potential impacts to Noise due to the additional Marine SI areas.

11.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

12 LANDSCAPE & SEASCAPE

12.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on landscape and seascape and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

12.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

12.3 Potential Impacts

There are no changes to previously identified potential impacts to Noise due to the additional Marine SI areas.

12.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

13 TRAFFIC & TRANSPORT (INCLUDING NAVIGATION)

13.1 Introduction

Details regarding Foynes Port and existing safety procedures remains unchanged following the addition of two further Marine SI areas (Area C & D).

13.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

13.3 Potential Impacts

There are no changes to previously identified potential impacts to Traffic and Transport due to the additional Marine SI areas, additional Marine SI areas will not result in additional traffic to the area.

13.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

14 ARCHAEOLOGY & CULTURAL HERITAGE

14.1 Introduction

This section of the AIMU report identifies, describes and assesses the potential impacts and effects of the proposed works on archaeology and cultural heritage and has been completed in accordance with the guidance set out in Section 1.2.3, following the addition of two further Marine SI areas (Area C & D).

Appendix D includes a detailed Archaeological Impact Assessment (AIA) Memorandum prepared by ADCO Ltd. This includes additional information on the receiving environment, potential impacts of the proposed works and mitigation measures.

14.2 Receiving Environment

There are no changes to the existing receiving environment conditions, studies undertaken as part of the MUL No. LIC230014 have been discussed in Appendix D.

14.3 Potential Impacts

There are no changes to previously identified potential impacts due to the additional Marine SI areas. For further information of these impacts, please refer to the AIA (Appendix D).

14.4 Mitigation Measures

There are no changes to previously recommended mitigation measures as a result of the additional Marine SI areas. Table 14.1, taken from the Archaeological Impact Assessment (Appendix D), summarises the potential impacts and proposed mitigation. For further information of these measures please refer to Appendix D.

Table 14.1 Archaeological mitigation arising from impacts identified

Site/ Area	Potential Impacts	Archaeological Mitigation
Marine SI within Foreshore Boundary at Area C	- No impact to known cultural heritage sites. - Potential, direct, negative impact to any unrecorded archaeological deposits or structures buried within the foreshore/riverbed.	- Marine Geophysical Data review to identify any features/anomalies of archaeological potential. - Pre-disturbance underwater/intertidal inspection of any features/anomalies deemed to be of archaeological interest. - Where features of archaeological/historic significance are positively identified, avoidance of those features is recommended. - Archaeological Monitoring of the SI works.
Marine SI within the Foreshore Boundary at Area D	- No impact to known cultural heritage sites. - Potential, direct, negative impact to any unrecorded archaeological deposits or structures buried within the foreshore/riverbed.	- Marine Geophysical Data review to identify any features/anomalies of archaeological potential. - Pre-disturbance underwater/intertidal inspection of any features/anomalies deemed to be of archaeological interest. - Where features of archaeological/historic significance are positively identified, avoidance of those features is recommended. - Archaeological Monitoring of the SI works.

15 POPULATION & HUMAN HEALTH

15.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on population and human health and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

15.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

15.3 Potential Impacts

There are no changes to previously identified potential impacts to population and human health due to the additional Marine SI areas.

15.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

16 MAJOR ACCIDENTS & DISASTERS

16.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on major accidents & disasters and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

16.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

16.3 Potential Impacts

There are no changes to previously identified potential impacts to the risk of Major Incidents and Disasters due to the additional Marine SI areas.

16.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

17 CLIMATE

17.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on Climate and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

17.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

17.3 Potential Impacts

There are no changes to previously identified potential impacts to Climate due to the additional Marine SI areas.

17.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

18 WASTE

18.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on waste and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

18.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

18.3 Potential Impacts

There are no changes to previously identified potential impacts to Waste due to the additional Marine SI areas.

18.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

19 MATERIAL ASSETS

19.1 Introduction

This section of the AIMU Addendum, completed in accordance with Section 1.2, identifies whether the additional Marine SI works proposed under an amendment to MUL No. LIC230014 will change the potential impacts and significance of effects on material assets and whether additional mitigation to that proposed under the original AIMU and the licence conditions for MUL No. LIC230014 are required.

19.2 Receiving Environment

There are no changes to the existing receiving environment baseline conditions.

19.3 Potential Impacts

There are no changes to previously identified potential impacts to the Material Assets due to the additional Marine SI areas.

19.4 Mitigation Measures

There are no changes to previously recommended mitigation measures.

20 ENVIRONMENTAL INTERACTIONS

The potential interaction between environmental aspects, arising from within the Foynes Island additional Marine SI areas were considered to ensure that the combination of impacts was correctly examined, and any required mitigation measures included as part of the Marine Site Investigation were adequate and applicable to the additional Marine Site Investigations proposed under and amendment to MUL No. LIC230014.

Each technical chapter of the AIMU and this Addendum details individual environmental baseline information and identifies the significant potential of the effects/impacts of the marine site investigations. In addition, the potential for other environmental interactions is identified and the relevant impact either on, or from, these other aspects is analysed.

As there were no changes to the original environmental baselines, identified impacts or mitigation measures proposed as a result of the additional marine SI areas (Areas C & D), this chapter summarises the significance of these interactive and inter-related impacts within the Foynes Island additional Marine SI. Table 20.1 shows a matrix of potential interactions between each technical chapter of the AIMU and this Addendum with a detailed description of each interaction presented in Table 20.2.

While many potential inter-relationships and inter-actions have been identified, it is anticipated that the discrete environmental mitigation measures included in the Foynes Island Marine SI (and outlined in the relevant sections of the AIMU report and this Addendum) will also minimise or off-set potential for significant effects due to interactions.

There are no changes to the existing Environmental Interactions outlined in Table 20.1 and Table 20.2 following the addition of two further Marine SI areas (Area C & D).

