

2022



NATURA IMPACT STATEMENT



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1. INTRODUCTION

Aqualicense has been commissioned by Valentia Island Energy Ltd (“the Applicant”) to prepare this Report in support of a Foreshore Licence Application to the Marine Planning and Foreshore Section of the Department of Housing, Local Government and Heritage. The Applicant intend to undertake a project for an offshore wind energy production called Valentia Island Energy.

Proposed plans or projects that have the potential to affect designated nature conservation sites (detailed below) are required for consideration under the European Communities (Birds and Natural Habitats) Regulations 2011-2015.

A foreshore licence is required for the proposed marine surveys (referred to as Proposed Project). This Natura Impact Statement (NIS) forms part of the Foreshore Licence Application to the Marine Planning and Foreshore Section of the Department of Housing, Planning and Local Government seeking permission to undertake the proposed marine surveys.

This report has been prepared by Aqualicense Ltd. on behalf of Valentia Island Energy Ltd, which will include geophysical, geotechnical, and environmental surveys.

1.1 PURPOSE OF THE DOCUMENT

This report accompanies the foreshore licence application, with the purpose of providing the information required to enable the Competent Authority (the Marine Planning and Foreshore Section of the Department of Housing, Planning and Local Government) to undertake an Appropriate Assessment of the proposed project in accordance with the requirements as set out under Article 6(3) of the Habitats Directive (92/42/EEC).

The NIS assesses whether impacts associated with site investigation works, identified in the Supporting Information: Screening for Appropriate Assessment (SISAA) document will either alone, or in combination with other plans or projects, affect the integrity of Natura 2000 sites. Following on from the findings of the SISAA document, the following stages and steps have been undertaken to provide information for AA:

- **Stage 2** – AA Natura Impact Statement [Considered in this document]
 - **Step 1:** preparation of a Natura Impact Statement (NIS; Section 5)

It should be noted that although the Foreshore Licence Application only relates to those activities occurring within the 12 nm limit, the information contained within this report covers all work within and outside the 12 nm limit to ensure all potential effects on the Natura 2000 Network are identified and assessed.

1.2 STRUCTURE OF THIS REPORT

The following chapters include information relating to the receiving environment, potential impacts, Special Areas of Conservation (SAC), Special Protection Areas (SPA), Qualifying Interests (QI) and other environmental receptors as well as the appropriate assessment process. More specifically it contains the following:

- Chapter 1: Introduction

- Chapter 2: Habitats Directive
- Chapter 3: Receiving Environment
- Chapter 4: Potential Environmental Impacts
- Chapter 5: Appropriate Assessment Stage 2 (Natura Impact Statement)
- Chapter 6: Conclusion

1.3 FORESHORE LICENCE INVESTIGATION AREA

This application (Valentia Island Energy project) seeks consent to conduct surveys to establish the potential for an offshore windfarm located off the Southwest coast of Ireland, specifically off Valentia Island in county Kerry (Figure 1.1).

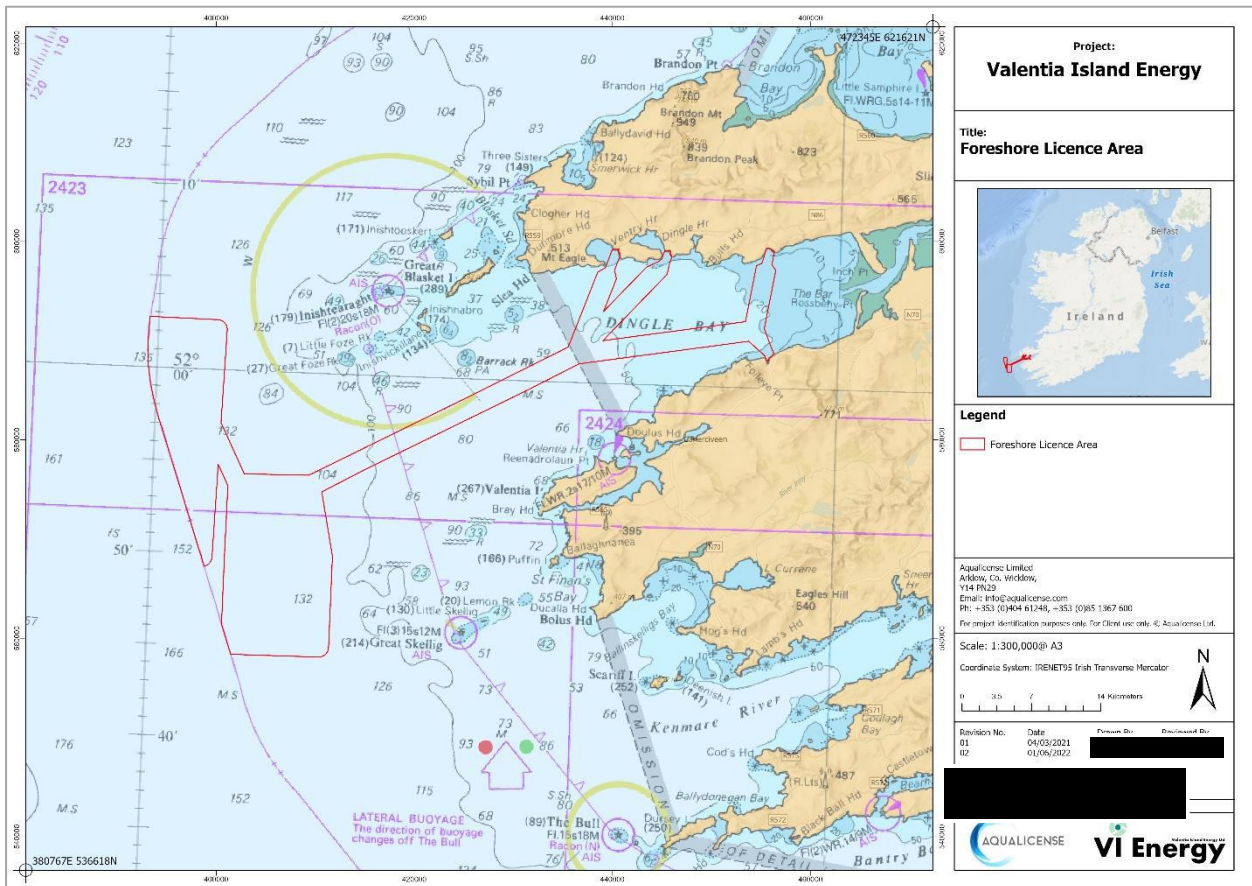


Figure 1.1: Valentia Island Energy – Foreshore Licence Application Area, located off the Southwest coast of Ireland.

1.4 MARINE SURVEYS

The objective of the site investigation work is to understand site conditions including benthic characteristics, bathymetry, underlying geology, existing tidal conditions, and environmental characteristics. The proposed programme of surveys is summarised in Table 1.1.

Table 1.1: Summary of proposed survey methodologies and timings associated with Valentia Island Energy Investigatory Foreshore Licence Application Area. See separate Schedule of Works report for detail on the survey equipment.

	SURVEY	PURPOSE	SAMPLES / AREA	TIMING
Geophysical	MULTIBEAM ECHOSOUNDER (MBES)	Water depth and seabed topography.	Array sites Over entirety of array area within 12 nautical mile limit. Cable routes Along each route with a 500m track size.	4-6 months per survey with additional time for interpretation and analysis. Note: many survey types can be run concurrently.
	SIDE SCAN SONAR (SSS)	Map seabed features and / or obstructions.		
	MAGNETOMETER	Map any metallic obstacles or hazards, including UXO.		
	SUB-BOTTOM PROFILING (SBP)	Identify character of the shallow geology.		
GEOTECHNICAL	BOREHOLES	Deep subsurface sampling – required at the centre of each floating mooring system.	Array sites 1 borehole (or CPT) per turbine (at centre of mooring arrangement) = 92 samples Cable routes None	4-6 months per campaign, with additional time for lab analysis.
	CONE PENETROMETER TESTS (CPTs)	Strength profiles of seabed substrate.	Array sites 1 borehole (or CPT) per turbine (at centre of mooring arrangement) = 92 samples Cable routes Every 1km along route up to MHWS	
	VIBROCORE / GRAVITY SAMPLER	Subsurface sampling typically to 6 - 12m depth.	Array sites None Cable routes Every 1km along route up to MHWS	

	GRAB SAMPLES	Description of uppermost seabed, ground truthing of geophysical interpretation.	To be determined following geophysical surveys and dependent on the quality of the shallow substrate sample collection from other survey types.	1 month additional to overall schedule if grab samples are required.
ENVIRONMENTAL	BENTHIC SURVEY – GRAB SAMPLES, POSSIBLE VIDEO DEPLOYMENT	Habitat characterisation.	Array sites 39 samples Cable routes Approx. 1 every 2 km along each cable route.	2 -3 weeks depending on site layout / cable length.
	ECHOLOCATION CLICK DETECTORS (POD's)	Marine mammal surveying.	Array sites 4 PODs An additional 4 PODs are located outside of the array site	Up to 12 months pre-construction and/or baseline
METOCEAN	FLOATING LIDAR	Wind speed characteristics (plus range of metocean measurements).	Array site 2 floating Lidars	12 – 36 months total deployment.
	WAVE BUOYS	Wave height and spread.	Array site 4 wave buoys	
	ACOUSTIC DOPPLER CURRENT PROFILERS (ADCP's). SENTINEL V (300KHz) (OR SIMILAR). PING RATE UP TO 4HZ.	Subsurface wave and current measurements up to 150m.	Array site 2 ADCPs Indicative locations (refer to <i>Schedule of Works</i> report accompanied with this document).	

2. HABITATS DIRECTIVE (92/43/EEC)

The purpose of this report is to inform the Appropriate Assessment process as required under the Habitats Directive (92/43/EEC). The Appropriate Assessment Screening contained in Section 5 of this report will determine whether the proposed surveys, both alone and in combination with other planned activities under the remit of this project and others, are likely to have a significant effect on any Natura 2000 site or its qualifying interests. This document includes a Stage 2 (Natura Impact Statement) of the Appropriate Assessment process.

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

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010 revision).
- Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate General, 2001).
- Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC (European Commission, 2007).
- Guidance to Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters. Prepared by National Parks and Wildlife Service, DAHG (2014).
- Guidelines for Good Practice: Appropriate Assessment of Plans under Article 6(3) Habitats Directive (International Workshop on Assessment of Plans under the Habitats Directive, 2011).
- Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2000).
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document. Prepared by National Parks and Wildlife Service, DAHG (2012).
- Managing Natura 2000 Sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission - 21 November 2018).
- Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (DCCA, 2016).
- Guidance on Marine Baseline Ecological Assessments and Monitoring Activities for ORE Projects, Part 2 (DCCA, 2018).

2.1 LEGISLATIVE CONTEXT

The AA process is based on the requirements of European Union Habitats Directive and Birds Directive and the Regulations that implement their requirements in national law.

The Habitats Directive, (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) which was adopted in 1992 and transposed into Irish Law in 1997, aims to promote the maintenance of biodiversity, taking account of economic, social, cultural, and regional requirements. It provides a framework for the legal protection to safeguard the conservation of a wide range of rare, threatened, or endemic animal and plant species throughout the European Union. The Birds Directive (Conservation of Wild Birds Directive (79/409/EEC) aims to protect all the 500 wild bird species naturally occurring within the European Union.

The Habitats Directive, along with the Birds Directive forms the cornerstone of the European Union's nature conservation policy. Together they form a coherent network of protected areas (Special Areas of Conservation and Special Protection Areas), called Natura 2000, safeguarded against potentially damaging developments.

The requirement for "Appropriate Assessment" is set out in Articles 6(3) and 6(4) of the Habitats Directive (92/43/EEC). If a project is likely to have a significant effect on a European (Natura) site, either alone or in combination with other plans or projects, it must undergo an Appropriate Assessment (AA).

Article 6(3) of the Habitats Directive states the following:

"Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 site) but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives"

In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public.

Article 6(4) of the Habitats Directive states the following:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for environment or, further to an opinion from the Commission to other imperative reasons of overriding public interest."

2.2 APPROPRIATE ASSESSMENT PROCESS

The European Commission's methodological guidance (European Commission, 2002) promotes a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required. The four stages are summarised diagrammatically below, and the steps and procedures involved in completing each stage follows. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of Article 6(3) or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of **Article 6(4)**.

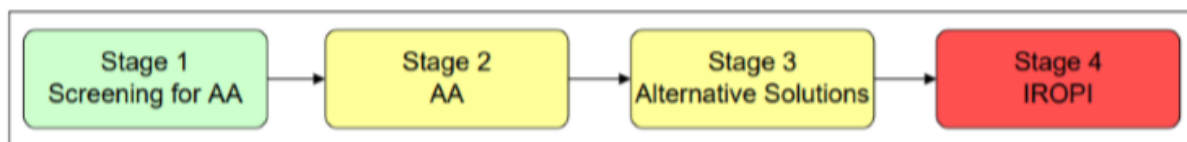


Figure 2.1: Stages in the AA process (Source: (DEHLG, 2010)).

Stage 1 – Screening

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

- i. whether a plan or project is directly connected to or necessary for the management of the site, and
- ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage 2 – Appropriate Assessment.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e., the report of a targeted professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in combination effects.

This should provide information to enable the competent authority to carry out the appropriate assessment. If the assessment is negative, i.e., adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned. The AA is carried out by the competent authority and is supported by the NIS.

Stage 3 – Consideration of Alternatives.

This stage examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a Natura 2000 site. The process must return to Stage 2 as alternatives will require appropriate assessment to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, is necessary to progress to Stage 4. Stage 4. Imperative Reasons of Overriding Public Interest (IROPI)/Derogation Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists.

Stage 4 – Assessment of Imperative Reasons of Overriding Public Interest.

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case 18. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister for Housing, Planning and Local Government.

3. RECEIVING ENVIRONMENT

The proposed investigation area is in the Atlantic Ocean off the coast of county Kerry (Figure Figure 3.1). The project consists of potential development areas inside and outside of 12NM. The Investigation Area reflects the area being applied for under the Foreshore Licence Application. This This measures c. 474 km², or 47,407.80 ha, and all marine surveys will be confined to this Investigation Area which is within the foreshore 12 nautical mile limit (Figure Figure 3.1).

A brief description of the proposed surveys is given in the document – Valentia Island Energy Project: Foreshore Licence Application for Site Investigation Works – “Schedule of Works” - accompanying the licence application. A more detailed explanation of the survey works is found in the accompanying Methods Statement and Programme of Works document.

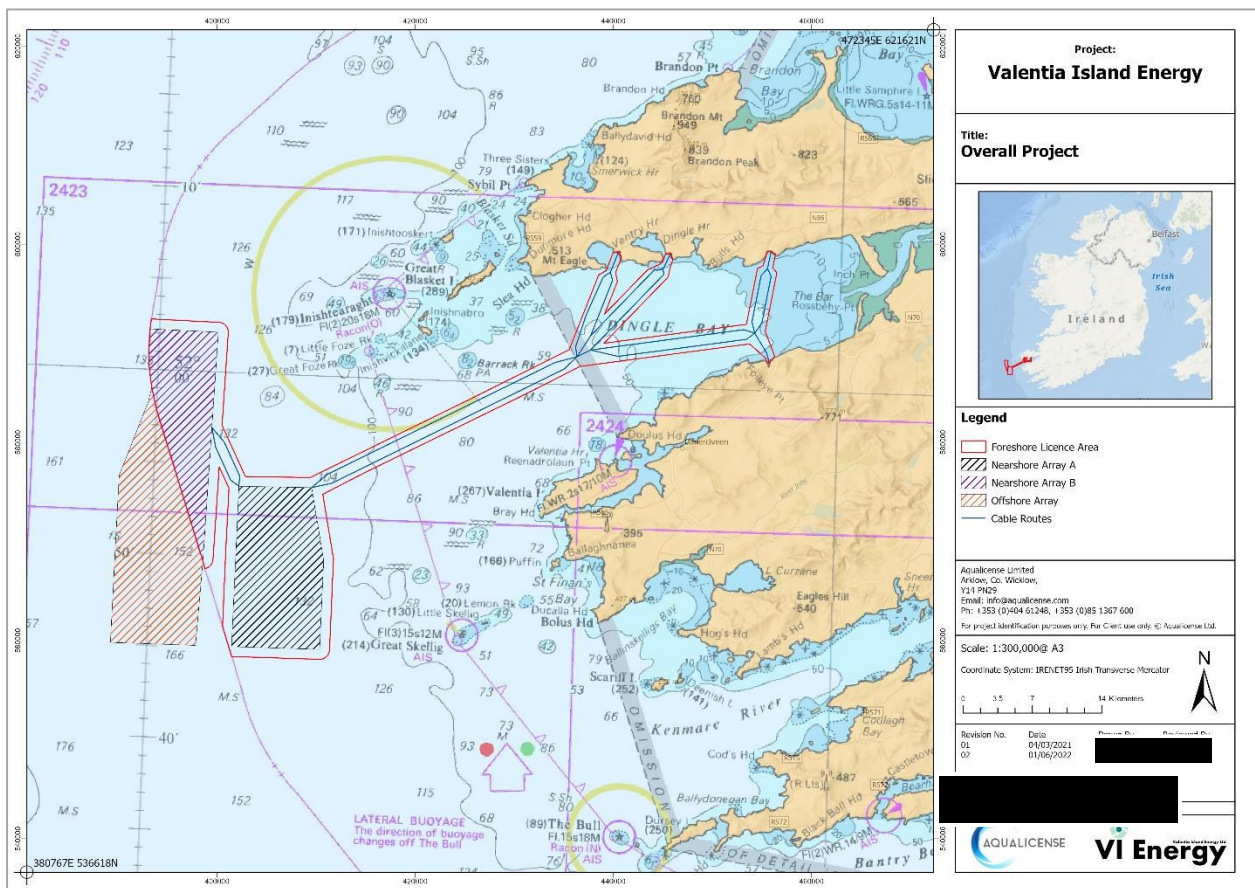


Figure 3.1: Overall Project Area including investigation area (red outline).

To understand the potential environmental impacts on the area it is important to outline the present state of the environmental baseline data of the area. In this section, susceptible environmental areas are outlined, highlighting environmental receptors which could potential be affected by the proposed survey. Figure 3.3 and Figure 3.2 below illustrates the indicative locations of where survey works will interact with the seafloor i.e., CPT/Boreholes, Vibrocore, and Grab Sampling.

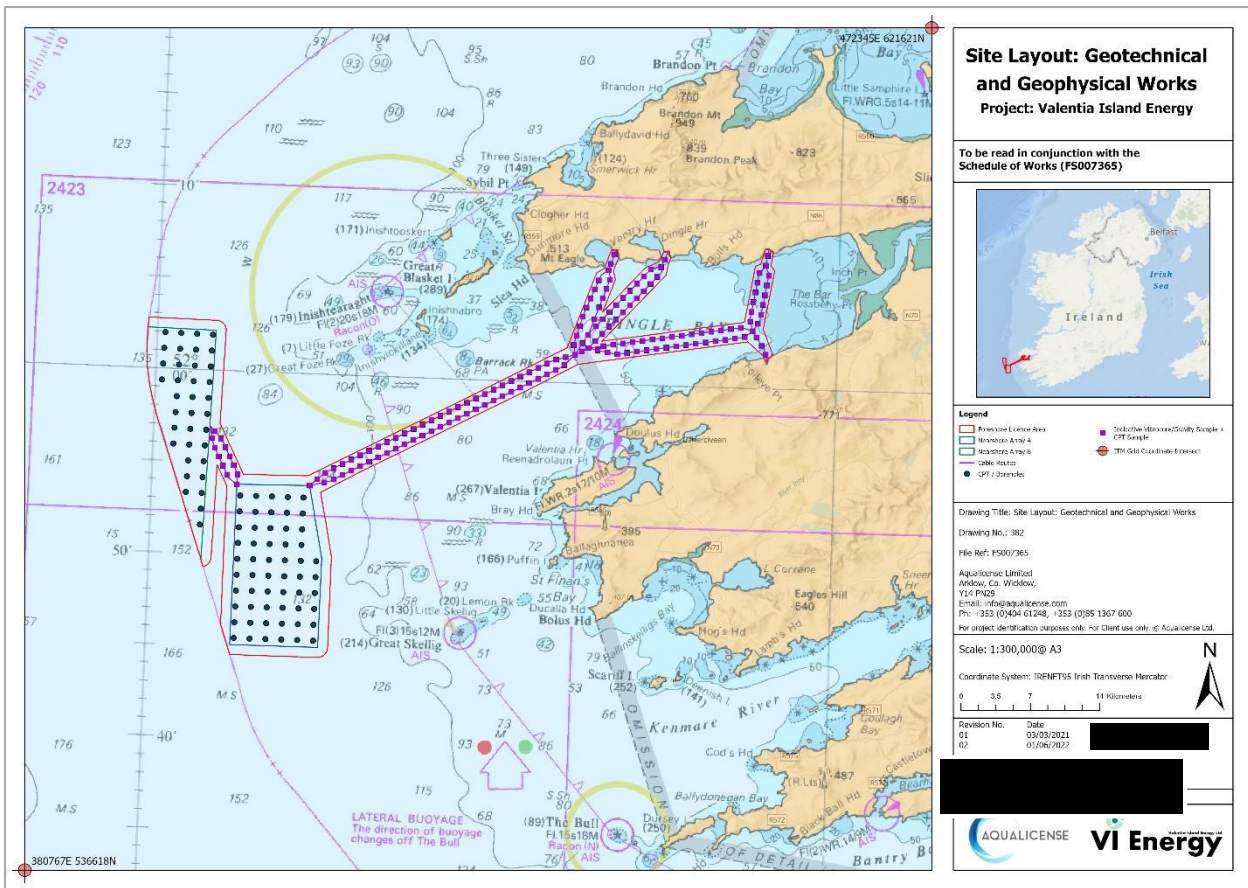


Figure 3.2: Provisional location of the CPT/Borehole and Vibrocore sampling sites within the Investigation Area.

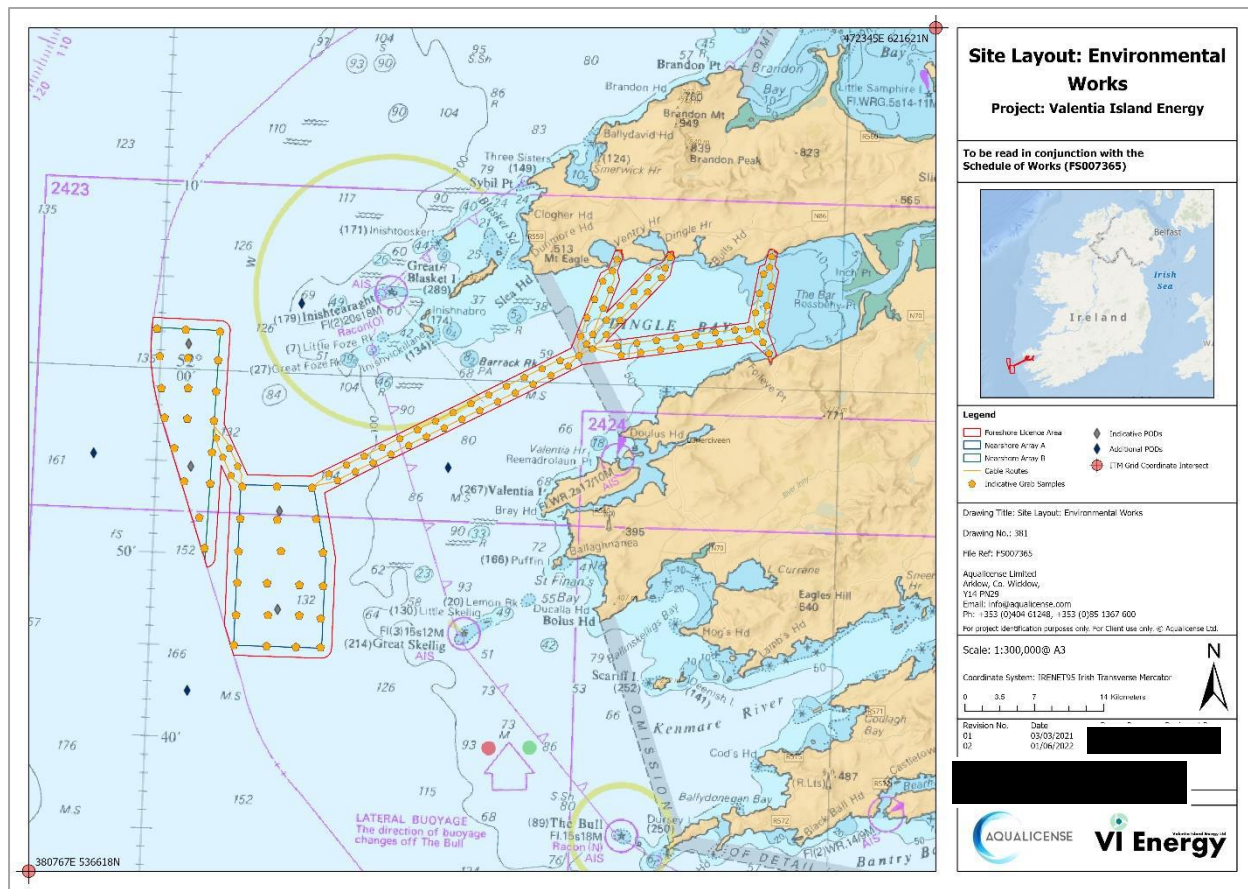


Figure 3.3: Provisional location of the grab sampling sites and POD location within the Investigation Area

3.1 MARINE HABITATS

The habitats of the Investigation Area are shown in *Figure 3.4*. The habitats of the middle reaches of the estuary are comprised of large expanses of coarse sediment. Sand dominates in the outer estuary with large expanses of rock to the south, the rock has small areas of mixed sediment interspersed.

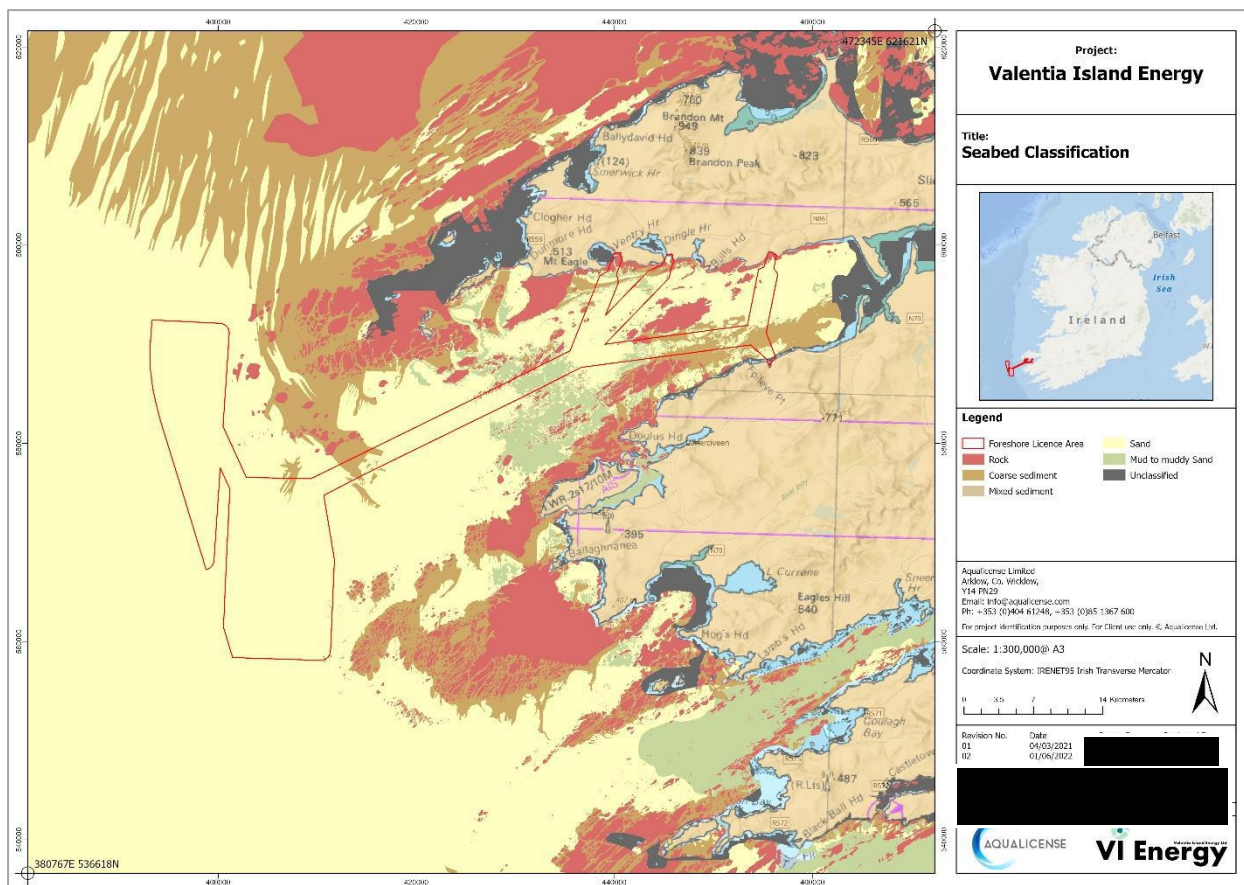


Figure 3.4: Predominant habitat type within the Investigation Area (EMODnet Central Portal, 2021a).

3.2 NATURA 2000 SITES

3.1.1 SPECIAL PROTECTION AREA (SPA) (BIRDS)

Ireland’s natural landscape is home to several nationally and internationally important bird species. As Ireland is situated along the east Atlantic flyway for waterbirds that breed in more northerly latitudes our wetlands are an important resource for over three-quarters of a million of these waterbirds each year. A number of these species are migratory and are present only during migration periods in spring and autumn. Additionally, other bird species come to Ireland to breed or to spend the winter, while some are resident throughout the full year.

The following survey recordings were reported in the NPWS (2021a) found over 50 species of waterbird migrate here either on passage to more southerly resorts or to spend the entire winter here. In some cases, significant proportions of the biogeographic populations of waterbirds overwinter here (e.g., Light-bellied Brent Goose, Black-tailed Godwit, Whooper Swan, Greenland White-fronted Goose and Ringed Plover). Coastal habitats provide important breeding sites for many species of seabirds. Every summer seabirds seek out suitable breeding habitat principally on mainland cliffs and on marine

islands (National Parks and Wildlife Services, 2021a). Approximately 45 species of seabird (including divers and grebes) have been recorded during at-sea surveys in Irish waters. Of this, 23 species frequently breed around Ireland (Mackey, et al., 2004). Furthermore, another 59 species of waterfowl and wader frequently occur at Irish coastal sites such as estuaries. Consequently, many of these areas have been designated as Special Protection Areas (SPA) under the E.U. Birds Directive.

Several Special Protection Areas (SPA) occur along the coasts of Clare and Kerry (Figure 3.5) Summaries of the proximity and importance of these special protection areas is given below, based on information gleaned from NPWS literature which is referenced accordingly.

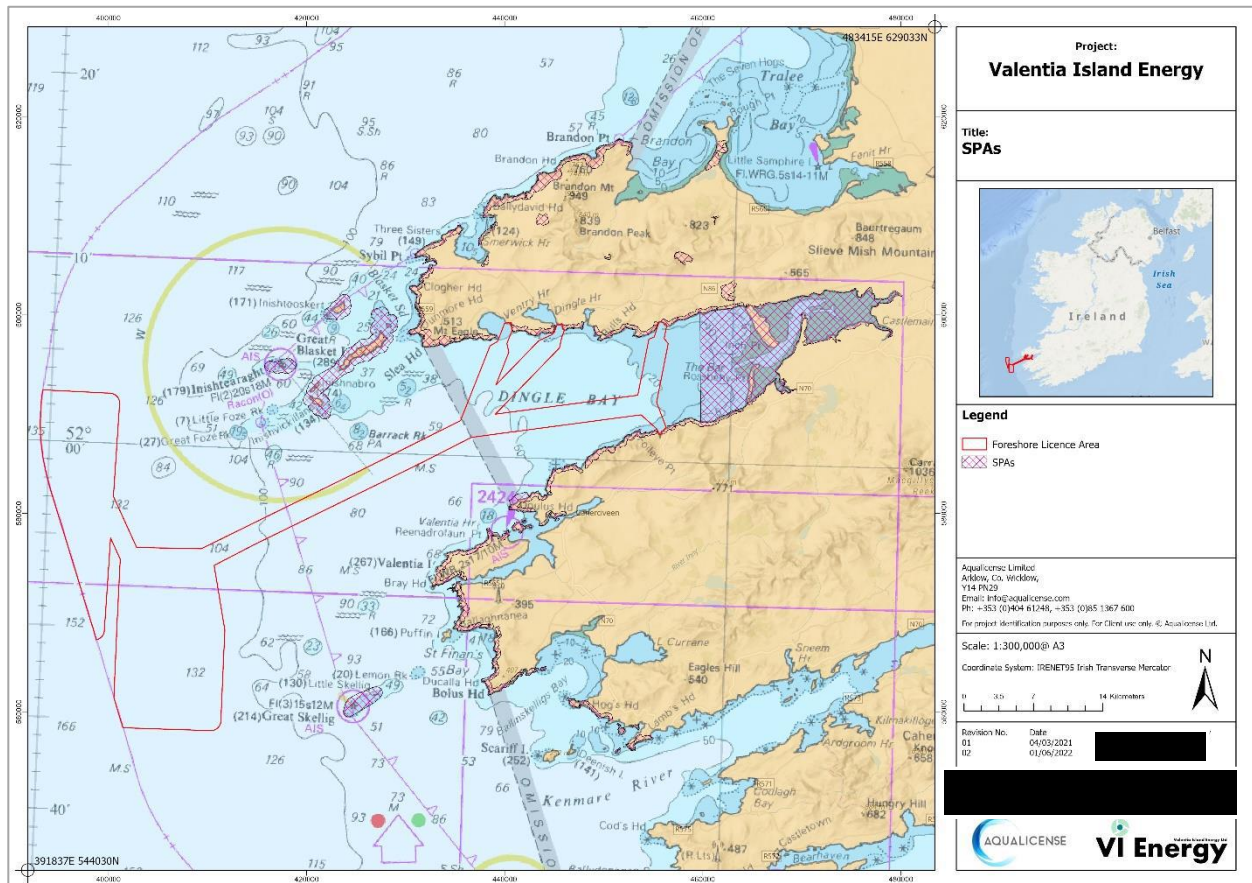


Figure 3.5: Special Protection Areas (SPA), designated under the Birds and Habitats Directives, located within the Zol of the proposed Investigation area. (Data Source: (National Parks and Wildlife Services, 2021a).

3.1.2 DINGLE PENINSULA SPA (IE 004153) (NPWS, 2014) (NPWS, 2022)

The Dingle Peninsula SPA, a large site situated on the west coast of Co. Kerry, encompasses the high coast and sea cliff south of Brandon Point in the north, to Sleat Head, and as far east as Inch in the south. The site lies adjacent to the Investigation Area (Figure 3.5). This Natura 2000 site designated as a SPA under the E.U. Birds Directive is of special conservation interest for Fulmar, Peregrine, and Chough. The site is of national and ornithological importance as it supports some of the highest densities of breeding Chough in Ireland. Other breeding seabirds recorded at the site include Razorbill, Herring Gull, Lesser Black-backed Gull, Shag, Great Black-backed Gull and Black Guillemot. The Dingle Peninsula is of particular significance as it forms as a part of a Statutory Nature Reserve.

3.1.3 IVERAGH PENINSULA SPA (IE 004154) (NPWS, 2015) (NPWS, 2022A)

The Iveragh Peninsula SPA is a large site situated on the west coast of Co. Kerry. The site encompasses the high coast and sea cliff sections of the peninsula from just west of Rossbehy in the north, around to the end of the peninsula at Valencia Island and Bolus Head, and as far east as Lamb's Head in the south. The site includes the sea cliffs, the land adjacent to the cliff edge and also areas of sand dunes at Derrynane and Beginish. The site lies adjacent to the Investigation Area (*Figure 3.5*). This Natura 2000 site designated as a SPA under the E.U. Birds Directive is of special conservation interest for the Chough, Peregrine, Guillemot, Fulmar, and Kittiwake.

3.1.4 CASTLEMAINE HARBOUR SPA (IE 004029) (NPWS, 2014A) (NPWS, 2011)

Castlemaine Harbour SPA is a large coastal site occupying the innermost part of Dingle Bay. It extends from the lower tidal reaches of the River Maine and River Laune to west of the Inch and Rosbehy peninsulas (c. 16 km from east to west). The average width of the estuary is 4-5 km though it is c. 11 km wide at the outer limit. The site lies 3.24 km northeast of the Investigation Area (*Figure 3.5*). This Natura 2000 site designated as a SPA under the E.U. Birds Directive is of special conservation interest for the Red-throated Diver, Cormorant, Light-bellied Brent Goose, Wigeon, Mallard, Pintail, Scaup, Common Scoter, Oystercatcher, Ringed Plover, Sanderling, Bar-tailed Godwit, Redshank, Greenshank, Turnstone and Chough. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

3.1.5 BLASKET ISLANDS SPA (IE 004008) (NPWS, 2015A) (NPWS, 2022B)

The Blasket Islands SPA are situated at the end of the Dingle peninsula in Co. Kerry. The site comprises all of the main islands in the group, as well as the various islets and rocks, and also the seas which surround the islands to a distance of 500 m. There are six main islands, plus some smaller islands, islets and sea stacks. The largest island, Great Blasket, is separated from the mainland by the Blasket Sound, a distance of some 2 km. The smallest island, Beginish, lies close to Great Blasket, while the other islands (Inishtooskert, Inishnabro, Inishvickillane, Tearaght Island) are between about 7 km and 12 km from the mainland. The site lies 6.19 km north of the Investigation Area (*Figure 3.5*). This Natura 2000 site designated as a SPA under the E.U. Birds Directive is of special conservation interest for the Fulmar, Manx Shearwater, Storm Petrel, Shag, Lesser Black-backed Gull, Herring Gull, Kittiwake, Arctic Tern, Razorbill, Puffin and Chough. The site is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds.