Table 20.1: Matrix to show interactions between Technical Chapters 6-18 (KEY Potential ✓ interaction between technical chapters)

	Land, Soils, Geology & Hydrogeology	Water Quality	Biodiversity	Fisheries & Aquaculture	Air Quality	Noise	Landscape & Seascape	Traffic & Transport (including Navigation)	Archaeology & Cultural Heritage	Population & Human Health	Major Accidents & Disasters	Climate	Waste	Material Assets
Chapter 7- Land, Soils, Geology & Hydrogeology														
Chapter 8- Water	✓													
Chapter 9- Biodiversity	✓	✓												
Chapter 10- Fisheries & Aquaculture		✓	✓											
Chapter 11- Air Quality			✓											
Chapter 12- Noise			✓	✓										
Chapter 13- Landscape & Seascape														
Chapter 14- Traffic & Transport (including Navigation)					✓	✓								
Chapter 15- Archaeology & Cultural Heritage	✓						✓							
Chapter 16- Population & Human Health		✓		✓	✓	✓	✓	✓						
Chapter 17- Major Accidents & Disasters														
Chapter 18- Climate														
Chapter 19- Waste														
Chapter 20- Material Assets	✓	✓	✓	✓										

Table 20.2: Significance of these interactive and inter-related impacts within the Foynes Island Marine SI

Chapter	Interaction
Chapter 7 – Land, Soils, Geology & Hydrogeology	The most significant interactions in relation to Land, Soils, Geology and Hydrogeology are Water, Biodiversity and Archaeology and Cultural Heritage, and Material Assets. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Water: There is an inter-relationship between Land, Soils, Geology and Hydrogeology and Water (marine sediments and water quality). The interaction of borehole drilling, and the removal of sediment samples may result in sediment entering the water column. It is likely that currents and tides may transport disturbed sediment beyond the Marine Usage license area which may affect the wider marine environment of the Shannon Estuary. As described in Section 6.2.1.1. (Sediment), infralittoral and circalittoral fine and muddy sand (EUNIS Habitat Type code A5.23 – A5.26) may be disturbed from the SI work. However, it is expected that any interaction will be short-term, and sediment conditions will likely return to baseline after works are completed. Furthermore, SI works do not interact with the terrestrial environment as works are taking place within the foreshore license area. Biodiversity: An inter-relationship exists between Soils, Geology & Hydrogeology and Biodiversity. Avian & aquatic ecology is dependent on surface water quality which can be affected during Marine SI works. Borehole drilling can cause temporary suspension and release of seabed sediments within the foreshore area. Similarly, these operations can cause a localised negative impact on water quality, water dependant habitats and aquatic ecology. Therefore, the risk to water quality and marine ecology is considered very low and where it does arise appropriate water quality mitigation measures have been proposed. Marine SI works have the potential to negatively impact on the benthic ecology in the area. This is due to the fact that boreholes are required to be drilled on the seabed of the Shannon Estuary where there are a number of benthic habitats. The benthic ecology and habitats will be affected through minor disturbance around the borehole location and sample stations and a very small volume of substratum loss, direct displacement or smothering during drilling. The small volumes of sediment displaced during the sampling may result in a thin layer of smothering however this deposited sediment will be quickly dispersed given the strong currents in the area. Sedimentary benthic habitats identified within the survey area are widespread and common for the region. Therefore, any disturbance is not expected to have an effect on the wider population of benthic fauna and the significance of any effect will be minor for sedimentary habitats. Archaeology and Cultural Heritage: A potential interaction exists between Land, Soils, Geology & Hydrogeology and Archaeology & Cultural Heritage in that the disturbance of the sediments could have the potential to impact on unknown archaeology. Prior to SI works, an archaeological survey and assessment of the terrestrial, intertidal, and underwater areas will identify areas of archaeological significance with the foreshore area. For the duration of the works, archaeological monitoring of the area will take place and appropriate facilities will be provided to examine identified material. Archaeological assessment has located prehistoric and more recent archaeological sites within the wider area of Foynes. In addition, a number of fish weir/traps are present on the OS historic maps for the areas under assessment which are of cultural

Chapter	Interaction
	importance. Overall, the existing archaeological record demonstrates a high potential for Foynes Island, with a list of known sites located upon the island. As a result, the surrounding foreshore/intertidal areas should be regarded as retaining high cultural potential. The appropriate mitigation measures have been presented to protect sites and material of archaeological and cultural significance. Material Assets <i>Coastal Processes:</i> Displacement of material from borehole drilling will result in increased suspended sediments in the water column that could result in Sediment transport of may result in tides and currents to transport potential contaminants associated with sediment from the marine SI works. However, the likelihood of contaminants being transported by coastal processes are low. <i>Utilities:</i> An electrical cable that powers Foynes Island from the mainland is located within the navigation channel. Extensive assessment of the foreshore area has taken place and the impact of the SI works will not impede on this utility for the duration of the works. However, a review of any anomalies / features consistent with possible utility services arising from the Marine Geophysical Survey will be undertaken to ensure that there is no potential for impact.
Chapter 8 – Water Quality	The most significant interactions in relation to Water are Biodiversity, Fisheries and Aquaculture, Population and Human Health, Climate and Material Assets. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Biodiversity: The proposed marine SI works will take place within designated sites, such as the Lower River Shannon SAC and the River Shannon and Fergus Estuaries SPA. Impacts on water quality for these water dependent protected areas cannot be discounted. As stated in the Supporting Information for Screening for Appropriate Assessment Report (Appendix D) some Annex I habitats within the Lower River Shannon SAC such as Estuaries [1130], Mudflats and Sandflats [1140], and Reefs [1170] may be affected by marine SI works. Within the Shannon Estuary where there are a number of protected fish species including Atlantic salmon, sea lamprey and river lamprey. There are also other key species that may be impacted including, eel and smelt, which, while not designated species under the Lower River Shannon SAC, are important in the overall biodiversity of the estuary. It is unlikely that significant impacts on these species as a result of water quality impacts will be experienced during the SI works which are mainly confined to the foreshore licence area, albeit minor interactions may occur. The mitigation measures recommended for water quality should ensure that any interaction with water quality does not result in negative effects. Fisheries and Aquaculture: It is not expected that the marine SI works will impact on fisheries and aquaculture. Shellfish waters are located far from the Marine Area Usage licence area and the proposed works are temporary, relatively small and minor in scale. However, it is worth accounting for the interactions that may arise between water quality and Fisheries & Aquaculture in the vicinity Foynes Island. A diverse population of resident and migratory fish species such as Atlantic salmon, river lamprey and sea lamprey are found within the Lower River Shannon SAC and migrate to the River Shannon and its tributaries. The SI works will be limited to the foreshore area and the interaction is deemed to be small with mitigation measures in place to address any possible