3.1.6 SKELLIGS SPA (IE 004007) (NPWS, 2015B) (NPWS, 2022C)

Skelligs SPA comprises Great Skellig and Little Skellig islands. These highly exposed and isolated islands, which are separated by a distance of 3 km, are located in the Atlantic some 14 km and 11 km (respectively) off the County Kerry mainland. The site lies 12.32 km southeast of the Investigation Area (*Figure 3.5*). This Natura 2000 site designated as a SPA under the E.U. Birds Directive is of special conservation interest for the Fulmar, Manx Shearwater, Storm Petrel, Gannet, Kittiwake, Guillemot and Puffin. It is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds.

Table 3.1: Special Protection Areas located within the ZoI of the proposed Investigation area. SPA sites located within the Investigation area are listed as 0 km.

SPECIAL PROTECTION AREAS	DISTANCE (KM) FROM INVESTIGATION AREA
Dingle Peninsula SPA (IE 004153)	0.00
Iveragh Peninsula SPA (IE 004154)	0.00
Castlemaine Harbour SPA (IE 004029)	3.24
Blasket Islands SPA (IE 004008)	6.19
Skelligs SPA (IE 004007)	12.32

3.3 SPECIAL AREAS OF CONSERVATION (SAC) (HABITATS, SPECIES)

Many Special Areas of Conservation (SAC) occur along the coasts of Clare and Kerry (*Figure 3.6*). Summaries of the proximity and importance of these sites are given below. These summaries are based on information gleaned from NPWS literature and is referenced accordingly. These sites are selected for the presence of Annex I habitats and Annex II species listed on the E.U Habitats Directive; for more detail please refer to the following NPWS documentation for a detailed description of the conservation objectives Blasket Islands SAC (IE 002172) (NPWS, 2014b), Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (IE 000365) (NPWS, 2017), Castlemaine Harbour SAC (IE 000343) (NPWS, 2011a), and Valencia Harbour/Portmagee Channel SAC (IE 002262) (NPWS, 2012). Priority habitats are denoted by an *. SAC sites selected for the presence of Annex II mobile species within the Management Unit boundaries of the Offshore Waters (OW), West Coast of Ireland (WCI) and the Celtic and Irish Seas (CIS) are shown in *Figure 3.7*. The summaries presented below are based on information provided by JNCC and are referenced accordingly. For more site detail, please refer to the following JNCC documentation: Lower River Shannon SAC (IE 002165) (NPWS, 2012a), Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC (UK 0030396) (JNCC, 2015b), North Anglesey Marine / Gogledd Môn Forol SAC (UK 003398) (JNCC, 2015c), North Channel SAC (UK 0030399) (JNCC, 2015d), and West Wales Marine / Gorllewin Cymru Forol SAC (UK 0030397) (JNCC, 2015e).

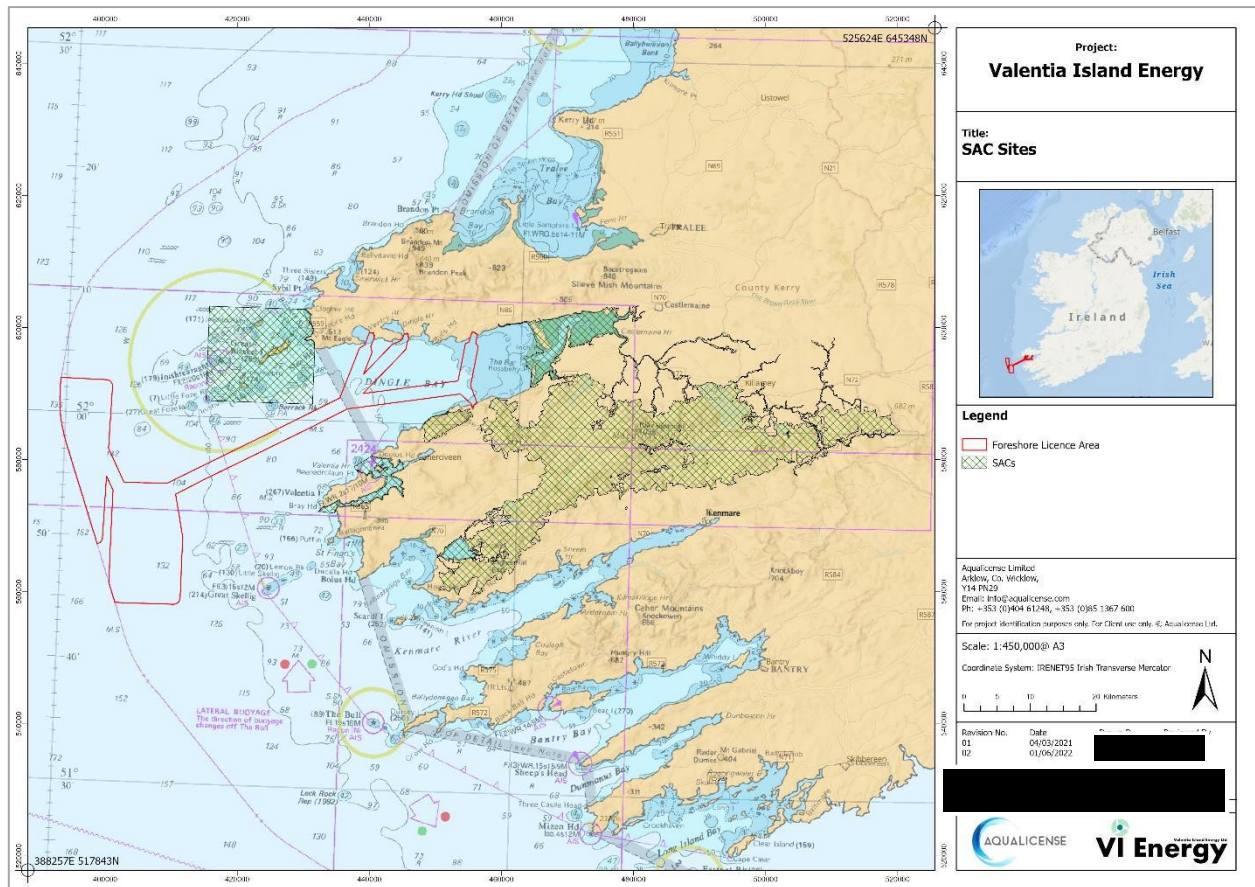


Figure 3.6: Special Areas of Conservation, designated under the Habitats Directives, located within the ZoI of the proposed Investigation area. (Data Source: (NPWS, 2021a)).

3.1.7 BLASKET ISLANDS SAC (IE 002172) (NPWS, 2013) (NPWS, 2014B)

Blasket Islands SAC are situated at the end of the Dingle peninsula in Co. Kerry. The site includes all of the islands in the group as well as a substantial area of the surrounding seas. There are six main islands, plus some rocky islets and sea stacks. Great Blasket Island, separated from the mainland by the Blasket Sound, is by far the largest of the islands (459 ha) and rises to 292 m above sea level. Inishtookert (99 ha, 162 m), Inishnabro (51 ha, 175 m), Inishvickillane (81 ha, 138 m) and Tearaght Island (27 ha, 184 m) are located between approximately 7 km and 12 km from the mainland and, like Great Blasket, rise steeply from the sea. In contrast, Beginish is a small, low lying island (15 ha, 14 m) and lies within 2 km of the mainland. The site lies 0.97 km north of the Investigation Area (Figure 3.6).

The site is a Special Area of Conservation (SAC) selected for the following habitats and animals listed in Annex I and Annex II of the EU Habitats Directive: [1170] Reefs [1230] Vegetated Sea Cliffs [4030] Dry Heath [8330] Sea Caves [1351] Harbour Porpoise (*Phocoena phocoena*) [1364] Grey Seal (*Halichoerus grypus*).

The site has a large Grey Seal population (648-833 breeding in 2005; one-off moult count of 989 seals in 2007) (NPWS, 2013). This is one of the largest populations in the country and represents about one-third of the Irish population. The seals breed on boulder beaches and caves on several of the islands. The seals on these islands are sometimes perceived as competitors for local fish stocks. This occasionally leads to threats to their welfare; the most recent occurred in November 2004 when a

large number of adults and pups were shot and clubbed. The site is also of importance for Harbour Porpoise, a species which has a regular presence in the Blaskets. A population estimate in 2008 gave a figure of 267-477 individuals. Other cetaceans (whales and dolphins) regularly observed in the site include Common Dolphin, Bottle-nosed Dolphin, Risso's Dolphin, Killer Whale and Minke Whale. Few other mammal species occur on the islands, though Inishvickillane has an introduced population of native Red Deer.

3.1.8 KILLARNEY NATIONAL PARK, MACGILLYCUDDY'S REEKS AND CARAGH RIVER CATCHMENT SAC (IE 000365) (NPWS, 2013A) (NPWS, 2017)

Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment is a very large site encompasses the mountains, rivers and lakes of the Iveragh Peninsula, and the Paps Mountains which stretch eastward from Killarney towards Millstreet. The majority of the site is in Co. Kerry, with a small portion in Co. Cork. The site lies 2.32 km northeast of the Investigation Area (*Figure 3.6*).

The site is a Special Area of Conservation (SAC) selected for the following habitats and animals listed in Annex I and Annex II of the EU Habitats Directive: [3110] Oligotrophic Waters containing very few minerals [3130] Oligotrophic to Mesotrophic Standing Waters [3260] Floating River Vegetation [4010] Wet Heath [4030] Dry Heath [4060] Alpine and Subalpine Heaths [5130] Juniper Scrub [6130] Calaminarian Grassland [6410] *Molinia* Meadows [7130] Blanket Bogs (Active)* [7150] Rhynchosporion Vegetation [91A0] Old Oak Woodlands [91E0] Alluvial Forests* [91J0] Yew Woodlands* [1024] Kerry Slug (*Geomalacus maculosus*) [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1065] Marsh Fritillary (*Euphydryas aurinia*) [1095] Sea Lamprey (*Petromyzon marinus*) [1096] Brook Lamprey (*Lampetra planeri*) [1099] River Lamprey (*Lampetra fluviatilis*) [1103] Twaite Shad (*Alosa fallax*) [1106] Atlantic Salmon (*Salmo salar*) [1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*) [1355] Otter (*Lutra lutra*) [1421] Killarney Fern (*Trichomanes speciosum*) and [1833] Slender Naiad (*Najas flexilis*).

The site is valuable for its rare fish species, five of which are listed on Annex II of the E.U. Habitats Directive: Brook Lamprey (*Lampetra planeri*), River Lamprey (*Lampetra fluviatilis*), Sea Lamprey (*Petromyzon marinus*), Atlantic Salmon (*Salmo salar*) and Killarney Shad (*Alosa fallax killarnensis*). The Killarney Shad is a unique land-locked subspecies confined to the Killarney lakes. Also of note is the glacial relict, Arctic Char (*Salvelinus alpinus*), a Red Data Book species, a unique form of which is found in Lough Coomasaharn.

3.1.9 CASTLEMAINE HARBOUR SAC (IE 000343) (NPWS, 2015c) (NPWS, 2011A)

Castlemaine Harbour SAC is a s is a large site located on the south-east corner of the Dingle Peninsula, Co. Kerry. It consists of the whole inner section of Dingle Bay, i.e. Castlemaine Harbour, the spits of Inch and White Strand/Rosbehy and a little of the coastline to the west. The site lies 3.46 km northeast of the Investigation Area (*Figure 3.6*).

The site is a Special Area of Conservation (SAC) selected for the following habitats and animals listed in Annex I and Annex II of the EU Habitats Directive: [1130] Estuaries [1140] Tidal Mudflats and Sandflats [1210] Annual Vegetation of Drift Lines [1220] Perennial Vegetation of Stony Banks [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [1310] *Salicornia* Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2110] Embryonic Shifting Dunes [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)* [2170] Dunes with Creeping Willow [2190]

Humid Dune Slacks [91E0] Alluvial Forests* [1095] Sea Lamprey (*Petromyzon marinus*) [1099] River Lamprey (*Lampetra fluviatilis*) [1106] Atlantic Salmon (*Salmo salar*) [1355] Otter (*Lutra lutra*) [1395] Petalwort (*Petalophyllum ralfsii*).

Castlemaine Harbour is of major ecological importance. It contains a range of coastal habitats of excellent quality, including many that are listed on Annex I of the E.U. Habitats Directive, and two which are listed with priority status (fixed dunes and alluvial forests). It also includes long stretches of river and stream which are excellent habitats for Salmon, Lamprey and Otter. Inch dunes are recognised as among the finest in the country, with particularly well-developed dune slacks. The Version date: 10.12.2015 4 of 4 000343_Rev15.Docx site supports internationally important waterfowl populations, rare plant species, the rare Natterjack Toad, as well as populations of several animal species that are listed on Annex II of the E.U. Habitats Directive. Part of the site is designated a Special Protection Area (SPA) and is listed as a site under the Ramsar Convention. Part of Castlemaine Harbour is a Statutory Nature Reserve, while Inch and Rosbehy are Wildfowl Sanctuaries.

3.1.10 VALENCIA HARBOUR/PORTMAGEE CHANNEL SAC (IE 002262) (NPWS, 2014c) (NPWS, 2012)

Valencia Harbour/Portmagee Channel SAC is located at the tip of the Iveragh peninsula in Co. Kerry, separate Valencia Island from the mainland. The channel, which is approximately 1 km wide, and Valencia Harbour and Douulus Bay to the east of the island, contain important examples of three habitats in particular reefs, large shallow inlets and tidal mudflats. The site lies 7.48 km southeast of the Investigation Area (*Figure 3.6*).

The site is a Special Area of Conservation (SAC) selected for the following habitats and animals listed in Annex I and Annex II of the EU Habitats Directive: [1140] Tidal Mudflats and Sandflats [1160] Large Shallow Inlets and Bays [1170] Reefs.

Table 3.2: Special Areas of Conservation located within the vicinity of the proposed survey area. Distances to the Investigation area are listed. SAC located within the survey area are listed as 0 km.

SPECIAL AREAS OF CONSERVATION	DISTANCE (KM) FROM INVESTIGATION AREA
Blasket Islands SAC (IE 002172)	0.97
Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (IE 000365)	2.32
Castlemaine Harbour SAC (IE 000343)	3.46
Valencia Harbour/Portmagee Channel SAC (IE 002262)	7.48

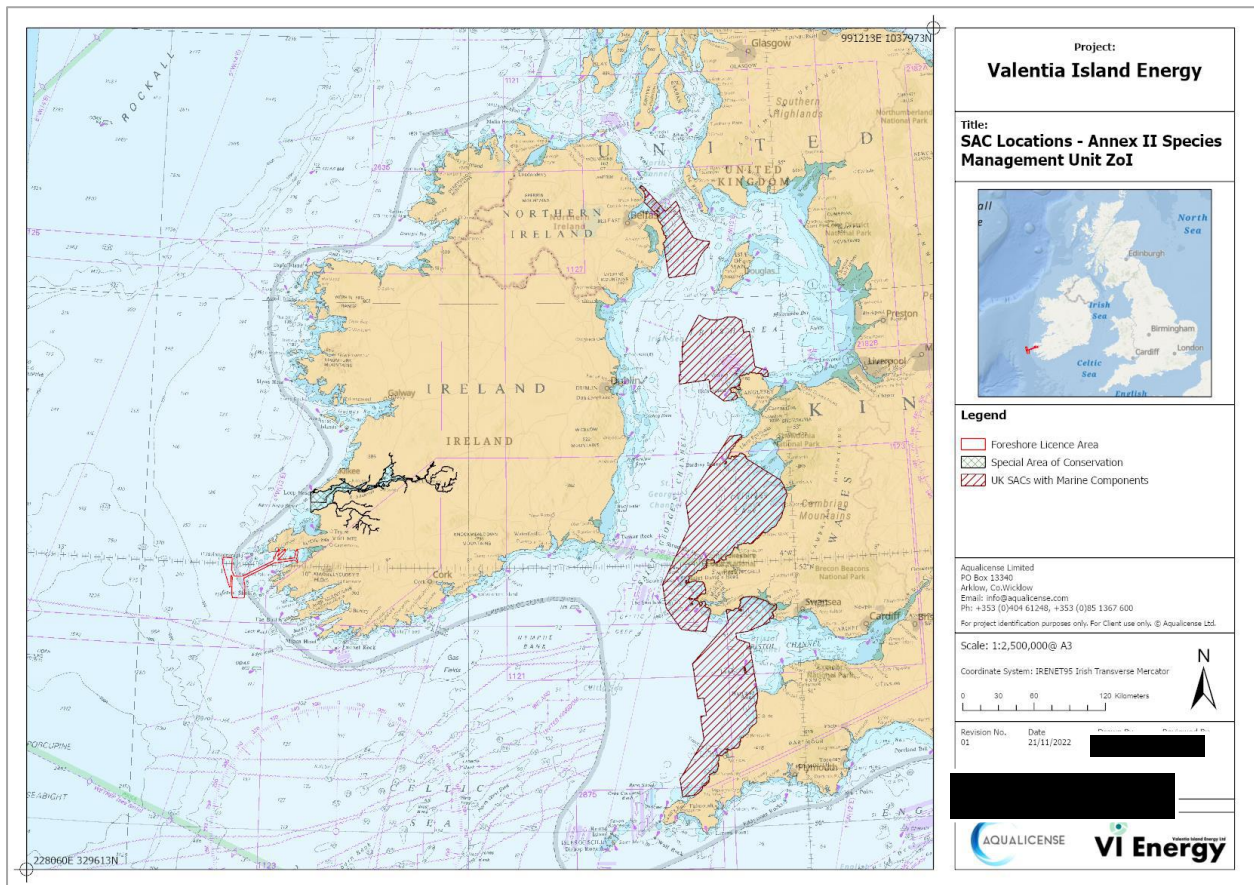


Figure 3.7: Identification of SAC sites, sites within the relevant Management Unit of the proposed Investigation Area

Lower River Shannon SAC (IE 002165) (NPWS, 2012a)

Lower River Shannon SAC (68,300 ha) is located off the Shannon Estuary in county Kerry, Ireland. This site lies within the West Irish Coast (WCI) Management Unit and was selected for the presence of the following Annex II mobile species: Bottlenose dolphin [1349].