Chapter	Interaction
	interaction due to water quality impacts from spills and contamination and fisheries and aquaculture. Population & Human Health: It is anticipated there will have little interaction in relation to water and population and human health. Works will be carried out in the foreshore area away from Foynes town. There may indirect disruption to the Foynes Yacht Club whose members regularly use the Shannon Estuary for sailing and leisure pursuits however water quality impacts could affect the use of the area for leisure activities, however the mitigation in place for water quality should ensure that this does not significantly affect population and human health. Material Assets: The marine SI works may have a slight negative impact as some sediment from the sampling process will be disturbed and may enter the water column. Tidal flows and waves may transport sediment beyond the works area and out into Shannon Estuary. However, given the dispersive nature of the currents in the area these minor volumes of displaced sediment will be quickly dispersed and will not impact on water quality.
Chapter 9 – Biodiversity	The most significant interactions in relation to Biodiversity are Land, Soils, Geology & Hydrogeology, Water Quality, Fisheries and Aquaculture, Air Quality, Noise, Traffic and Transport (including Navigation), Climate and Material Assets. Consideration of each are provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Land, Soils, Geology & Hydrogeology: An inter-relationship exists between Marine Ecology, Water Quality and Land, Soil, Geology, Hydrogeology. The Marine SI works have the potential to cause the re-suspension of seabed sediments leading to a potential impact on water quality and benthic ecology. In addition to the impacts assessed in Chapter 6 which concluded there was no potential for significant effects, the impact of the Marine SI works has been assessed in Chapter 8 Biodiversity, Chapter 7 Water Quality and Chapter 19, Material Assets; Coastal Process. The findings of each assessment has indicated that provided the implementation of mitigation measures as listed in Chapter 7 and Chapter 8, no impacts to water quality and marine ecology are expected. Water Quality: There are water dependent habitats and species within the Marine SI works area, particularly those habitats and species which are qualifying interests of the European Sites. Suspended sediment generated during the borehole drilling can have a negative impact on water quality, water dependant habitats and aquatic ecology particularly in areas immediately adjacent to the works area. Chapter 7 Water Quality has assessed the impact of construction operations on water quality, with the implementation of the mitigation measures (listed in each chapter) during demolition, clearing and berth construction activities, the potential impact to receiving water environment will be reduced to negligible thus reducing the significance of environmental effect to Imperceptible and therefore reducing the risk to aquatic ecology. Fisheries and Aquaculture: As mentioned in Section 9.2.2, sea lamprey spawn in the Lower Shannon mainly from May to July and are expected to migrate up the Shannon estuary in spring and early summer. River lamprey spawn in spring in March and April but their spawning migration tends to be much more extended than for sea lamprey stretching from autumn to spring. There is

Chapter	Interaction
	an indication that sea lamprey is more likely to occur in sheltered areas, such as ports, river mouths and small inlets. It should be noted that there are no shellfish waters within the Foreshore boundary but in the wider context of the Shannon Estuary, there are four designated shellfish waters. There is also no licenced aquaculture within the Marine SI works area, with the closest licensed area approximately 800 metres from the SI works. The costal processes in the area of the Marine Works are largely dispersive and given the small-scale nature of the works the impact on fisheries and aquaculture will not be significant with any suspended sediment dispersed before it reaches these areas. Air Quality: The nature of the Marine SI works is limited to small plant machinery and such works are temporary so it is expected there will be little interaction between biodiversity and air quality. It should be noted that air quality monitoring for human health and the wider environment takes place in close proximity to Foynes. The EPA carries out continuous monitoring for NO₂, SO₂, Fine Particulate Matter (PM_{2.5}), Coarse Particulate Matter (PM₁₀) and Total Particulate Matter (General Dust) at a site on a farm near Askeaton in Co. Limerick located circa 5km east of Foynes. There are six dust monitors in place at the Foynes facility which measures the generation of fugitive dust emissions levels. Air particulates should not pose any negative impact to the wider environment especially for the duration of marine SI works. Works are small in scale and are limited small plant machinery. Therefore, works will not impact on air quality in the area surrounding Foynes port and therefore there is no potential for significant effects on biodiversity from air quality impacts. Noise: The possibility of likely significant aerial noise and underwater noise from the marine SI works on biodiversity cannot be discounted until further evaluation and analysis. Underwater noise due moving of plant equipment, geophysical surveys and drilling of boreholes as well as disruption of the seabed are expected to create impacts to marine mammals and protected species. The effects of the noise disturbances may be felt beyond the works area. However, mitigation measures are outlined in the Annex IV Species Risk Assessment, Appendix C to offset any impact of underwater noise on biodiversity. Fish species, such as Atlantic salmon and sea and river lamprey have varying sensitivities to sound. The hearing of these species only involves particle motion and not sound pressure, and they are therefore less susceptible to impacts from geophysical survey. These species are susceptible to internal injury (barotrauma) from a rapid pressure change, i.e., unexploded ordnance detonation, which does not form part of the proposed site investigations (Popper et al., 2014). Geophysical survey results have found that sound levels generated from marine SI works are unlikely to be audible to fish species. Proposed marine surveys will be temporary in any one location and the disturbance effects to fish resulting from the geotechnical surveys will not be significant. Traffic and Transport (including Navigation): Due to the marine SI works being carried out within the Shannon Estuary, it is unlikely that any major impacts on traffic and transportation will be experienced. This is because there are no passenger ferry services operating out of Foynes Port and the traffic associated with works will be limited to the mobilisation of the typical plant to the site. In some cases, plant will be mobilised by sea. Transporting marine plant to Foynes Port