Bristol Channel Approaches / Dynesfeydd Môr Hafren (UK0030396)

The Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC (584,994 ha) spans the Bristol Channel between the northern coast of Cornwall into Carmarthen Bay in Wales. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

North Anglesey Marine / Gogledd Môn Forol (UK0030398)

The North Anglesey Marine / Gogledd Môn Forol SAC (324,949 ha) is located North of the Isle of Anglesey, Wales, UK. This site lies within Celtic and Irish Sea (CIS) Management and Unit was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

North Channel (UK0030399)

The North Channel SAC (160,367 ha) is located in the North Channel between NE Northern Ireland and SW Scotland. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

West Wales Marine / Gorllewin Cymru Forol (UK0030397)

The West Wales Marine / Gorllewin Cymru Forol SAC (737,600 ha) is located off the coast of Wales, UK From the Llŷn peninsula in the north, to Pembrokeshire in the south-west. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

SPECIAL AREAS OF CONSERVATION	SAC AREA (HA)
Lower River Shannon SAC (IE 002165)	68,300
Bristol Channel Approaches / Dynesfeydd Môr Hafren (UK0030396)	584,994
North Anglesey Marine / Gogledd Môn Forol (UK0030398)	324,949
North Channel (UK0030399)	160,367
West Wales Marine / Gorllewin Cymru Forol (UK0030397)	737,600

3.4 SUBSEA INFRASTRUCTURE AND SHIPWRECKS

For a detailed a description and all relevant maps relating to this topic please refer to Section 7 of the document – Valentia Island Energy: Foreshore Licence Application for Site Investigation Works – Other Marine Users - accompanying the licence application.

3.5 FISHERIES

For a detailed a description and all relevant maps relating to this topic please refer to Section 4 of the document – Valentia Island Energy: Foreshore Licence Application for Site Investigation Works – Other Marine Users - accompanying the licence application.

3.6 AQUACULTURE INSTALLATIONS

For a detailed a description and all relevant maps relating to this topic please refer to Section 4 of the document – Valentia Island Energy: Foreshore Licence Application for Site Investigation Works – Other Marine Users - accompanying the licence application.

3.7 MARINE TRAFFIC

For a detailed a description and all relevant maps relating to this topic please refer to Section 6 of the document – Valentia Island Energy: Foreshore Licence Application for Site Investigation Works – Other Marine Users - accompanying the licence application.

3.8 OTHER PROPOSED PROJECTS

A review of the Department of Housing, Planning and Local Government’s Foreshore Application and Determinations shows potential proposed activity close to/within the site area (*Figure 3.8*).

1. Mainstream Tralee Windfarm, Foreshore Application reference number FS007375.

Mainstream Tralee Windfarm is located c. 33 km from the proposed Foreshore Licence Area, occupying a total area of c. 2,201 km² or c. 220,120 ha. This Foreshore License Application was submitted on the 3rd of June 2021. and is currently at the application applied phase of the approval process.

The proposed development area will not be interacted with during the planned surveys that are to be carried out, however, their presence in proximity to the area is documented here. The location of the proposed development in relation to the Foreshore Licence Area is illustrated in *Figure 3.8*.

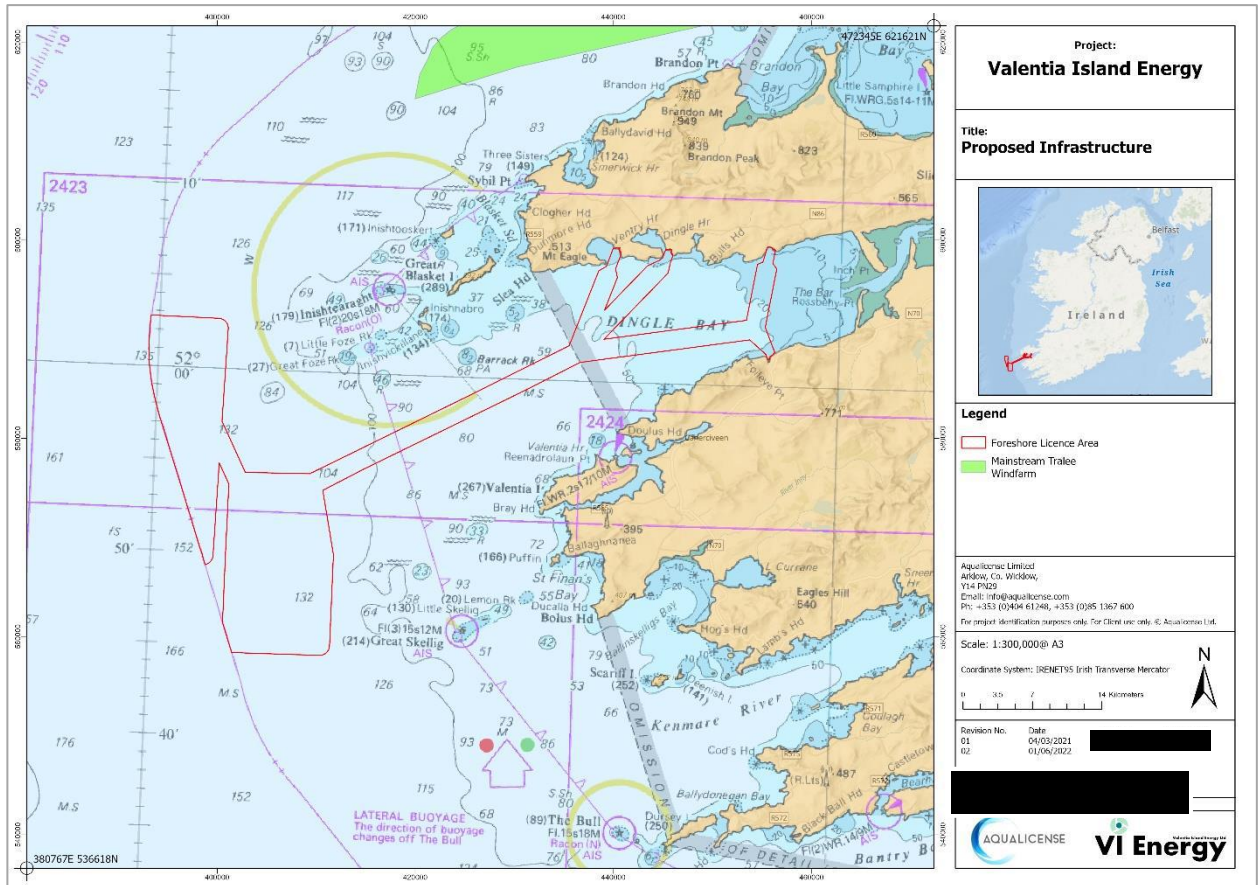


Figure 3.8: Other potential proposed activity located within/surrounding the vicinity of the proposed Investigation Area.

4. POTENTIAL ENVIRONMENTAL IMPACTS

- Physical disturbance to marine benthic habitats and communities
- Disturbance from vibration and underwater noise associated with surveys
- Injury due to collision (survey vessels/sampling equipment)
- Pollution event
- Visual and noise disturbance

4.1 PHYSICAL DISTURBANCE TO MARINE BENTHIC COMMUNITIES

Benthic communities will be unaffected by geophysical survey works as there is no contact with the seabed. However, the environmental and geotechnical sampling surveys may result in small, confined areas of the seabed being temporarily disturbed.

The benthic survey will involve the extraction of 0.5m³ of material directly from the seabed using a grab sampler. As grab sampling by its nature can only be carried out in soft sediments (muds, sands, gravels) once the sampling device is retrieved any disturbance to the sediment will be recover naturally.

Borehole locations will involve the penetration of a drill pipe to a scheduled depth of between 20m and 80m below the seafloor. Most of the boreholes will be circa 20m deep. This will cause disturbance to the area of the drill pipe penetration itself and the area directly surrounding this by the mound created by drill risings. An estimated 1-2m² area of the seafloor will be affected by the footprint of the mound created by drill cuttings. Immediately following the removal of the cores, the void in the seabed will fill naturally leaving only a minor impression on the seafloor.

Core penetration testing (CPT) does not involve the removal of any material and the hole created by the penetration of the core (approx. 5cm diameter), will infill almost instantly upon extraction of the rods. The CPT unit has a footprint of approximately 8m² which will sit on the sea floor for the duration of the test which is commonly 2-3 hours.

Benthic communities in the footprint of sampling equipment may be impacted through minor disturbance around the drill site and a very small volume of substratum loss, direct displacement or smothering during sampling. Any smothering will be a thin layer due to small volumes of sediment displaced during the sampling. Softer sediments (such as sand and mud) are highly recoverable to disturbance and typical species can quickly recolonise the area. Benthic fauna in the area is infaunal therefore species will be able to burrow away from areas of disturbance.

The geotechnical sampling methods proposed are likely to cause a small amount of sediment to become suspended. The resulting sediment suspension will be dispersed and deposited on the sea floor at a location subject to wave action and tidal stream. As a result, the deposition levels of this material will be very insignificant, likely within the storm background levels of sediment migration in the Investigation Area.

Benthic fauna does not have any auditory structures and therefore will not be impacted by any noise inducing activities. They will however react to vibrations (Roberts, et al., 2016), often retracting into the seabed to avoid a potential hazard, therefore sensitivities and responses to vibration must be

considered within the context of coastal marine developments and offshore activities. Seismic operations do not generate any vibration effects on sediments; however, vibrocoreing will produce vibration effects on the seabed and may disturb some benthic fauna. The vibrations caused by vibrocoreing cause infaunal tube dwelling species to retract, temporarily, into their respective burrows or tubes.

Sampling and testing locations will be an appropriate distance apart to minimise the impact. No material will be disturbed or removed during geophysical survey activities.

As the proposed survey will not cause any physical obstructions there will not be any potential for likely significant effects to alter the natural circulation of sediment and organic matter, or cause changes to the existing sediment transport processes of any Natura 2000 site. Therefore, no likely significant effects associated with habitat loss or alteration are anticipated and such effects can be excluded at the screening stage in the absence of mitigation measures.

4.2 DISTANCE FROM VIBRATION AND UNDERWATER NOISE ASSOCIATED WITH SURVEYS

Geophysical surveys in the marine environment are a potential source of anthropogenic sound and therefore may have an impact on the marine environment. The level of environmental impact associated with this acoustic activity is variable depending on several factors including the type of equipment being used, its sound signal and propagation characteristics, and the depth in which it is operating (DAHG, 2014).

Both cetaceans and pinnipeds have evolved to use sound as an important aid in navigation, communication, and hunting (Richardson, et al., 1995). It is widely accepted that the main environmental concern relating to marine mammals is the potential effects of anthropogenic underwater noise/sound. Such exposure can induce a range of effects on marine mammals. Physical effects may produce a reduction in hearing sensitivity temporarily (Temporary Threshold Shift-TTS) which is reversible or following intense noise exposure, and permanent (Permanent Threshold Shift-PTS). Other impacts include masking of biologically important noises by anthropogenic noise (perceptual impacts), behavioural changes such as displacement from feeding, resting, or breeding grounds; and stress (DAHG, 2014). Masking effects can interfere with communication in marine mammals which can be crucial in social learning (particularly for odontocete cetaceans), and it can disrupt return echoes which are used to locate mobile prey and discern environmental structure (Erbe, 2002).

Acoustic instruments and equipment used in targeted marine geophysical investigations have been reported to produce sound at frequencies within the range of marine mammals. To evaluate the potential of the proposed survey equipment to cause harm to marine mammals, an assessment has been conducted using the (Southall, et al., 2019) approach. In *Southall et al.* (2019) marine mammals are separated into groups based on their functional hearing, namely low-frequency cetaceans, high frequency cetaceans, very high frequency cetaceans, pinnipeds in water and pinnipeds in air. For each of these groups the proposed noise levels that would result in injury (PTS or TTS of hearing ability) for individuals exposed to single, multiple and non-pulsed sources are detailed in *Table 4.1*.

Table 4.1: Sound Pressure Level (SPL) injury criteria proposed by Southall et al. (2019), for individual marine mammals exposed to discrete noise events.

MARINE MAMMAL GROUP	INJURY CRITERIA	
	TTS	PTS
Low-Frequency Cetaceans (Baleen whales)	213dB re: 1µPa (peak)	219dB re: 1µPa (peak)
High-Frequency Cetaceans (including Bottlenose dolphins)	224dB re: 1µPa (peak)	230dB re: 1µPa (peak)
Very high Frequency Cetaceans (including harbour porpoise)	196dB re: 1µPa (peak)	202dB re: 1µPa (peak)
Pinnipeds (in water)	212dB re: 1µPa (peak)	218 dB re: 1µPa (peak)

The (DAHG, 2014) report ‘Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters’ is based on the noise exposure criteria and frequency categorisation presented in the Southall *et al.* (2019) publication. This data addresses several key potential sources of anthropogenic sound that may impact detrimentally upon marine mammals in Irish waters. It incorporates a re-examination of the Code of Practice for acoustic surveys and thereby provides replacement guidance and protective measures in this respect.

The following auditory band widths for marine mammals which may be present in the vicinity of the proposed investigation area are extracted from the DAHG (2014) guidelines and are shown in Table 4.2.

Table 4.2: Marine mammal auditory band width; Source: (DAHG, 2014).

FREQUENCY	MARINE MAMMAL/SPECIES	ESTIMATED AUDITORY BAND WIDTH (Hz)
Low Frequency Cetaceans	Baleen whales (Minke whale, Humpback whale)	7-22 000
Mid Frequency Cetaceans	Most toothed whales and dolphins (including Common & Risso’s Dolphin)	150-160 000
High Frequency Cetaceans	Certain toothed whales and porpoises (including Harbour porpoise)	200-180 000
Low Frequency Pinnipeds in water	Grey seal & harbour seal	75-75 000

Noise characteristics of the various surveys are detailed in Table 4.3 below; for more detailed information please refer to the document – Valentia Island Energy: Foreshore Licence Application for Site Investigation Works – Schedule of Works - accompanying the licence application.

Table 4.3: Acoustic equipment frequency data.

NOISE SOURCE	FREQUENCY (Hz)	SOUND PRESSURE LEVEL (DB RE 1MPA @ 1M)
Shipping Noise	50 - 300	160-175
Multibeam echosounder (MBES)	400,000-700,000	200-228
Side scan sonar (SSS)	300,000-900,000	228
Pinger or Chirp/Sparker system (SBP)	2,000 – 16,000	200
Boomer system (SBP)	2,500	208 - 211
Ultra-High-Resolution Sound source seismic (UHRS)	300 – 1,200	226
Shipping Noise	50 - 300	160-175

Comparing the data on Marine mammal auditory band width (see Table 4.2) and the noise characteristics of the surveys (see Table 4.3) it is deemed that the following will be audible to marine mammals listed in Annex IV:

- Shipping noise
- Sub-Bottom Profiler (SBP)
- Ultra-high resolution seismic (UHRS)
- Drilling

Cone penetration testing (CPT), Magnetometer (MM) and Vibrocore are deemed not audible to marine mammals. Multibeam and side scan sonar surveys are typically at such high frequency and low power that they are deemed outside the audible threshold of marine mammals.

The relevant surveys which are within the audible band width for marine mammals are presented in Table 4.4.

Table 4.4: Marine Mammal Auditory Band Width and relevant surveys, marine mammals known in the area are also listed.

FREQUENCY	MARINE MAMMAL/SPECIES	ESTIMATED AUDITORY BAND WIDTH (Hz)	AUDIBLE SURVEY
Low Frequency Cetaceans	Baleen whales (Minke Whale, Humpback Whale)	7-22,000	Shipping, SBP, UHRS, Drilling
Mid Frequency Cetaceans	Most toothed whales and dolphins (Common & Risso's Dolphin)	150-160,000	Shipping, SBP, UHRS, Drilling
High Frequency Cetaceans	Certain toothed whales, porpoises (Harbour porpoise)	200-180,000	Shipping, SBP, UHRS, Drilling
Low Frequency Pinnipeds in water	Grey Seal Harbour Seal	75-75,000	Shipping, SBP, UHRS, Drilling

Other species that may be impacted by underwater noise include the Annex II species, salmon, and lamprey. Several studies have demonstrated that fish can be “classified” as hearing specialists or hearing non-specialists (or generalists) (Popper, et al., 2003). Hearing non-specialists may detect sounds of 250–1500Hz depending on the species, whereas hearing specialists are able to detect sounds of 3000Hz or above, again depending on the specific species (Popper, et al., 2004). All hearing specialists generally have better sensitivity (lower thresholds) than non-specialists.

Atlantic salmon (*Salmo salar*) have a swim bladder but do not have a connection from the ear and are, therefore, classed as hearing generalists. Atlantic salmon do not hear above 380Hz (Hawkins & Johnstone, 1978). Therefore, deemed not sensitive to noise generated by geophysical surveys. Salmon may be able to hear borehole drilling; however, given the short duration of the activity and its limited spatial impact, disturbance will be minimal. Shipping (50-300 Hz) noise would be audible to the species however the low number of vessels involved would not significantly impact on the salmon passing through the survey area.

Lampreys are also considered as hearing generalists with a maximum hearing range of no more than several hundred hertz (Hz) (Popper, et al., 2004). Studies by (Mickle, et al., 2018) carried out on auditory responses in the Sea Lamprey showed the species detected tones of 50–300 Hz with equal sensitivity but did not detect sounds above 300Hz. Based on these findings the Lamprey are deemed not sensitive to noise generated by geophysical surveys. But may be able to hear borehole drilling however, given the short duration of the proposed activities and their limited spatial impact, disturbance will be minimal. Shipping (50-300 Hz) noise would be audible to the species however the low number of vessels involved would not significantly impact on the lamprey.

4.3 INJURY DUE TO COLLISION (SURVEY VESSELS/SAMPLING EQUIPMENT)

There is a risk of collision between marine mammals and survey vessels. However, it is largely recognised worldwide that the key factor contributing to collision between marine mammals and vessels is speed. Ships travelling at 14 knots or faster are most likely to cause lethal or serious injuries (Scottish Executive, 2007) . Vessels involved in these surveys are likely to be either stationary or travelling considerably slower (5 knots) than this, and thus any animals in the area would have enough time to avoid any collisions. Cetacean and pinnipeds in the area are exposed to vessels of all sizes on a regular basis as this is a busy shipping area. As a result, they are likely to maintain a distance from all survey vessels for the short time of survey works before returning to the area once survey work has finished. Therefore, the collision risk posed by the proposed survey is likely to be significantly lower than that posed by commercial shipping activity.

4.4 VISUAL AND NOISE DISTURBANCE

The physical presence of the survey vessels may result in temporary disturbance to birds, and also otters present in the vicinity of the Investigation Area. There is also the potential for disturbance due to human activity and survey equipment noise i.e., drilling. Such disturbance may result in birds being temporarily displaced from their chosen feeding/resting location; however, they are likely to willingly move to another nearby location. As there is existing shipping activity in the region, birds are already accustomed to physical disturbance from marine traffic, the introduction of additional vessel(s) is unlikely to cause significant disturbance. However, during the breeding season nesting birds are very

vulnerable to disturbance. Therefore, the presence of the survey vessels in the immediate vicinity of nesting birds could influence the success rate of the breeding population. The zone of influence of disturbance on nesting birds has been assessed as up to 2 km from the Investigation Area (JNCC 2017).

To allow for the mobility of bird species which could forage into the zone of influence, all sites designated for bird species within 15km have been screened. The designating species have then been studied to determine the potential for interaction with the proposed survey works.

4.5 POLLUTION EVENT

The proposed site investigations will result in a temporary increase in vessels using the area which would therefore theoretically increase the risk of accidents and resultant fuel spills. Given the nature and size of the vessels it is unlikely that any spillage would be significant. However, in the event of an accidental spillage/pollution event, any pollutant would immediately be diluted and mixed within the water column due to tidal currents, wind, and wave action.

All vessels used shall, as required by law, be MARPOL compliant and fully certified by the Maritime Safety Office. Therefore, it is considered not likely that there would be any occurrence of a pollution event that could directly or indirectly affect any Natura 2000 site.

5. APPROPRIATE ASSESSMENT – NATURA IMPACT STATEMENT

5.1 IDENTIFICATION OF NATURA 2000 SITES INCLUDED IN SCREENING

European sites considered for the AA screening are listed in *Table 5.1*. Qualifying Interests and Special Conservation Interests listed in *Table 5.1* are based on the most up to date data available and sourced from NPWS. Sites screened out for Appropriate Assessment require no further assessment at this stage and are not assessed further, if sites are **screened in** the AA will proceed to a Natura Impact Statement. In total 15 Natura 2000 sites (10 SAC and 5 SPA) were deemed relevant for Appropriate Assessment:

- Blasket Islands SAC (IE 002172)
- Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (IE 000365)
- Castlemaine Harbour SAC (IE 000343)
- Valentia Harbour/Portmagee Channel SAC (IE 002262)
- Kenmare River SAC (IE 002158)
- Lower River Shannon SAC (IE 002165)
- Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC (UK 0030396)
- North Anglesey Marine / Gogledd Môn Forol SAC (UK 0030398)
- North Channel SAC (UK 0030399)
- West Wales Marine / Gorllewin Cymru Forol SAC (UK 0030397)
- Dingle Peninsula SPA (IE 004153)
- Iveragh Peninsula SPA (IE 004154)
- Castlemaine Harbour SPA (IE 004029)
- Blasket Islands SPA (IE 004008)
- Skelligs SPA (IE 004007)

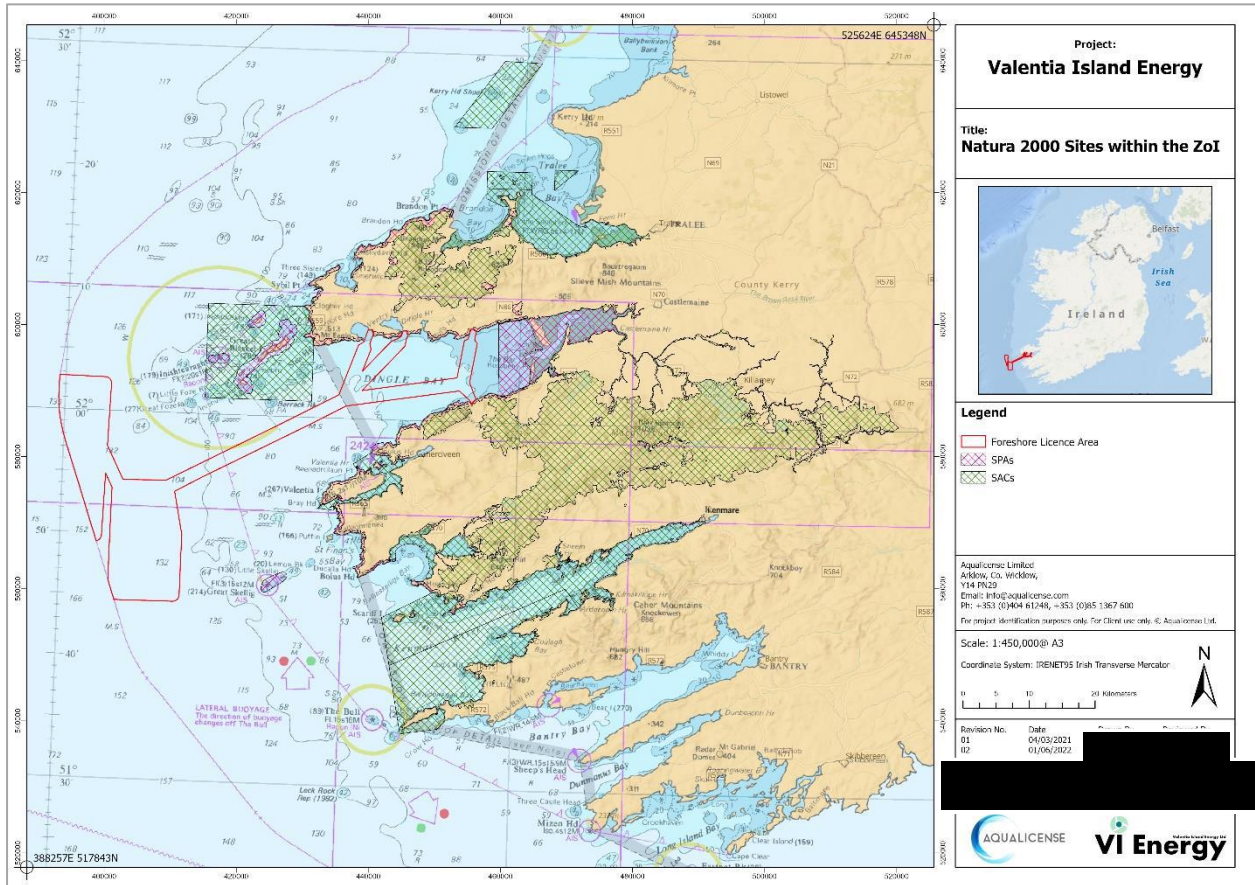


Figure 5.1: Identification of relevant Natura 2000 sites, sites within the vicinity of the proposed Investigation Area.

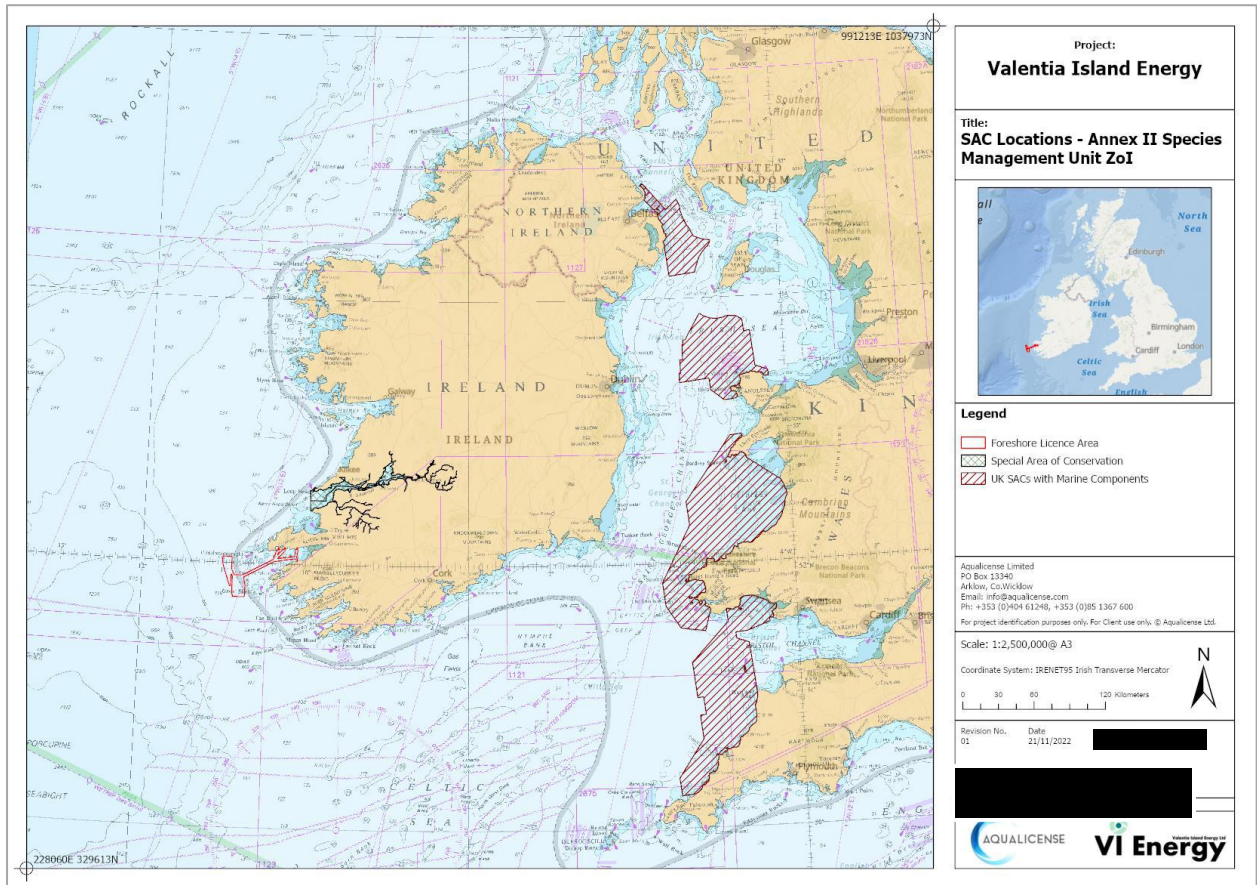


Figure 5.2: Identification of SAC sites, sites within the relevant Management Unit of the proposed Investigation Area

Table 5.1: Identification of relevant Natura 2000 sites, sites within the vicinity of the proposed Investigation Area and relevant Management Unit. Priority Qualifying Interests are denoted by *. All those screened in for AA are highlighted in red. Distances listed are the closest distance to the Investigative area via the pathway (i.e., Water).

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING YES/NO
Blasket Islands SAC (IE 002172)	[1170] Reefs [1230] Vegetated Sea Cliffs [4030] Dry Heath [8330] Sea Caves [1351] Harbour Porpoise (<i>Phocoena phocoena</i>) [1364] Grey Seal (<i>Halichoerus grypus</i>) <u>Conservation Objectives (npws.ie)</u>	0.97	Physical disturbance to marine benthic habitats and communities Pollution event Disturbance from vibration and underwater noise associated with surveys	No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (refer 5.3.3 in accompanying SISAA document). Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (refer section 4.2 in accompanying SISAA document).	Yes
Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (IE 000365)	[3110] Oligotrophic Waters containing very few minerals [3130] Oligotrophic to Mesotrophic Standing Waters [3260] Floating River Vegetation [4010] Wet Heath [4030] Dry Heath [4060] Alpine and Subalpine Heaths	2.32	Physical disturbance to marine benthic habitats and communities Pollution event	No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey. Yes	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING YES/NO
	<p>[5130] Juniper Scrub [6130] Calaminarian Grassland [6410] <i>Molinia</i> Meadows [7130] Blanket Bogs (Active)* [7150] Rhynchosporion Vegetation [91A0] Old Oak Woodlands [91E0] Alluvial Forests* [91J0] Yew Woodlands* [1024] Kerry Slug (<i>Geomalacus maculosus</i>) [1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) [1065] Marsh Fritillary (<i>Euphydryas aurinia</i>) [1095] Sea Lamprey (<i>Petromyzon marinus</i>) [1096] Brook Lamprey (<i>Lampetra planeri</i>) [1099] River Lamprey (<i>Lampetra fluviatilis</i>) [1103] Twaite Shad (<i>Alosa fallax</i>) [1106] Atlantic Salmon (<i>Salmo salar</i>) [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) [1355] Otter (<i>Lutra lutra</i>) [1421] Killarney Fern (<i>Trichomanes speciosum</i>) [1833] Slender Naiad (<i>Najas flexilis</i>)</p> <p>Conservation Objectives(npws.ie)</p>		<p>Visual and noise disturbance (otter)</p> <p>Disturbance from vibration and underwater noise associated with surveys</p>	<p>Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (<i>refer 5.3.3 in accompanying SISAA document</i>).</p> <p>No Otter is a mobile species, but as it is crepuscular in nature and remains close to the coast it will not be impacted.</p> <p>Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (<i>refer section 4.2 in accompanying SISAA document</i>).</p>	

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING Yes/No
Castlemaine Harbour SAC (IE 000343)	<p>[1130] Estuaries [1140] Tidal Mudflats and Sandflats [1210] Annual Vegetation of Drift Lines [1220] Perennial Vegetation of Stony Banks [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [1310] <i>Salicornia</i> Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2110] Embryonic Shifting Dunes [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)* [2170] Dunes with Creeping Willow [2190] Humid Dune Slacks [91E0] Alluvial Forests* [1095] Sea Lamprey (<i>Petromyzon marinus</i>) [1099] River Lamprey (<i>Lampetra fluviatilis</i>) [1106] Atlantic Salmon (<i>Salmo salar</i>) [1355] Otter (<i>Lutra lutra</i>) [1395] Petalwort (<i>Petalophyllum ralfsii</i>)</p> <p><u>ConservationObjectives(npws.ie)</u></p>	3.46	<p>Physical disturbance to marine benthic habitats and communities</p> <p>Pollution event</p> <p>Visual and noise disturbance (otter)</p> <p>Disturbance from vibration and underwater noise associated with surveys</p>	<p>No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey.</p> <p>Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (refer 5.3.3 in accompanying SISAA document).</p> <p>No Otter is a mobile species, but as it is crepuscular in nature and remains close to the coast it will not be impacted.</p> <p>Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (refer section 4.2 in accompanying SISAA document).</p>	Yes
Valentia Harbour/Portmagee Channel SAC (IE 002262)	<p>[1140] Tidal Mudflats and Sandflats [1160] Large Shallow Inlets and Bays [1170] Reefs</p> <p><u>ConservationObjectives(npws.ie)</u></p>	7.48	<p>Physical disturbance to marine benthic habitats and communities</p> <p>Pollution Event</p>	<p>No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey.</p> <p>Yes</p>	No

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING Yes/No
				Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (<i>refer 5.3.3 in accompanying SISAA document</i>).	
Kenmare River SAC (IE 002158)	[1160] Large Shallow Inlets and Bays [1170] Reefs [1220] Perennial Vegetation of Stony Banks [1230] Vegetated Sea Cliffs [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)* [4030] Dry Heath [5130] Juniper Scrub [6130] Calaminarian Grassland [8330] Sea Caves [1014] Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>) [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) [1355] Otter (<i>Lutra lutra</i>) [1365] Common (Harbour) Seal (<i>Phoca vitulina</i>) <u>ConservationObjectives(npws.ie)</u>	30.90	Physical disturbance to marine benthic habitats and communities Pollution event Visual and noise disturbance (otter) Disturbance from vibration and underwater noise associated with surveys	No No survey works within these (<i>refer Figure 3.2</i>). No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (<i>refer 5.3.3 in accompanying SISAA document</i>). No Otter is a mobile species, but as it is crepuscular in nature and remains close to the coast it will not be impacted. Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (<i>refer section 4.2 in accompanying SISAA document</i>).	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING YES/NO
Lower River Shannon SAC (IE 002165)	[1349] Bottle-nosed Dolphin (<i>Tursiops truncatus</i>) ConservationObjectives(npws.ie)	West Coast of Ireland Management Unit Area (km ²) = 27,758	Physical disturbance to marine benthic habitats and communities Pollution event Disturbance from vibration and underwater noise associated with surveys	No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (refer 5.3.3 in accompanying SISAA document). Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (refer section 4.2 in accompanying SISAA document).	Yes
Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC (UK 0030396)	[1351] Harbour porpoise (<i>Phocoena phocoena</i>) <u>Annex II selection reason (jncc.gov.uk)</u>	Celtic and Irish Sea Management Unit Area (km ²) = 516,893	Physical disturbance to marine benthic habitats and communities Pollution event Disturbance from vibration and underwater noise	No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (refer 5.3.3 in accompanying SISAA document). Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING Yes/No
			associated with surveys	<i>(refer section 4.2 in accompanying SISAA document).</i>	
North Anglesey Marine / Gogledd Môn Forol SAC (UK 0030398)	[1351] Harbour porpoise (<i>Phocoena phocoena</i>) <u>Annex II selection reason (jncc.gov.uk)</u>	Celtic and Irish Sea Management Unit Area (km ²) = 516,893	Physical disturbance to marine benthic habitats and communities Pollution event Disturbance from vibration and underwater noise associated with surveys	No No survey works within these <i>(refer Figure 3.2)</i> . No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation <i>(refer 5.3.3 in accompanying SISAA document)</i> . Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species <i>(refer section 4.2 in accompanying SISAA document)</i> .	Yes
North Channel SAC (UK 0030399)	[1351] Harbour porpoise (<i>Phocoena phocoena</i>) <u>Annex II selection reason (jncc.gov.uk)</u>	Celtic and Irish Sea Management Unit Area (km ²) = 516,893	Physical disturbance to marine benthic habitats and communities Pollution event	No No survey works within these <i>(refer Figure 3.2)</i> . No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation <i>(refer 5.3.3 in accompanying SISAA document)</i> .	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING Yes/No
			Disturbance from vibration and underwater noise associated with surveys	Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (refer section 4.2 in accompanying SISAA document).	
West Wales Marine / Gorllewin Cymru Forol SAC (UK 0030397) (JNCC, 2015h).	[1351] Harbour porpoise (<i>Phocoena phocoena</i>) <u>Annex II selection reason (jncc.gov.uk)</u>	Celtic and Irish Sea Management Unit Area (km ²) = 516,893	Physical disturbance to marine benthic habitats and communities Pollution event Disturbance from vibration and underwater noise associated with surveys	No No survey works within these (refer Figure 3.2). No spatial overlap between this site and the geotechnical survey. Yes Pollution will be controlled through pollution mechanisms such as onboard safety guidance and MARPOL legislation (refer 5.3.3 in accompanying SISAA document). Yes Vibration and underwater noise caused by the Geophysical survey activities could disturb marine mammals and fish species (refer section 4.2 in accompanying SISAA document).	Yes
Dingle Peninsula SPA (IE 004153)	[A009] Fulmar (<i>Fulmarus glacialis</i>) [A103] Peregrine (<i>Falco peregrinus</i>) [A346] Chough (<i>Pyrrhocorax pyrrhocorax</i>) <u>ConservationObjectives(npws.ie)</u>	0.00	Visual and noise disturbance	Yes Within the 2km ZoI - possible that survey activities could disturb breeding and nesting birds.	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING Yes/No
Iveragh Peninsula SPA (IE 004154)	[A009] Fulmar (<i>Fulmarus glacialis</i>) [A103] Peregrine (<i>Falco peregrinus</i>) [A188] Kittiwake (<i>Rissa tridactyla</i>) [A199] Guillemot (<i>Uria aalge</i>) [A346] Chough (<i>Pyrrhocorax pyrrhocorax</i>) <u>ConservationObjectives(npws.ie)</u>	0.00	Visual and noise disturbance	Yes Within the 2km ZoI - possible that survey activities could disturb breeding and nesting birds.	Yes
Castlemaine Harbour SPA (IE 004029)	[A001] Red-throated Diver (<i>Gavia stellata</i>) [A017] Cormorant (<i>Phalacrocorax carbo</i>) [A046] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A050] Wigeon (<i>Anas penelope</i>) [A053] Mallard (<i>Anas platyrhynchos</i>) [A054] Pintail (<i>Anas acuta</i>) [A062] Scaup (<i>Aythya marila</i>) [A065] Common Scoter (<i>Melanitta nigra</i>) [A130] Oystercatcher (<i>Haematopus ostralegus</i>) [A137] Ringed Plover (<i>Charadrius hiaticula</i>) [A144] Sanderling (<i>Calidris alba</i>) [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A162] Redshank (<i>Tringa totanus</i>) [A164] Greenshank (<i>Tringa nebularia</i>) [A169] Turnstone (<i>Arenaria interpres</i>) [A346] Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A999] Wetland and Waterbirds <u>ConservationObjectives(npws.ie)</u>	3.24	Visual and noise disturbance	Yes Within the 4km ZoI for sensitive species (e.g., divers and seaducks) with the exception of red-throated diver which has a recommended displacement buffer of 10km (see Joint SNCB Interim Advice On The Treatment Of Displacement For Red-Throated Diver (JNCC, 2022).	Yes