Chapter	Interaction
	and the marine SI works will not increase the traffic in the Port area substantially when compared to the existing HGV movement and operations within a busy Port. Therefore there will be limited increases in noise levels that would significantly impact on the bird population in the SPA, but this will deal with in more detail in the NIS for the Marine SI works. Given the marine SI works are temporary and are small in scale, and with the appropriate mitigation measures in place, baseline conditions will return once works have been completed. Material Assets <i>Coastal Processes:</i> There is expected to be some interaction between Biodiversity and Coastal Processes. During marine SI works, small amounts of sediment is likely to be displaced however not to the extent where normal sediment transport regimes and benthic ecology habitats will be significantly affected in the Shannon Estuary. Benthic ecology and habitats will be affected through minor disturbance around the borehole location and sample stations and a very small volume of substratum loss, direct displacement or smothering during drilling. The small volumes of sediment displaced during the Marine SI may result in a thin layer of smothering however this deposited sediment will be quickly dispersed given the strong currents in the area. Sedimentary benthic habitats identified within the survey area are widespread and common for the region. Therefore, any disturbance is not expected to have an effect on the wider population of benthic fauna and the significance of any effect will be minor for sedimentary habitats. Mitigation measures have been provided and it is expected that impacts will be minor.
Chapter 10 – Fisheries and Aquaculture	The most significant interactions in relation to Fisheries and Aquaculture are considered to be Water Quality, Population & Human Health, Climate and Material Assets. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Land, Soils, Geology & Hydrogeology: An inter-relationship exists between Fisheries and Aquaculture, Water Quality and Land, Soil, Geology, Hydrogeology. The Marine SI works have the potential to cause the re-suspension of seabed sediments leading to a potential impact on water quality and therefore fisheries and aquaculture. In addition to the impacts assessed in Chapter 6 Land, Soils, Geology & Hydrogeology which concluded there was no potential for significant effects, the impact of the Marine SI works has been assessed in Chapter 8 Biodiversity, Chapter 7 Water Quality and Chapter 19, Material Assets; Coastal Process. The findings of each assessment has indicated that provided the implementation of mitigation measures as listed in Chapter 7 and Chapter 8, no impacts to water quality and fisheries and aquaculture are expected. Water Quality: Fisheries and aquaculture are dependent on good water quality. Suspended sediment generated during the borehole drilling can have a negative impact on water quality, water dependant species particularly in areas immediately adjacent to the works area. Chapter 7 Water Quality has assessed the impact of the Marine SI works on water quality, with the implementation of the mitigation measures the potential impact to receiving water environment will be reduced to negligible thus reducing the significance of environmental effect to negligible and therefore reducing the risk to fisheries and aquaculture.

Chapter	Interaction
	Noise: The marine SI works are likely to add to the existing underwater noise levels in the area. Any sources of additional noise will be confined to an area close to the source where works are taking place and attenuate rapidly into the seabed. The area is noise sensitive due to the proximity of marine species including fish (e.g., Atlantic Salmon, River Lamprey, Sea Lamprey, Eel, Smelt). Given that sound levels are unlikely to be audible to fish species and the activity will be temporary in any one location the magnitude of disturbance effects to fish resulting from the geotechnical surveys has been assessed as temporary and Negligible. Population & Human Health: There is the potential for fisheries and aquaculture to impact on human health should the quality of the shellfish be impacted by the proposed SI works. The assessment of water quality impacts and the mitigation measures recommended will ensure that there will be no impact from the Marine SI works on water quality and therefore shellfish or human health. Material Assets - Coastal Processes: There will be minor disturbance around the borehole location and sample stations and a very small volume of substratum loss, direct displacement or smothering during drilling. However, given the dispersive nature of the currents in the area these minor volumes of displaced sediment will be quickly dispersed before reaching the Shellfish Waters or licenced aquaculture.
Chapter 11 – Air Quality	The most significant interactions in relation to Air Quality are considered to be Traffic & Transport, Population & Human Health and Landscape and Visual. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Traffic & Transport (including Navigation): The air quality for the Foynes area will not be reduced from the SI works as a result of traffic and transport. Increased traffic to and from Foynes Port for undertaking the Marine SI works will only entail mobilisation and demobilisation of marine plant and will not significantly increase emissions or dust. Population & Human Health: There will be no potential for significant effects on the population of human health from air quality given that the impacts on air quality will be negligible due to the limited additional traffic and emissions associated with the marine plant.
Chapter 12 – Noise	The most significant interactions in relation to Noise are considered to be, Biodiversity, Fisheries and Aquaculture Traffic and Transport (including Navigation), Population & Human Health. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Biodiversity: Underwater noise due moving of plant equipment, geophysical surveys and drilling of boreholes as well as disruption of the seabed are expected to create impacts to marine mammals and protected species. The effects of the noise disturbances may be felt beyond the works area. However, mitigation measures are outlined in the Annex IV Species Risk Assessment, Appendix C to offset any impact of underwater noise on biodiversity. Fisheries and Aquaculture: Any sources of additional noise will be confined to an area close to the source where works are taking place and attenuate rapidly into the seabed. The area is noise sensitive due to the proximity of marine species including fish (e.g., Atlantic Salmon, River