EUROPEAN SITE (CODE)	LIST OF QUALIFYING INTEREST/SPECIAL CONSERVATION INTEREST	DISTANCE TO, OR SIZE OF, THE DESIGNATED AREA (KM)	POTENTIAL IMPACTS	CONNECTIONS (SOURCE- PATHWAY- RECEPTOR)	CONSIDERED FURTHER IN SCREENING YES/NO
Blasket Islands SPA (IE 004008)	[A009] Fulmar (<i>Fulmarus glacialis</i>) [A013] Manx Shearwater (<i>Puffinus puffinus</i>) [A014] Storm Petrel (<i>Hydrobates pelagicus</i>) [A018] Shag (<i>Phalacrocorax aristotelis</i>) [A183] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A184] Herring Gull (<i>Larus argentatus</i>) [A188] Kittiwake (<i>Rissa tridactyla</i>) [A194] Arctic Tern (<i>Sterna paradisaea</i>) [A200] Razorbill (<i>Alca torda</i>) [A204] Puffin (<i>Fratercula arctica</i>) [A346] Chough (<i>Pyrrhocorax pyrrhocorax</i>) <u>ConservationObjectives(npws.ie)</u>	6.19	Visual and noise disturbance	No Beyond 2km ZoI – no likely significant effect that survey activities could disturb breeding, nesting, or feeding birds	No
Skelligs SPA (IE 004007)	[A009] Fulmar (<i>Fulmarus glacialis</i>) [A013] Manx Shearwater (<i>Puffinus puffinus</i>) [A014] Storm Petrel (<i>Hydrobates pelagicus</i>) [A016] Gannet (<i>Morus bassanus</i>) [A188] Kittiwake (<i>Rissa tridactyla</i>) [A199] Guillemot (<i>Uria aalge</i>) [A204] Puffin (<i>Fratercula arctica</i>) <u>ConservationObjectives(npws.ie)</u>	12.32	Visual and noise disturbance	No Beyond 2km ZoI – no likely significant effect that survey activities could disturb breeding, nesting, or feeding birds	No

5.2 NATURA IMPACT STATEMENT

The possible effects on the Special Areas of Conservation, Special Protection Areas and their relevant Qualifying Interests/Species of Community Interest have been assessed in the Supporting Information for Screening for Appropriate Assessment Report.

The possible effects on the Special Areas of Conservation, Special Protection Areas and their relevant Qualifying Interests/Species of Community Interest have been assessed in the Supporting Information for Screening for Appropriate Assessment Report.

Likely significant effects (LSEs) have been screened out for the following European sites:

- Blasket Islands SAC (IE 002172)
- Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (IE 000365)
- Castlemaine Harbour SAC (IE 000343)
- Valentia Harbour/Portmagee Channel SAC (IE 002262)
- Kenmare River SAC (IE 002158)
- Dingle Peninsula SPA (IE 004153)
- Iveragh Peninsula SPA (IE 004154)
- Castlemaine Harbour SPA (IE 004029)
- Blasket Islands SPA (IE 004008)
- Skelligs SPA (IE 004007)

However, as adverse effects on Annex II qualifying interests cannot be ruled out from all impacts of the proposed surveys, (i.e., disturbance from vibration and underwater noise associated) Stage 2 appropriate assessment is, therefore, required for the following European sites:

5.2.1 BLASKET ISLANDS SAC (IE 002172)

Site Description

BLASKET ISLANDS SAC (IE 002172) (NPWS, 2013) (NPWS, 2014B)

Blasket Islands SAC are situated at the end of the Dingle peninsula in Co. Kerry. The site includes all of the islands in the group as well as a substantial area of the surrounding seas. There are six main islands, plus some rocky islets and sea stacks. Great Blasket Island, separated from the mainland by the Blasket Sound, is by far the largest of the islands (459 ha) and rises to 292 m above sea level. Inishtooskert (99 ha, 162 m), Inishnabro (51 ha, 175 m), Inishvickillane (81 ha, 138 m) and Tearaght Island (27 ha, 184 m) are located between approximately 7 km and 12 km from the mainland and, like Great Blasket, rise steeply from the sea. In contrast, Beginish is a small, low lying island (15 ha, 14 m) and lies within 2 km of the mainland. The site lies 0.97 km north of the Investigation Area (*Figure 3.6*).

The site is a Special Area of Conservation (SAC) selected for the following habitats listed in Annex I and Annex II of the EU Habitats Directive: [1170] Reefs [1230] Vegetated Sea Cliffs [4030] Dry Heath [8330] Sea Caves [1351] Harbour Porpoise (*Phocoena phocoena*) [1364] Grey Seal (*Halichoerus grypus*).

The site has a large Grey Seal population (648-833 breeding in 2005; one-off moult count of 989 seals in 2007). This is one of the largest populations in the country and represents about one-third of the Irish population. The seals breed on boulder beaches and caves on several of the islands. The seals on these islands are sometimes perceived as competitors for local fish stocks. This occasionally leads to threats to their welfare; the most recent occurred in November 2004 when a large number of adults and pups were shot and clubbed. The site is also of importance for Harbour Porpoise, a species which has a regular presence in the Blaskets. A population estimate in 2008 gave a figure of 267-477 individuals.

This extreme south-western maritime site has high conservation value owing to the occurrence of good examples of several habitats and species that are listed on Annex I and II of the E.U. Habitats Directive.

Specific Conservation Objectives for Qualifying Interests

Conservation objective details for Harbour Porpoise and Grey Seal in Blasket Islands SAC (IE 002172) (NPWS, 2014b)

- [1351] Harbour Porpoise (*Phocoena phocoena*)
- [1364] Grey Seal (*Halichoerus grypus*)

Table 5.2: Specific conservation objective details for Harbour Porpoise (QI species) in Blasket Islands SAC (IE 002172) (NPWS, 2014b).

EUROPEAN SITE (CODE)	QUALIFYING INTEREST /SPECIAL CONSERVATION INTEREST	ATTRIBUTE	MEASURE	TARGET
Blasket Islands SAC (IE 002172)	[1351] Harbour Porpoise (<i>Phoca phocoena</i>).	Access to suitable habitat	Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use.
		Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site.

Conservation Objective details for Grey seal in Blasket Islands SAC (002172) (NPWS, 2014b)

Table 5.3: Specific conservation objective details for Grey seal (QI species) in Blasket Islands SAC (002172) (NPWS, 2014b).

EUROPEAN SITE (CODE)	QUALIFYING INTEREST /SPECIAL CONSERVATION INTEREST	ATTRIBUTE	MEASURE	TARGET
Blasket Islands SAC (IE 002172)	[1364] Grey Seal (<i>Halichoerus grypus</i>).	Access to suitable habitat	Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use.
		Breeding behaviour	Breeding sites	Conserve the breeding sites in a natural condition.
		Moulting behaviour	Moult haul-out sites	Conserve the moult haulout sites in a natural condition.
		Resting behaviour	Resting haul-out sites	Maintain the resting haulout sites in a natural condition.
		Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the grey seal population at the site.

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour porpoise and Grey seal is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

The Harbour porpoise (*Phocoena phocoena*) is a protected species under the Wildlife Acts 1976 to 2018 and Annex II of the EU Habitats Directive. The harbour porpoise is found within the northern latitudes of the Atlantic and Pacific Oceans and primarily in the continental margins. This cetacean species is the most widespread of any marine mammals across Ireland.

According to (NPWS, 2019) the Harbour porpoise is present at the site in all seasons, while important cohorts within the harbour porpoise community such as adults, juveniles and new-born calves have been recorded within the site, including during the calving/breeding season. Although, there is no detailed information available on individual or group movements by the species within or into/out of the site, nor is it known whether individuals/groups of the species demonstrate any faithfulness to the site (i.e. site fidelity or residency); the consistent annual and seasonal occurrence of the species at the site, its occurrence during the calving/breeding period and density/population estimates available to date all indicate the importance of this coastal site for the species (NPWS, 2019).

A survey of the Blasket Islands SAC Harbor porpoise population (O'Brien & Berrow, 2018) recorded a very low sighting rate and group size compared to previous surveys of this site. In 2018, Harbour porpoise sightings per survey were very low in number and ranged from 1 to 7 per survey and from

only 2 to 9 individuals, with a total of 26 sightings of 34 individual porpoises overall. In 2014 using similar track lines, sightings per survey ranged from 6 to 18 and from 6 to 57 individuals with a total of 68 sightings of 134 individual porpoises overall (NPWS, 2014b).

The grey seal is a protected species under the Wildlife Acts 1976 to 2018 and Annex II of the EU Habitats Directive (as highlighted above). They typically feed locally and can be found in haul-out sites along the shores of surrounding bay areas, rock outcrops, and small islands., and return to haul-out sites to breed and rear their young. Grey seals are present along the whole of the Atlantic coast of Ireland from Donegal to Cork, with seven nationally important breeding sites identified, one of which occurs within Co Kerry, at the Blasket Islands (Ó Cadhla, et al., 2013). In 2012 the Blasket Islands had the largest colony of grey seals on the County Kerry coastline (117 individuals) (Duck & Morris, 2013). Grey seal occupies both aquatic and terrestrial habitats in Blasket Islands SAC, including intertidal shorelines and skerries that become exposed during the tidal cycle. It is present at the site throughout the year during all aspects of its annual life cycle which includes breeding (August to December approximately), moulting (December to April approximately) and non-breeding, foraging and resting phases. The site has a large Grey seal population (648-833 breeding in 2005: one-off moult count of 989 seals in 2007). This is one of the largest populations in the country and represents about one-third of the Irish population. The seals breed on boulder beaches and caves on several of the islands. Grey seal populations have increased to 7,824 – 9,365 from 5509 – 7083 individuals in 2005 (Cosgrove , et al., 2013). The Blasket Islands are one of the top four breeding areas for Grey seal and increases in pup production was 70% from 2005 to 2009-2012 (Ó Cadhla, et al., 2013).

Both marine mammal species may be impacted by disturbance from vibration and underwater noise associated with the proposed survey. Grey seal hear in the low frequency range (75-75,000 Hz) (DAHG, 2014) while the Harbour porpoise hear in the high frequency range (200-180,000Hz). Therefore, there is potential impact on these species from the proposed survey due to Shipping, SBP, UHRS, and Drilling (depending on the frequency). There is also a risk of injury due to collision (survey vessels/sampling equipment).

Mitigation

The proposed works will be short in duration and of a temporary nature and compliant with DAHG (2014) (Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters) which will ensure that the proposed surveys will have no significant negative impact on the Harbour porpoise and/or Grey seal. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely. The proposed survey will not restrict the range of either species (Harbour porpoise/Grey seal) in any way or impact on their respective population size, range, or on the habitat quality of the site.

Therefore, the conservation objectives for the Harbour porpoise and the Grey seal population at Blasket Islands SAC (002172) will not be adversely affected and integrity of the site will be maintained.

5.2.2 KENMARE RIVER SAC (IE 002158)

Site Description

KENMARE RIVER SAC (IE 002158) (NPWS, 2016) (NPWS, 2013b)

Kenmare River SAC in Co. Kerry, is a long, narrow, south-west facing bay. It is a deep, drowned glacial valley and the bedrock is mainly Old Red Sandstone which forms reefs along the middle of the bay throughout its length. Exposure to prevailing winds and swells at the mouth diminishes towards the head of the bay. Numerous islands and inlets along the length of the bay provide further areas of additional shelter in which a variety of habitats and unusual communities occur. The site lies 30.90 km southeast of the Investigation Area (*Figure 3.6*).

Kenmare River SAC holds an important population of Common Seal (maximum count of 391 in the all-Ireland survey of 2003). The seals frequent rocky islets near Sneem, Templeoe and Castle Cove, as well as Brennel Island, Illaunsillagh, Kilmackilloge Harbour and Ballycrovane Harbour. Otter also uses the site. Both Common Seal and Otter are listed on Annex II of the E.U. Habitats Directive. Two internationally important roosts for Lesser Horseshoe Bat, another Annex II species, are included in the site: approximately 100 bats were recorded hibernating in a souterrain near Dunkerron in 2001, while over 100 bats have been counted in recent summers in a two-storey cottage near Killaha. In damp slacks amongst the sand dunes at Derrynane, the rare Narrow-Mouthed Whorl Snail (*Vertigo angustior*), also an Annex II species, has been found. The nationally endangered and protected Red Data Book species, Natterjack Toad, has also been recorded from this area and, following a re-introduction programme, has re-established itself at the site.

Kenmare River SAC contains an exceptional complement of marine and terrestrial habitats, many of which are listed on Annex I of the E.U. Habitats Directive, as well as four species that are listed on Annex II of this Directive. The presence of populations of rare Red Data Book species, in particular of Kerry Lily, together with the ornithological interest of the area, adds to the conservation significance of the site.

Specific Conservation Objectives for Qualifying Interests

Conservation Objective details for Harbour Seal in Kenmare River SAC (IE 002158) (NPWS, 2013b)

- [1365] Harbour Seal (*Phoca vitulina*)

Table 5.4: Specific conservation objective details for Harbour Seal (QI species) in Kenmare River SAC (IE 002158) (NPWS, 2013b).

EUROPEAN SITE (CODE)	QUALIFYING INTEREST /SPECIAL CONSERVATION INTEREST	ATTRIBUTE	MEASURE	TARGET
Kenmare River SAC (IE 002158)	[1365] Harbour Seal (<i>Phoca vitulina</i>)	Access to suitable habitat	Number of artificial barriers	Species range is not restricted by artificial barriers to site use.
		Breeding behaviour	Breeding sites	Conserve the breeding sites in a natural condition.

EUROPEAN SITE (CODE)	QUALIFYING INTEREST /SPECIAL CONSERVATION INTEREST	ATTRIBUTE	MEASURE	TARGET
		Moulting behaviour	Moult haul-out sites	Conserve the moult haulout sites in a natural condition.
		Resting behaviour	Resting haul-out sites	Conserve the resting haulout sites in a natural condition.
		Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the harbour seal population at the site.

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour Seal is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

The harbour (or common) seal (*P. vitulina*) is protected species under the Wildlife Acts 1976 to 2018 and Annex II of the EU Habitats Directive. The species has a very wide distribution being found in temperate, sub-arctic and arctic coastal areas throughout both the Atlantic and Pacific Oceans. In Ireland, the greatest numbers of common seals are found along the western seaboard predominantly in relatively sheltered areas (often estuaries and sand or mudflats) that are not subject to much human disturbance. These seals come ashore (haul-out) for long periods, often forming large groups, during June to give birth and again to moult (shed their fur) during July and August.

This species may be impacted by disturbance from vibration and underwater noise associated with the proposed survey. Harbour Seal hear in the low frequency range (75-75,000 Hz) (DAHG, 2014). The greatest impact on this species from the proposed surveys would be Shipping, Sub-Bottom Profiler, Ultra High Resolution Seismic and Drilling (depending on the frequency). These activities have the potential to be within the hearing threshold of Harbour Seal. There is also a risk of injury due to collision (survey vessels/Sampling equipment).

Mitigation

The proposed works will be short in duration, of a temporary nature and compliant with DAHG (2014) - Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. The latter guidance will be followed at all times i.e., pre-monitoring by a qualified and experienced MMO where appropriate, followed by the implementation of the 'soft-start' procedure. All of which will ensure that the proposed surveys will have no significant negative impact on the Harbour seal. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely.

The proposed survey will not result in the formation of any barrier (acoustic or otherwise) which would restrict to access to suitable habitat, nor will it restrict the range of this seal species in any way or impact on their respective population size, or on the habitat quality of the site. The breeding, moulting, and resting behaviours of this seal species will also not be impacted.

Therefore, the conservation objectives for the Harbour seal population at Kenmare River SAC (IE 002158) will not be adversely affected and integrity of the site will be maintained.

5.2.3 LOWER RIVER SHANNON SAC (IE 002165)

Site Description

Lower River Shannon SAC (IE 002165) (NPWS, 2012a)

This very large site stretches along the Shannon valley from Killaloe to Loop Head/ Kerry Head, some 120 km. The site thus encompasses the Shannon, Feale, Mulkear and Fergus Estuaries, the freshwater lower reaches of the River Shannon (between Killaloe and Limerick), the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. The Shannon and Fergus Estuaries form the largest estuarine complex in Ireland. They form a unit stretching from the upper tidal limits of the Shannon and Fergus Rivers to the mouth of the Shannon Estuary (considered to be a line across the narrow strait between Kilcredaun Point and Kilconly Point). Both the Fergus and inner Shannon Estuaries feature vast expanses of intertidal mudflats, often fringed with saltmarsh vegetation. In the transition zone between mudflats and saltmarsh, specialised colonisers of mud predominate. Saltmarsh vegetation frequently fringes the mudflats. Over twenty areas of estuarine saltmarsh have been identified within the site, the most important of which are around the Fergus estuary and at Ringmoylan Quay. The dominant type of saltmarsh present is Atlantic salt meadow occurring over mud. Saltmarsh vegetation also occurs around several lagoons within the site, two of which have been surveyed as part of a National Inventory of Lagoons. Cloonconeen Pool (4-5 ha) is a natural sedimentary lagoon impounded by a low cobble barrier. Seawater enters by percolation through the barrier and by overwash. This lagoon represents a type which may be unique to Ireland since the substrate is composed almost entirely of peat. The adjacent shore features one of the best examples of a drowned forest in Ireland. Most of the site west of Kilcredaun Point/Kilconly Point is bounded by high rocky sea cliffs. The site supports an excellent example of a large shallow inlet and bay. The intertidal reefs in the Shannon Estuary are exposed or moderately exposed to wave action and subject to moderate tidal streams. Other coastal habitats that occur within the site include stony beaches and bedrock shores. Freshwater rivers have been included in the site, most notably the Feale and Mulkear catchments, the Shannon from Killaloe to Limerick (along with some of its tributaries, including a short stretch of the Kilmastulla River), the Fergus up as far as Ennis, and the Cloon River.

There is a resident population of Bottle-nosed Dolphin in the Shannon Estuary. This is the only known resident population of this E.U. Habitats Directive Annex II species in Ireland. The population is estimated (in 2006) to be 140 ± 12 individuals. Otter, a species also listed on Annex II of this Directive, is commonly found on the site. Five species of fish listed on Annex II of the E.U. Habitats Directive are found within the site. These are Sea Lamprey, Brook Lamprey, River Lamprey, Twaité Shad and Salmon. The three lampreys and Salmon have all been observed spawning in the lower Shannon or its tributaries. Two additional fish species of note, listed in the Irish Red Data Book, also occur, namely

Smelt and Pollan. Only the former has been observed spawning in the Shannon. Freshwater Pearl Mussel, a species listed on Annex II of the E.U. Habitats Directive, occurs abundantly in parts of the Cloon River.

This site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats lagoon and alluvial woodland, the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. Several species listed on Annex I of the E.U. Birds Directive are also present, either wintering or breeding. The Shannon and Fergus Estuaries form the largest estuarine complex in Ireland and support more wintering wildfowl and waders than any other site in the country. Most of the estuarine part of the site has been designated a Special Protection Area (SPA), under the E.U. Birds Directive, primarily to protect the large numbers of migratory birds present in winter.

Specific Conservation Objectives for Qualifying Interests

- Bottlenose dolphin (*Tursiops truncatus*) [1349]

Table 5.5: Specific Conservation Objective details for Bottlenose Dolphin in Lower River Shannon SAC (002165) (NPWS, 2012a).

EUROPEAN SITE (CODE)	QUALIFYING INTEREST /SPECIAL CONSERVATION INTEREST	ATTRIBUTE	MEASURE	TARGET
Lower River Shannon SAC (002165)	[1349] Bottlenose dolphin (<i>Tursiops truncatus</i>)	Access to suitable habitat	Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use.
		Habitat use: critical areas	Location and hectares	Critical areas, representing habitat used preferentially by the bottlenose dolphin, should be maintained in a natural condition.
		Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the Bottlenose dolphin population at the site

Impact Assessment

The impact of the proposed survey on marine mammals and/or fish is owing to disturbance from vibration and underwater noise associated with the proposed survey is discussed in detail in *Section 4.2*.

Bottlenose dolphin (*Tursiops truncatus*) [1349]

A recent study (Rogan, et al., 2018) estimated the total number of dolphins using the Shannon estuary between June and October 2018 to be 139 ±15 (CV=0.11, 95% CI= 121 – 160), which has similar precision as the previous estimates, thus it shows that the “point estimate of abundance” is similar to all previous estimates and it indicates that this population’s status appears to be stable.

The proposed survey will not impact on any of the conservation objectives for the Bottlenose Dolphin, as listed above. However, the species may be impacted by disturbance from vibration and underwater noise associated with the proposed survey Bottlenose Dolphin in the mid frequency range (150 - 160,000Hz) (DAHG, 2014) and therefore, are susceptible to noise vibration of Shipping, SBP, UHRS, Drilling surveys. These activities have the potential to be within the hearing threshold of Bottlenose Dolphins. There is also a risk of injury due to collision (survey vessels/sampling equipment).

Mitigation

The proposed works will be short in duration and of a temporary nature and compliant with DAHG (2014) (Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters) which will ensure that the proposed surveys will have no significant negative impact on the Bottlenose Dolphin. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely. The proposed survey will not restrict the species range in any way or impact on the population size, range, or habitat quality of the site. Also, as the population status is deemed stable (Rogan, et al., 2018) it is considered unlikely a significant proportion of the population will be affected.

Therefore, the conservation objectives for the Bottlenose Dolphin population at Lower River Shannon SAC (IE 002165) will not be adversely affected and integrity of this site will be maintained.

5.2.4 BRISTOL CHANNEL APPROACHES / DYNESFEYDD MÔR HAFREN (UK 0030396)

SITE DESCRIPTION (JNCC, 2015b)

The Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC (584,994 ha) spans the Bristol Channel between the northern coast of Cornwall into Carmarthen Bay in Wales. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

Harbour porpoise presence varies seasonally within this site. Harbour Porpoise occur within the site year-round but during the winter, persistently higher densities of harbour porpoise occur compared to other parts of the CIS Management Unit.

More information on the SAC site can be accessed here: [*Bristol Channel Approaches MPA | JNCC - Adviser to Government on Nature Conservation.*](#)

Conservation objectives for the Harbour Porpoise at Bristol Channel Approaches SAC (UK 0030396) can be found in JNCC report 'Harbour Porpoise, Bristol Channel Approaches - Conservation Objectives and Advice on Operations' (JNCC, 2015b).

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour Porpoise is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

Mitigation

The proposed works will be short in duration, of a temporary nature and compliant with DAHG (2014) - Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. The latter guidance will be followed at all times i.e., pre-monitoring by a qualified and experienced MMO where appropriate, followed by the implementation of the 'soft-start' procedure. All of which will ensure that the proposed surveys will have no significant negative impact on the Harbour Porpoise and. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely.

The proposed survey will not result in the formation of any barrier (acoustic or otherwise) which would restrict to access to suitable habitat, nor will it restrict the range of this species in any way or impact on their respective population size, or on the habitat quality of the site. The breeding and resting behaviours of the Harbour Porpoise will also not be impacted.

Therefore, the conservation objectives for the Harbour Porpoise population at Bristol Channel Approaches SAC will not be adversely affected and integrity of the site will be maintained.

5.2.5 NORTH ANGLESEY MARINE / GOGLEDD MÔN FOROL (UK 0030398)

SITE DESCRIPTION (JNCC, 2015c)

The North Anglesey Marine / Gogledd Môn Forol SAC (324,949 ha) is located North of the Isle of Anglesey, Wales, UK. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

The Harbour porpoise is a qualifying feature of North Anglesey Marine SAC and is the primary reason for its site selection. A habitat occurrence description is not yet available for the Harbour porpoise at this site.

More information on the SAC site can be accessed here: [North Anglesey Marine / Gogledd Môn Forol - Special Areas of Conservation \(jncc.gov.uk\)](http://jncc.gov.uk/north-anglesey-marine-gogledd-mon-forol).

Conservation objectives for the Harbour Porpoise at North Anglesey Marine SAC (UK 0030398) can be found in JNCC report 'Harbour Porpoise, North Anglesey Marine - Conservation Objectives and Advice on Operations' (JNCC, 2015c).

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour Porpoise is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

Mitigation

The proposed works will be short in duration, of a temporary nature and compliant with DAHG (2014) - Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. The latter guidance will be followed at all times i.e., pre-monitoring by a qualified and experienced MMO where appropriate, followed by the implementation of the 'soft-start' procedure. All of which

will ensure that the proposed surveys will have no significant negative impact on the Harbour Porpoise and. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely.

The proposed survey will not result in the formation of any barrier (acoustic or otherwise) which would restrict to access to suitable habitat, nor will it restrict the range of this species in any way or impact on their respective population size, or on the habitat quality of the site. The breeding and resting behaviours of the Harbour Porpoise will also not be impacted.

Therefore, the conservation objectives for the Harbour Porpoise population at North Anglesey Marine SAC will not be adversely affected and integrity of the site will be maintained.

5.2.6 NORTH CHANNEL (UK 0030399)

SITE DESCRIPTION (JNCC, 2015d)

The North Channel SAC (160,367 ha) is located in the North Channel between NE Northern Ireland and SW Scotland. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

The Harbour porpoise is a qualifying feature of North Channel SAC and is the primary reason for its site selection. A habitat occurrence description is not yet available for the Harbour porpoise at this site.

More information on the SAC site can be accessed here: [North Channel - Special Areas of Conservation \(jncc.gov.uk\)](http://jncc.gov.uk)

Conservation objectives for the Harbour Porpoise at North Channel SAC (UK 0030399) can be found in JNCC report 'Harbour Porpoise, North Channel - Conservation Objectives and Advice on Operations' (JNCC, 2015d).

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour Porpoise is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

Mitigation

The proposed works will be short in duration, of a temporary nature and compliant with DAHG (2014) - Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. The latter guidance will be followed at all times i.e., pre-monitoring by a qualified and experienced MMO where appropriate, followed by the implementation of the 'soft-start' procedure. All of which will ensure that the proposed surveys will have no significant negative impact on the Harbour Porpoise and. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely.

The proposed survey will not result in the formation of any barrier (acoustic or otherwise) which would restrict to access to suitable habitat, nor will it restrict the range of this species in any way or impact on their respective population size, or on the habitat quality of the site. The breeding and resting behaviours of the Harbour Porpoise will also not be impacted.

Therefore, the conservation objectives for the Harbour Porpoise population at North Channel SAC will not be adversely affected and integrity of the site will be maintained.

5.2.7 WEST WALES MARINE / GORLLEWIN CYMRU FOROL (UK 0030397)

SITE DESCRIPTION (JNCC, 2015e)

The West Wales Marine / Gorllewin Cymru Forol SAC (737,600 ha) is located off the coast of Wales, UK From the Llŷn peninsula in the north, to Pembrokeshire in the south-west. This site lies within Celtic and Irish Sea (CIS) Management Unit and was selected for the presence of the following Annex II mobile species: Harbour Porpoise [1351].

The West Wales Marine SAC has been identified as an area of importance for Harbour Porpoise and is the primary reason for its site selection.

More information on the SAC site can be accessed here: [West Wales Marine MPA | JNCC - Adviser to Government on Nature Conservation.](#)

Conservation objectives for the Harbour Porpoise at West Wales Marine SAC (UK 0030397) can be found in JNCC report 'Harbour Porpoise, West Wales Marine - Conservation Objectives and Advice on Operations' (JNCC, 2015e).

Impact Assessment

The impact of the proposed survey on marine mammals i.e., Harbour Porpoise is owing to disturbance from vibration and underwater noise associated with the proposed survey which is discussed in detail in *Section 4.2*.

Mitigation

The proposed works will be short in duration, of a temporary nature and compliant with DAHG (2014) - Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. The latter guidance will be followed at all times i.e., pre-monitoring by a qualified and experienced MMO where appropriate, followed by the implementation of the 'soft-start' procedure. All of which will ensure that the proposed surveys will have no significant negative impact on the Harbour Porpoise and. In addition to the fact that survey vessels will be slow moving and therefore any risk due to collision is unlikely.

The proposed survey will not result in the formation of any barrier (acoustic or otherwise) which would restrict to access to suitable habitat, nor will it restrict the range of this species in any way or impact on their respective population size, or on the habitat quality of the site. The breeding and resting behaviours of the Harbour Porpoise will also not be impacted.

Therefore, the conservation objectives for the Harbour Porpoise population at West Wales Marine SAC will not be adversely affected and integrity of the site will be maintained.

6. CONCLUSION

This Natura Impact Statement has examined and analysed, with respect to the above European sites, the potential impacts of the proposed survey and whether the predicted impacts would adversely affect the integrity of these European sites. Mitigation measures set out above (see *Section 4* and *Section 5*) ensure that any potential impacts on the conservation objectives of the European sites will be avoided during the proposed project such that there will be no risk of adverse effects. In view of best scientific evidence and methods, it is considered the nature of the predicted impacts from the proposed survey (see *Section 4*) will not result in adverse effects, whether alone or in-combination with other plans and projects, on the integrity of any Natura 2000 site deemed within the distance Zone of Influence or Management Unit areas for Annex II species.

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APPENDIX 1 A3 MAPS

Map A: Investigatory Foreshore Licence Area

Map B: Location of the proposed Investigation Area.

Map C: Proposed Locations of Environmental Works

Map D: Proposed Locations of Geophysical and Geotechnical Works

Map E: Predominant Habitat Type within the Investigation (EMODNET central portal, 2021A)

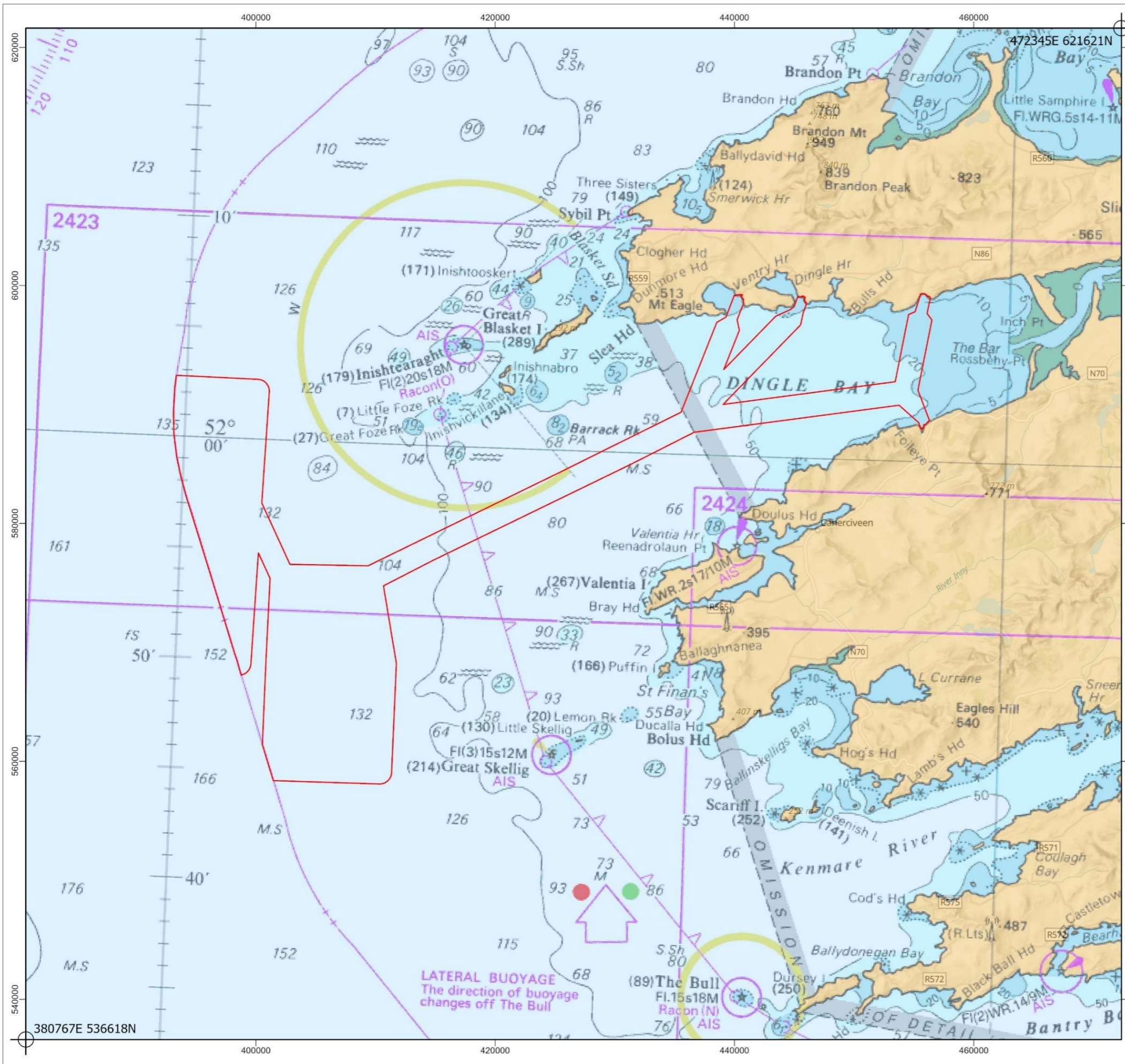
Map F: Special Protection Areas (SPA), designated under the birds and habitats directives, located within the Zol of the proposed Investigation Area. (Data Source: (national parks and wildlife services, 2021A)

Map G: Special Areas of Conservation, (SAC's), designated under the habitat's directives, located within the Zol of the proposed Investigation Area. (Data source: (national parks and wildlife services, 2021A)

Map H: Other Potential Proposed Activity located within/surrounding the vicinity of the Investigation Area

Map I: Identification of relevant Natura 2000 sites, sites within the vicinity of the proposed Investigation Area.

Map J: Special areas of conservation (SAC's) within mobile Annex II species in Management Unit Zones of Influence (JNCC, 2015).