Chapter	Interaction
	Lamprey, Sea Lamprey, Eel, Smelt). Given that sound levels are unlikely to be audible to fish species and the activity will be temporary in any one location the magnitude of disturbance effects to fish resulting from the geotechnical surveys has been assessed as temporary and Negligible. Traffic & Transport (including Navigation): The traffic and transport of the Marine SI Plant to Foynes Port from where it will be deployed the SI areas will include the mobilisation and demobilisation of some plant, with others plant be mobilised to site by sea. This will not increase noise levels significantly in this busy operationally Port and will not result in a significant environmental effect. Population & Human Health: There is expected to be some increase in noise levels which will be confined to the foreshore area. However, it is not expected that noise levels will adversely affect the health and wellbeing of the local population of Foynes nor the surrounding areas. The SI works will only take place within the Shannon Estuary, away from areas of habitation.
Chapter 13 - Landscape and Seascape	The most significant interaction in relation to Landscape and Seascape are considered to be Archaeology & Cultural Heritage and Population & Human Health. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Archaeology & Cultural Heritage: There will be a short-term impact of the presence of marine plant while the SI works are being carried out. This impact will be temporary in duration. The marine SI works are not expected to have any permanent impact on the landscape and seascape aspects of the surrounding area that would have a significant effect on the archaeology and cultural heritage. Population & Human Health: There will be a short-term impact of the presence of marine plant while the SI works are being carried out close to Foynes Port which will be visual to the local population. This impact will be temporary in duration. The marine SI works are not expected to have any permanent impact on the population and human health of the population of Foynes Town given that the area is already associated with a busy Port where vessels are moving continuously and the visual impacts of a survey vessel and jack up barge will not be significant when compared to the large cargo vessels that dock at the quayside.
Chapter 14 – Traffic and Transport (including Navigation)	The most significant interaction in relation to Traffic & Transport (including Navigation) are considered to be Population & Human Health. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Air Quality: The air quality for the Foynes area will not be reduced from the SI works as a result of traffic and transport. Increased traffic to and from Foynes Port for undertaking the Marine SI works will only entail mobilisation and demobilisation of marine plant and will not significantly increase emissions or dust. Noise: The traffic generated from the transportation of the Marine SI Plant to Foynes Port from where it will be deployed to the SI areas will include very limited traffic movements with the survey vessel and possible support vehicle whilst the jack up barge will be transported by sea. Given the number of traffic movements required will be very low there will not be a significant increase noise levels in this busy operational Port and will not result in a significant environmental effect.

Chapter	Interaction
	Population & Human Health: Foynes Port is a busy commercial and industrial port and any disruption to daily activities will impact on port users either directly or indirectly, positively or negatively. A Marine Notice will be issued in advance of any marine SI works taking place so as all mariners operating in the area are aware of the operations. This is to ensure the safety of all operators within Foynes Port. In addition, the Marine SI Contractor will have all the necessary health and safety procedures in place which will include cognisance of maritime safety. The expected impacts to the population of Foynes and the surrounding area are considered to be negligible.
Chapter 15 - Archaeology and Cultural Heritage	The most significant interaction in relation to Archaeology and Cultural Heritage are considered to be Land, Soils, Geology and Hydrogeology and Landscape and Seascapes. Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included. Land, Soils, Geology and Hydrogeology: A potential interaction exists between Land, Soils, Geology & Hydrogeology and Archaeology & Cultural Heritage in that the disturbance of the sediments could have the potential to impact on unknown archaeology. Prior to SI works, an archaeological survey and assessment of the terrestrial, intertidal, and underwater areas will identify areas of archaeological significance with the foreshore area. For the duration of the works, archaeological monitoring of the area will take place and appropriate facilities will be provided to examine identified material. Archaeological assessment has located prehistoric and more recent archaeological sites within the wider area of Foynes. In addition, a number of fish weir/traps are present on the OS historic maps for the areas under assessment which are of cultural importance. Overall, the existing archaeological record demonstrates a high potential for Foynes Island, with a list of known sites located upon the island. As a result, the surrounding foreshore/intertidal areas should be regarded as retaining high cultural potential. The appropriate mitigation measures have been presented to protect sites and material of archaeological and cultural significance. Landscape and Seascapes: There will be a short-term impact of the presence of marine plant while the SI works are being carried out. This impact will be temporary in duration. The marine SI works are not expected to have any permanent impact on the landscape and seascape aspects of the surrounding area that would have a significant effect on the archaeology and cultural heritage.
Chapter 16- Population & Human Health	The most significant interactions in relation to Population & Human Health are considered to be Water Quality, Fisheries and Aquaculture, Air Quality, Noise, Landscape and Seascapes, Traffic and transportation (including Navigation). Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included where required. Water Quality: It is anticipated there will have little interaction in relation to water and population and human health. Works will be carried out in the foreshore area away from Foynes town. There may indirect disruption to the Foynes Yacht Club whose members regularly use the Shannon Estuary for sailing and leisure pursuits however water quality impacts could affect the use of the area for leisure activities, however the mitigation in place for water quality should ensure that this does not significantly affect population and human health

Chapter	Interaction
	Fisheries and Aquaculture: There is the potential for fisheries and aquaculture to impact on human health should the quality of the shellfish be impacted by the proposed SI works. The assessment of water quality impacts and the mitigation measures recommended will ensure that there will be no impact from the Marine SI works on water quality and therefore shellfish or human health. Air Quality: There will be no potential for significant effects on the population of human health from air quality given that the impacts on air quality will be negligible due to the limited additional traffic and emissions associated with the marine plant. Noise: There is expected to be some increase in noise levels which will be confined to the foreshore area. However, it is not expected that noise levels will adversely affect the health and wellbeing of the local population of Foynes nor the surrounding areas. The SI works will only take place within the Shannon Estuary, away from areas of habitation. Landscape and Seascape: There will be a short-term impact of the presence of marine plant while the SI works are being carried out close to Foynes Port which will be visual to the local population. This impact will be temporary in duration. The marine SI works are not expected to have any permanent impact on the population and human health of the population of Foynes Town given that the area is already associated with a busy Port where vessels are moving continuously and the visual impacts of a survey vessel and jack up barge will not be significant when compared to the large cargo vessels that dock at the quayside. Traffic and transportation (including Navigation): Foynes Port is a busy commercial and industrial port and any disruption to daily activities will impact on port users either directly or indirectly, positively or negatively. A Marine Notice will be issued in advance of any marine SI works taking place so as all mariners operating in the area are aware of the operations. This is to ensure the safety of all operators within Foynes Port. In addition, the Marine SI Contractor will have all the necessary health and safety procedures in place which will include cognisance of maritime safety. The expected impacts to the population of Foynes and the surrounding area are considered to be negligible.
Chapter 20 – Material Assets: Coastal Processes	The most significant interactions in relation to Material Assets: Coastal Processes are considered to be Land, Soils, Geology and Hydrogeology, Water Quality, Biodiversity and Fisheries and Aquaculture, Consideration of each is provided in relevant chapters within the AIMU report with appropriate mitigation measures included where required. Land, Soils, Geology and Hydrogeology: Displacement of material from borehole drilling will result in increased suspended sediments in the water column that could result in Sediment transport of may result in tides and currents to transport potential contaminants associated with sediment from the marine SI works such as oils. However, the likelihood of contaminants being transported by coastal processes are low. Water Quality: The marine SI works may have a slight negative impact on water quality as some sediment from the sampling process will be disturbed and may enter the water column. Tidal flows and waves may transport sediment beyond the works area and out into Shannon Estuary.

Chapter	Interaction
	However, it is likely that disruption to sediment transport regimes would only be temporary, and conditions may return to baseline after the works have been completed. Biodiversity: There is expected to be some interaction between Biodiversity and Coastal Processes. During marine SI works, small amounts of sediment is likely to be displaced however not to the extent where normal sediment transport regimes and benthic ecology habitats will be significantly affected in the Shannon Estuary. Benthic ecology and habitats will be affected through minor disturbance around the borehole location and sample stations and a very small volume of substratum loss, direct displacement or smothering during drilling. The small volumes of sediment displaced during the Marine SI may result in a thin layer of smothering however this deposited sediment will be quickly dispersed given the strong currents in the area. Sedimentary benthic habitats identified within the survey area are widespread and common for the region. Therefore, any disturbance is not expected to have an effect on the wider population of benthic fauna and the significance of any effect will be minor for sedimentary habitats. Mitigation measures have been provided and it is expected that impacts will be minor. Fisheries and Aquaculture: There will be minor disturbance around the borehole location and sample stations and a very small volume of substratum loss, direct displacement or smothering during drilling. However, given the dispersive nature of the currents in the area these minor volumes of displaced sediment will be quickly dispersed before reaching the Shellfish Waters or licenced aquaculture.

21 CUMULATIVE ASSESSMENT

As per condition 30 of the existing licence, a cumulative impact assessment has been carried out to identify any other licence holder or application which will also be carrying out geophysical, seismic and geotechnical activities within a 10 km radius of the site boundary of the additional marine SI areas (Area C & D). As of the 7th July 2025, there was three determined MUL within 10km of the proposed marine SI:

- **ESB Moneypoint (LIC230008)** - The nearest maritime usage licence where geophysical, seismic and geotechnical activities are proposed is located at Moneypoint where the ESB are undertaking Marine Site Investigations to acquire data to a high quality and specification for the site. It is envisaged the site investigations will take place over two phases:
 - i. Phase One Marine Site Investigation Works will included Marine Geophysical Surveys, Marine Environmental/Ecological Surveys and Metocean Surveys.
 - ii. Phase Two Marine Site Investigation Works will include Marine Geotechnical Surveys (Boreholes and Virbrocores).

There were two applications received for MULs within 10km of the proposed marine SI:

- **Gas Networks Ireland (MUL240034)** - Gas Networks Ireland have received a licence (MUL240034) for the deployment and retrieval of up three static acoustic monitoring (SAM) devices at two locations in the Shannon Estuary and up to two acoustic doppler current profilers (ADCP) per study area. The locations are Cahiracon and Tarbet. The proposed licence area B at Cahiracon overlaps with the MUL area A for the FIDD, however the nature of the surveys are not classed as “geophysical, seismic and geotechnical activities” and therefore there will be no in-combination effects from the activities themselves when the geotechnical (borehole) and geophysical activities for this amendment commence at Foynes Island.
- **Aughinish Alumina Ltd (LIC230004)** - Aughinish Alumina Ltd has received an MUL for maintenance dredging at four sites around the Aughinish Alumina Ltd (AAL) jetty with the material to be deposited at the dump site to the west of Foynes Island, Shannon Estuary, Co. Limerick. All five areas are within 10km of the proposed additional Marine SI works at Foynes Island. In order to provide extra flexibility in the dredging process it is intended to have provision to dredge/dump twice a year. Each campaign would have a maximum duration of 21 days. Dredging operations will take place for 24 hrs per day during each 21-day cycle. SFPC will engage with Aughinish Alumina Ltd to establish the programme for the annual dredging campaign to avoid temporal overlap and in-combination effects.

Foreshore Licences

There are six foreshore licences granted within 10km of the FIDD MUL boundary. Shannon Foynes Port Company hold five of these licences for maintenance dredging, new quay development and Marine SI works, all of which have been completed. Aughinish Alumina hold the other licence for maintenance dredging which has also been completed. Therefore, there is no potential for temporal overlap.

21.1 Conclusion

Having reviewed the MULs that have been determined, those that are in the application process and also having reviewed existing Foreshore Licenses within the 10km buffer it can be concluded that there are no other geophysical, seismic and geotechnical activities that will occur either spatially or temporally that will result in any in-combination effects.

22 SUMMARY OF MITIGATIONS

SFPC seek to achieve the highest possible standard of environmental management during the Marine Site Investigation (SI). The amendment to the existing Maritime Usage Area Licence to include two additional Marine SI areas will not require any additional mitigation measures to those already proposed as part of MUL No. LIC230014 and the associated conditions of this licence which will be fully applied to the additional Marine SI proposed. A summary of all existing mitigation measures and monitoring requirements proposed within the original AIMU and the attached environmental reports in the Appendices to this Addendum are summarised below.

22.1 Marine Site Investigation (SI) Phase Mitigation Measures

The AIMU report and this AIMU Addendum assesses the likely significant effects of the Foynes Marine Site Investigation (SI) and proposed additional Marine SI under the proposed amendment to MUL No. 230014. Integration of the engineering design team with the planning and environmental team from an early stage in the project have enabled mitigation by design to be used, causing many likely significant effects to be eliminated or reduced to an acceptable level during the site investigation works. Following an examination, analysis, and evaluation of the direct and indirect significant effects of the project in relation to the receiving environment, additional mitigation measures and monitoring programmes have been recommended which will be fully implemented during the marine SI.

Table 22.1 summarises the mitigation measures and monitoring programmes recommended within the original AIMU during the marine SI and which will be applied to the additional Marine SI along with the current conditions associated with MUL No. 230014 and any further mitigation measures MARA consider appropriate. All mitigation measures proposed within the NIS been captured by the AIMU.

Table 22.1: Mitigation measures and monitoring recommended within the AIMU

Potential Impact	Summary of Proposed Mitigation
Chapter 7 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY	
Impact on Marine Environment	No mitigation measures are required for marine soils, geology and hydrogeology as the works are deemed to have negligible to minor impacts.
Impact on Terrestrial Environment	No mitigation measures are required for terrestrial land cover, soils, geology, and hydrogeology as the work are deemed to have negligible to minor impacts.
Chapter 8 Water	
Impact on Water Quality	- All plant shall be cleaned and checked twice daily for leaks or drips before entering the site. - No plant machinery is to be filled with more than 3/4 fill with fuel. - The contractor's site compound is where all refuelling on site will take place. - Prior to entering the site all plant shall be cleaned and checked twice daily for leaks or drips. - Refuelling will take place, where possible, remote from the site and within suitable oil receptors.
Occurrence of flooding	

Potential Impact	Summary of Proposed Mitigation
	- Any refuelling on site will take place at the Contractor's site compound. - All oil / fuel at the compound will be adequately stored to ensure that any potential spill is contained and treated on site and that none can reach any drainage system or the River Shannon. - A spill response kit will be available onsite and accessible to all to control pollution incidents. These spill kits will contain absorbent pads, absorbent granules and methods of disposal of materials and used kit. These kits will be located at appropriate points around the Site which are considered to be at a higher risk of pollution (e.g., refuelling area and next to fuel tanks). Further spill kits and supplies will be located in the stores within the Site, where replacements for used kits will be found. - Spill kits will need be regularly inspected and immediately replaced if used. - Toolbox talks will be communicated to Site staff and contractors so that they are fully informed of refuelling procedures.
Chapter 9 BIODIVERSITY	
Impact on Designated Sites	- Effects on two of the European sites scoped into the appraisal cannot be excluded as further evaluation and analysis is required. This includes not only proposed project alone but should be used in combination with the other projects considered. - For marine mammals, mitigation measures include: a 500m radial distance sound source in water depths of <200m on commencement of works as recommended by National Parks and Wildlife Service (NPWS). - Further information is found in NPWS's <i>'Guidance to Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters'</i> and should be adhered to. - Statistic Acoustic Monitoring is recommended to ensure bottlenose dolphin activity at the site is not affected. This should be undertaken after works are completed. - Only Minor impacts will affect benthic ecology and no mitigation measures are recommended for shellfish waters as the proposed works were deemed to only have Negligible impacts on shellfish habitats and related receptors in the area.
Impact on Marine Mammals	
Impact on Benthic Ecology/ Marine Habitats	
Impact on Fish	
Chapter 11 AIR QUALITY	
Impact on Air Quality	For air quality, mitigation measures for the proposed works were deemed to only have Negligible impacts on receptors in the area.
Chapter 12 NOISE	

Potential Impact	Summary of Proposed Mitigation
Impact of Noise	- No mitigation measures are recommended for terrestrial noise as the proposed works were deemed to only have Negligible impacts on receptors in the area. - For marine mammals the following mitigation measures are recommended; - It is recommended by the National Parks and Wildlife Service (NPWS), a 500m radial distance sound source in water depths of <200m on commencement; - NPWS's 'Guidance to Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters' should be adhered to; and, - Statistic Acoustic Monitoring is recommended throughout the marine site for a period after works are completed to ensure bottlenose dolphin activity at the site is not affected.
Chapter 13 LANDSCAPE AND SEASCAPE	
Impact of marine plant on landscape and visual	- There will be a temporary short-term impact of the presence of marine plant while the SI works are being carried out. The SI works are not expected to have any permanent impact on the landscape and visual aspects of the surrounding area. This is due to the work being carried out on the seabed of Shannon Estuary. - Overall, the sensitivity of the receptor is Negligible, and the magnitude of the impact is Negligible. - No mitigation measures are recommended for landscape & visual as the proposed works were deemed to only have Negligible impacts on receptors in the area.
Chapter 15 ARCHAEOLOGY & CULTURAL HERITAGE	
Potential discovery of material Archaeological/historical significance	- An archaeological survey and terrestrial, intertidal, and underwater assessment are to be conducted for the Deepwater terminal project. This includes a marine geophysical survey to detect potential anomalies or features of archaeological significance. - If features are detected, they are to be avoided following pre-disturbance inspection. - Archaeological monitoring of site is recommended (Section 5 of National Monuments Act (2004 Amendment) to be conducted by licenced and experienced maritime personnel. Monitoring of riverbed and intertidal disturbances will be carried out during works. - Marine works should include a timescale which should be made available to archaeologist with sufficient notice. - Licence applications should be in place in advance of commencement of SI works - In the event of discovery of archaeological material, all geotechnical work should cease in the immediate area to allow archaeologist to record any such material. - A suitable archaeological team are to be on standby at the site to inspect the material. If the material is of archaeological significance, such material is to be removed. - Where excavation is required secure site offices should be provided.
Impacts on cultural heritage	

Potential Impact	Summary of Proposed Mitigation
	Cost of excavation, post-excavation analysis and conservation testing should be made available
Chapter 20 MATERIAL ASSETS	
Impact of site works on traffic and transport	- There are no recommended mitigation measures as the works will be carried out on the Shannon Estuary. The impacts on the receptor are Negligible and the magnitude of the impact is Negligible. Overall, the significance of the Impacts is negligible. - No mitigation measures are recommended for utilities as the proposed works were deemed to only have Negligible impacts on receptors in the area. - No mitigation measures are recommended for coastal processes as works will have a Minor impact. - No mitigation measures are recommended as works are taking place far from designated foreshore licence area. Only Negligible impacts on shellfish habitats and related receptors.
Disturbance of utilities in area	
Coastal Processes – impact on tidal flows, waves, and sediment transport	
Shellfish Waters – proximity of works to shellfish waters	
Chapter 14 SHIPPING AND NAVIGATION	
Injury and/or death of staff undertaking the marine SI;	- Effective communication between sampling staff, port staff, and ship operators will be prioritised to always ensure safety for the duration of the SI works. - In the unlikely event of each of the following impacts appropriate planning, mitigation and safety procedures will be implemented - It has been determined that the sensitivity of the receptor is Medium, and the magnitude of the impact is Medium. Therefore, A marine notice will there is expected to be Moderate impacts. - A Marine Notice will be issued prior to any marine SI works to make operators aware of safety procedures. The Marine SI contractor will have all necessary health and safety procedures in place before commencement of marine SI works.
Injury and/or death of port staff or crew of ship;	
Collision of sampling vessels and other vessels	
Sampling vessels running aground	
Striking or disruption of utilities (e.g., gas mains, electricity cables, water mains) under the seabed during borehole drilling.	
Chapter 16 POPULATION AND HUMAN HEALTH	
Population and Human Health	The proposed works are deemed to only have Negligible impacts on Population and Human Health and related receptors in the area which do not require mitigation measures.

23 CONCLUSION

This AIMU addendum report addressing the inclusion of two additional areas of Marine SI (Areas C & D) to an existing MUL (Licence No. LIC230014), has provided the responsible authorities with objective information on which to assess the environmental effects of the marine SI works to support the planning and preliminary engineering design of the Foynes Deep Water Berth Development on Foynes Island. The addendum report has established whether the current state of the environment in the vicinity of the proposed activity / works has changed from that originally assessed in the AIMU Report submitted in support of the original MUL application, the possible effects of the activity / works on the environment and to highlight how mitigation will be implemented to minimise these impacts.

A number of impacts from the Marine SI Works and the additional Marine SI works have been identified which are summarised in Table 23.1. This table includes the pre-mitigation, post-mitigation and cumulative impacts expected to arise from the proposed activity / works.

Table 23.1: Summary of expected impacts from the Marine SI works at Foynes Port and Island

Chapter Title	Sub-Title	Pre-Mitigation Impact	Post Mitigation Impact	Cumulative Impacts
Population & Human Health	-	Negligible	N/A	N/A
Biodiversity	<i>Designated / European Sites</i>	Moderate	TBC on completion of Appropriate Assessment	
	<i>Marine Mammals</i>	Minor to Moderate	Negligible to Minor	Slight
	<i>Benthic Ecology / Marine Habitats</i>	Minor	Negligible	Not Significant
	<i>Fish</i>	Negligible	Negligible	Not Significant
Land, Soils, Geology & Hydrogeology	<i>Marine</i>	Negligible to Minor	N/A	N/A
	<i>Terrestrial</i>	Negligible	N/A	N/A
Water	<i>Flooding</i>	Negligible	N/A	N/A
	<i>Water Quality</i>	Moderate	Minor	Slight
	<i>Air Quality</i>	Negligible	N/A	N/A
Air, Climate & Noise	<i>Terrestrial Noise</i>	Negligible	N/A	N/A
	<i>Underwater Noise</i>	Moderate	Minor	Minor
Landscape & Visual	-	Negligible	N/A	N/A
Archaeology & Cultural Heritage	-	Moderate	Minor	Slight
Material Assets	<i>Traffic & Transport</i>	Negligible	N/A	N/A
	<i>Utilities</i>	Negligible	N/A	N/A
	<i>Coastal Processes</i>	Minor	Negligible	Not Significant
	<i>Shellfish Waters</i>	Negligible	N/A	N/A
Shipping & Navigation	-	Moderate	Minor	Slight
Major Accidents & Disasters	-	Moderate	Minor	Slight

As shown in the table above, the most significant effects pre-mitigation is to Designated / European Sites, Marine Mammals, Water Quality, Underwater Noise, Shipping & Navigation and Major Accidents & Disasters, which all have a **Moderate** significance pre-mitigation.

Mitigation measures were recommended for all effects that had a greater than **Negligible** impact on the surrounding environment. Recommended mitigation measures range from distribution Marine Notices to following the guidance “*Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters*”, acoustic monitoring and spill and pollution control. Following implementation of all the recommended mitigation measures, all identified effects will be reduced to either **Minor** or **Negligible** significance.

It should be noted that all impacts identified are **Temporary** in nature, and the site is expected to return to baseline conditions after the marine SI works are completed.

The cumulative assessment did not find any significant effects that may arise from interactions between the proposed marine SI works and other identified projects in the area. The most significant effects would be **Minor** in nature.

Therefore, it can be concluded that the additional marine SI works proposed under an amendment to MUL No. LIC230014 will not have any significant impacts on the surrounding environment subject to Appropriate Assessment by MARA (including consideration of mitigation measures and in combination effects).

Appendix A - Supporting Information for Screening for Appropriate Assessment Foynes Island: Additional Marine Site Investigations (Areas C & D)

Appendix B - Natura Impact Statement Foynes Island: Additional Marine Site Investigations (Areas C & D)

Appendix C– Annex IV Species Risk Assessment Of Marine Site Investigations At Areas C And D At Foynes Island, Co Limerick

Appendix D – ADCO Memorandum Foynes Island Deepwater Development (FIDD) Additional Marine Site Investigation (Areas C-D) Archaeological Scope/Mitigation