Project:
Valentia Island Energy

Title:
Foreshore Licence Area



Legend

- Foreshore Licence Area

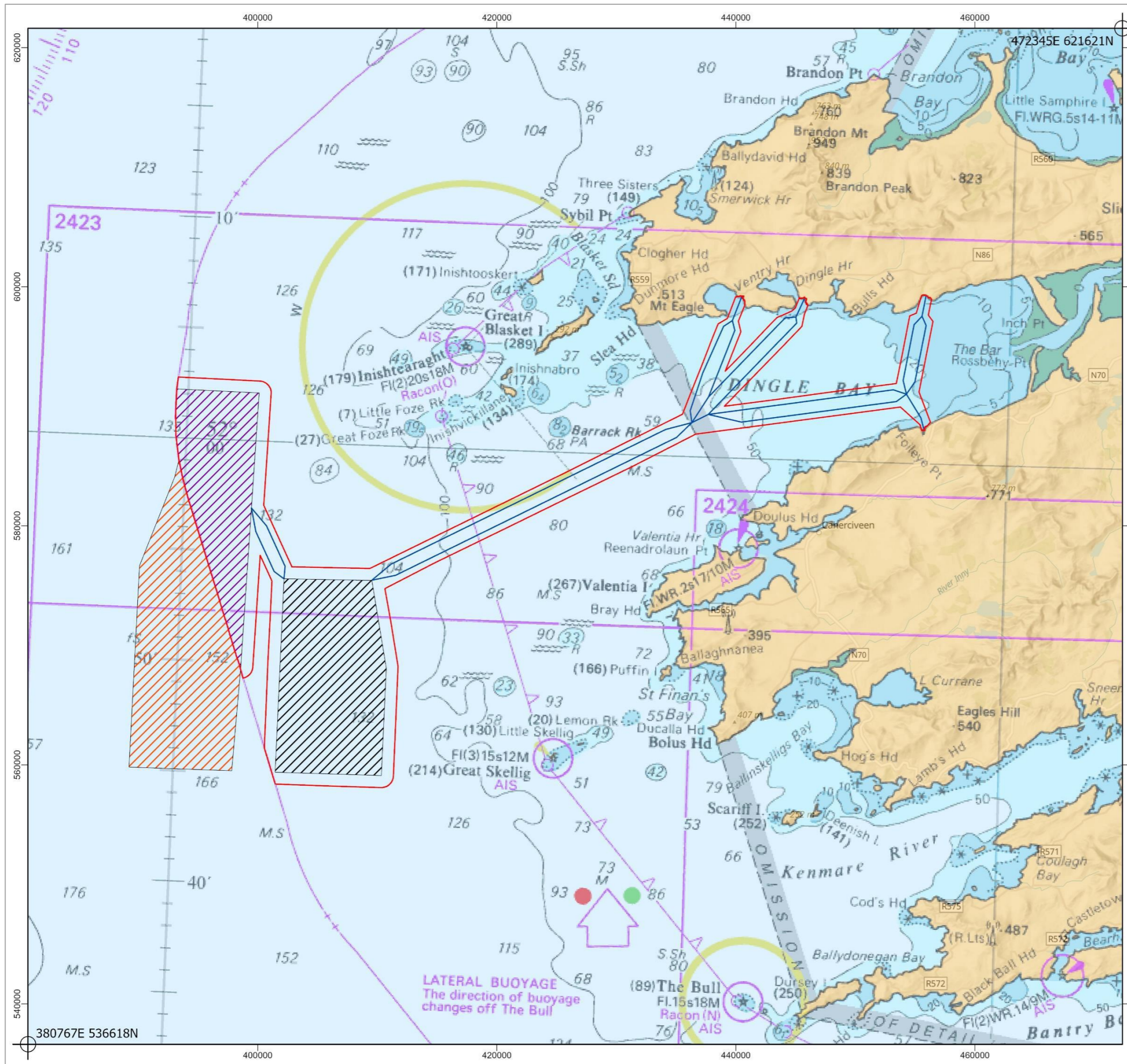
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Map A: Investigatory Foreshore Licence Area



Project:
Valentia Island Energy

Title:
Overall Project



- Legend**
- Foreshore Licence Area
 - Nearshore Array A
 - Nearshore Array B
 - Offshore Array
 - Cable Routes

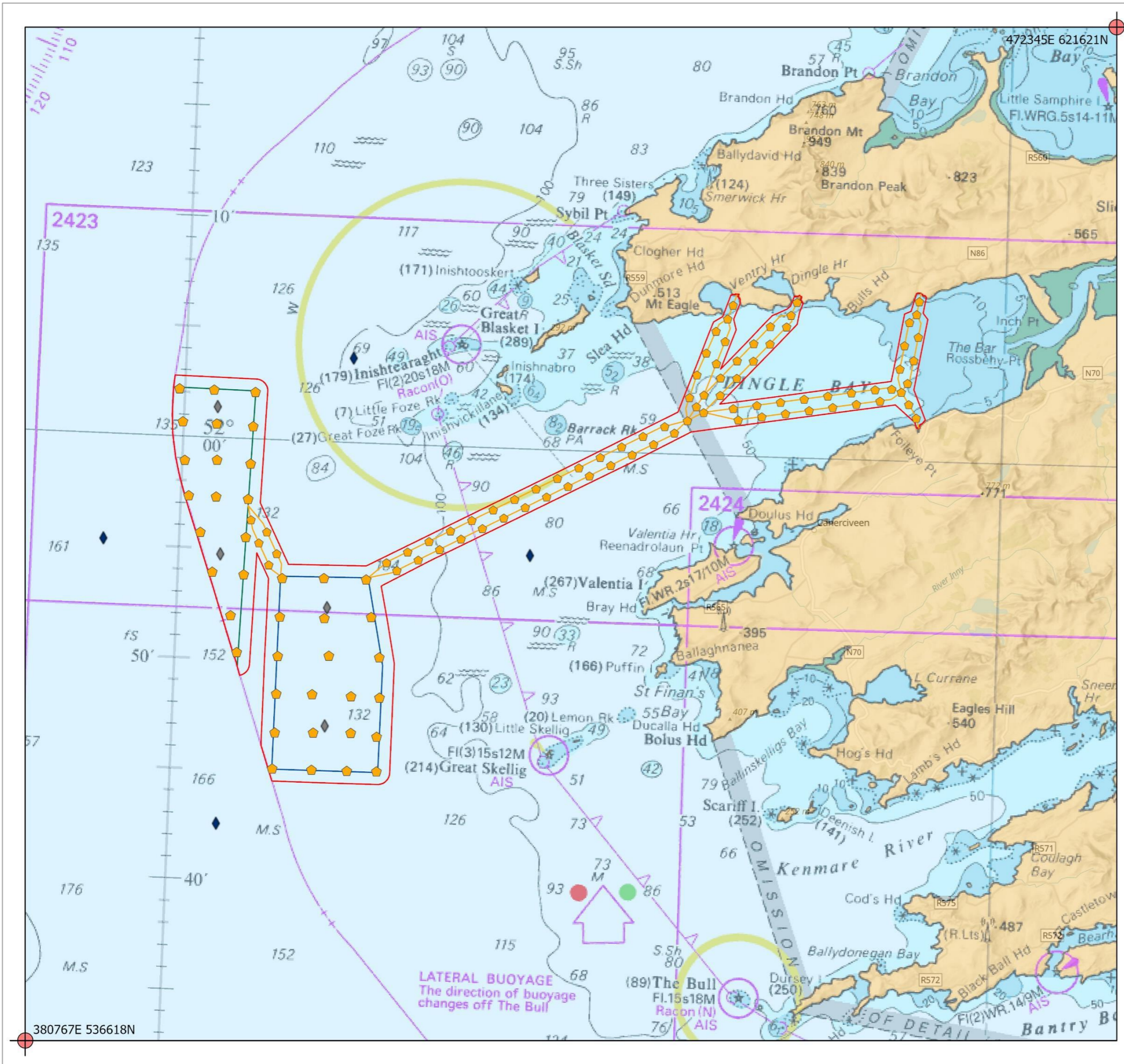
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Map B: Location of the proposed Investigation Area.



Site Layout: Environmental Works


Project: Valentia Island Energy

To be read in conjunction with the Schedule of Works (FS007365)



- Legend**
- Foreshore Licence Area
 - Nearshore Array A
 - Nearshore Array B
 - Cable Routes
 - ◆ Indicative Grab Samples
 - ◆ Indicative PODs
 - ◆ Additional PODs
 - ⊕ ITM Grid Coordinate Intersect

Drawing Title: Site Layout: Environmental Works
 Drawing No.: 381
 File Ref: FS007365
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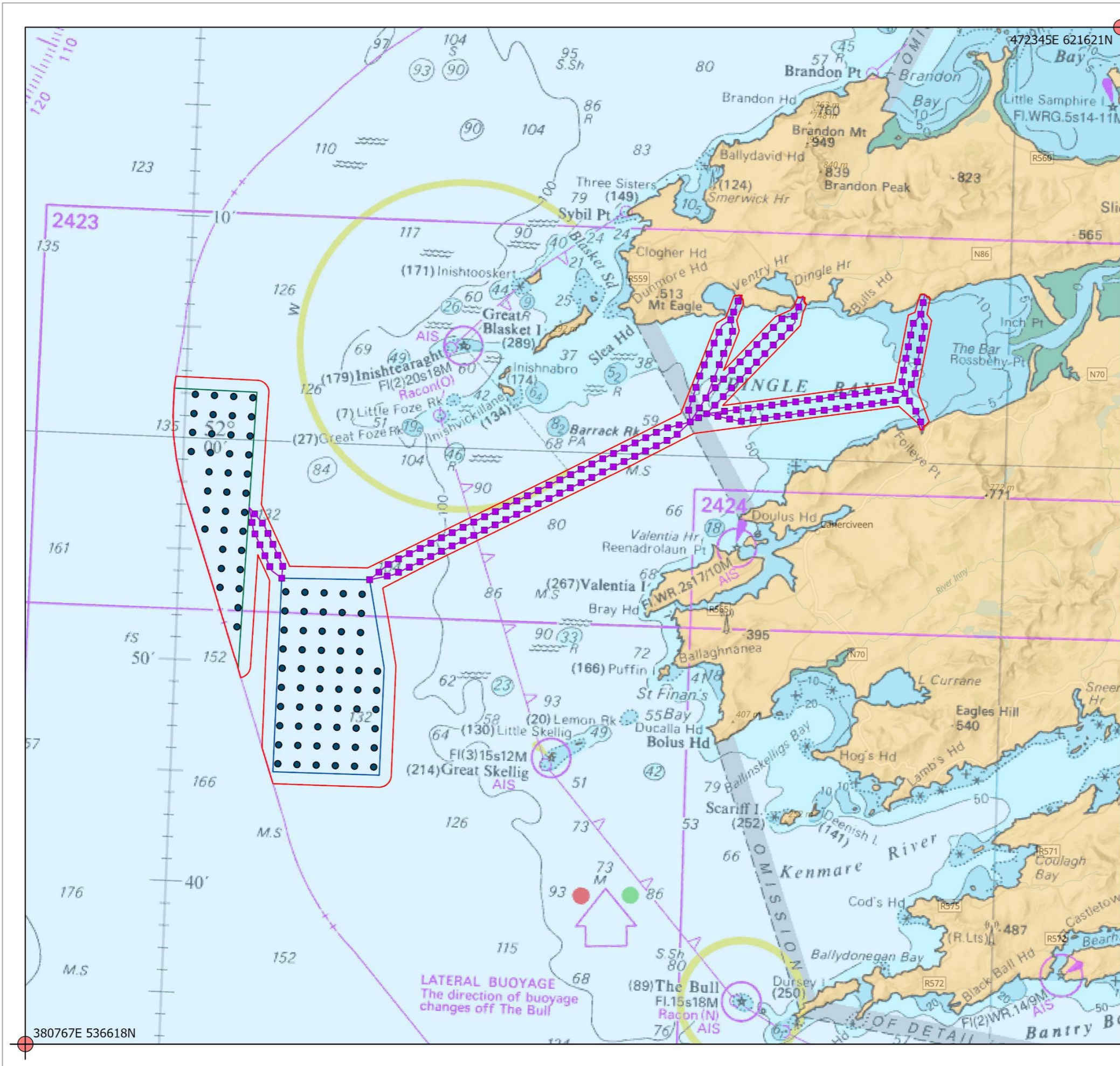
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Map C: Proposed Locations of Environmental Works





Site Layout: Geotechnical and Geophysical Works

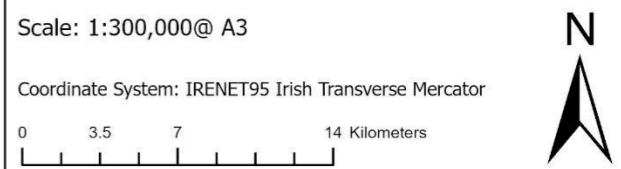
Project: Valentia Island Energy

To be read in conjunction with the Schedule of Works (FS007365)



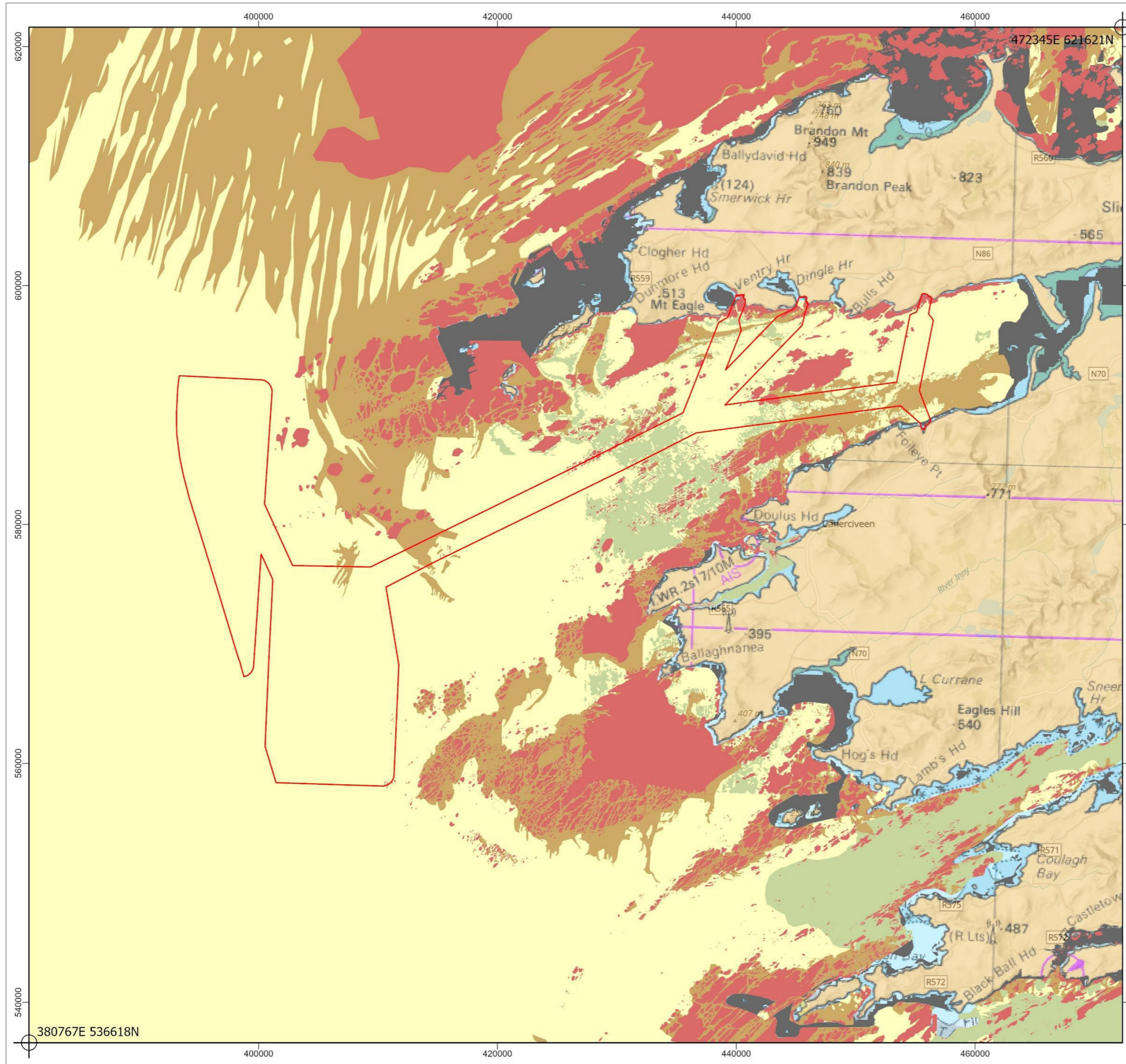
- Legend**
- Foresore Licence Area
 - Nearshore Array A
 - Nearshore Array B
 - Cable Routes
 - CPT / Boreholes
 - Indicative Vibrocore/Gravity Sample + CPT Sample
 - ITM Grid Coordinate Intersect

Drawing Title: Site Layout: Geotechnical and Geophysical Works
 Drawing No.: 382
 File Ref: FS007365
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Map D: Proposed Locations of Geophysical and Geotechnical Works



Project:
Valentia Island Energy

Title:
Seabed Classification



Legend

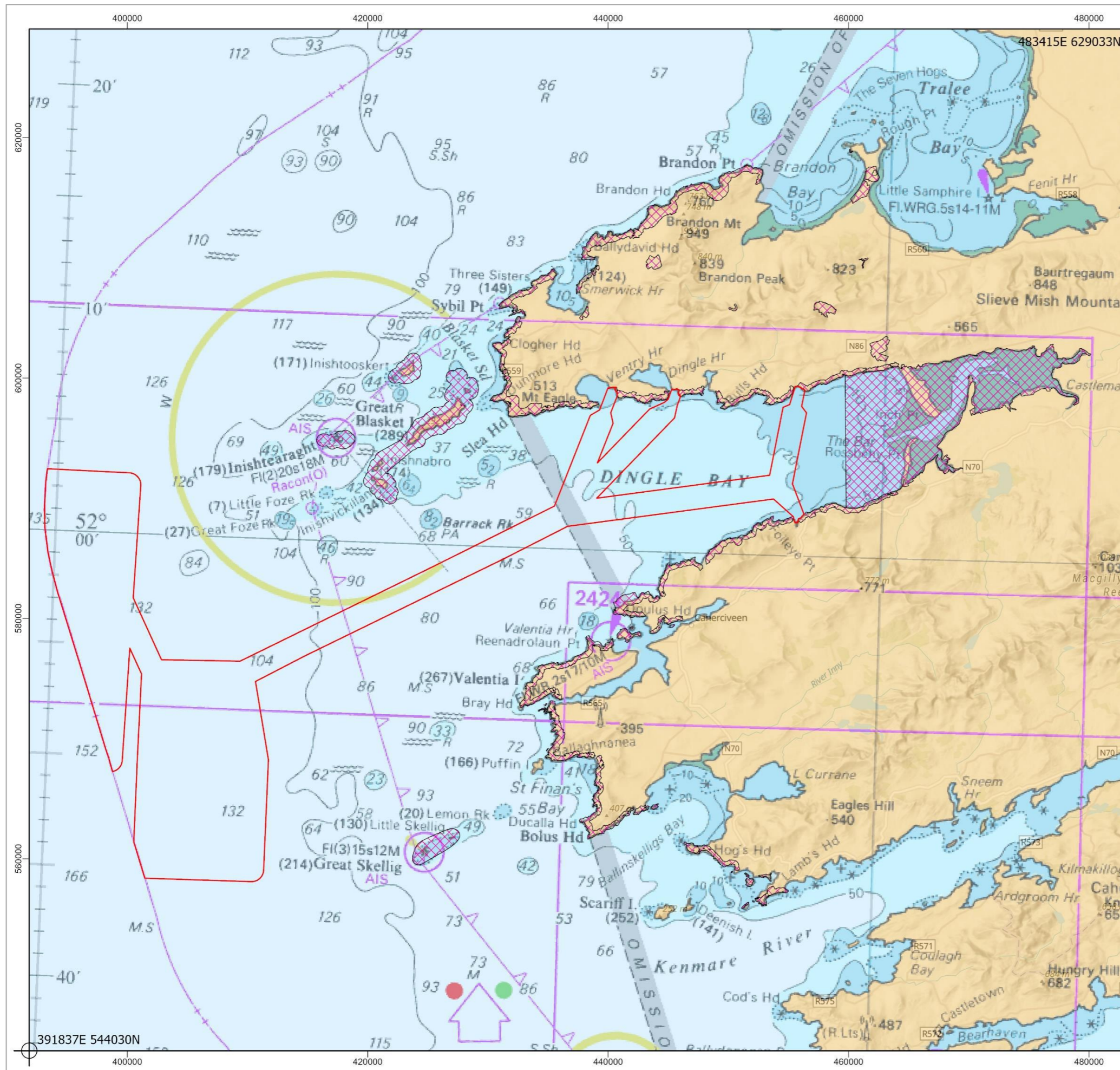
Foreshore Licence Area	Sand
Rock	Mud to muddy Sand
Coarse sediment	Unclassified
Mixed sediment	

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Map E: Predominant Habitat Type within the Investigation (EMODNET central portal, 2021A)



Project:
Valentia Island Energy

Title:
SPAs

Legend

- Foreshore Licence Area
- SPAs

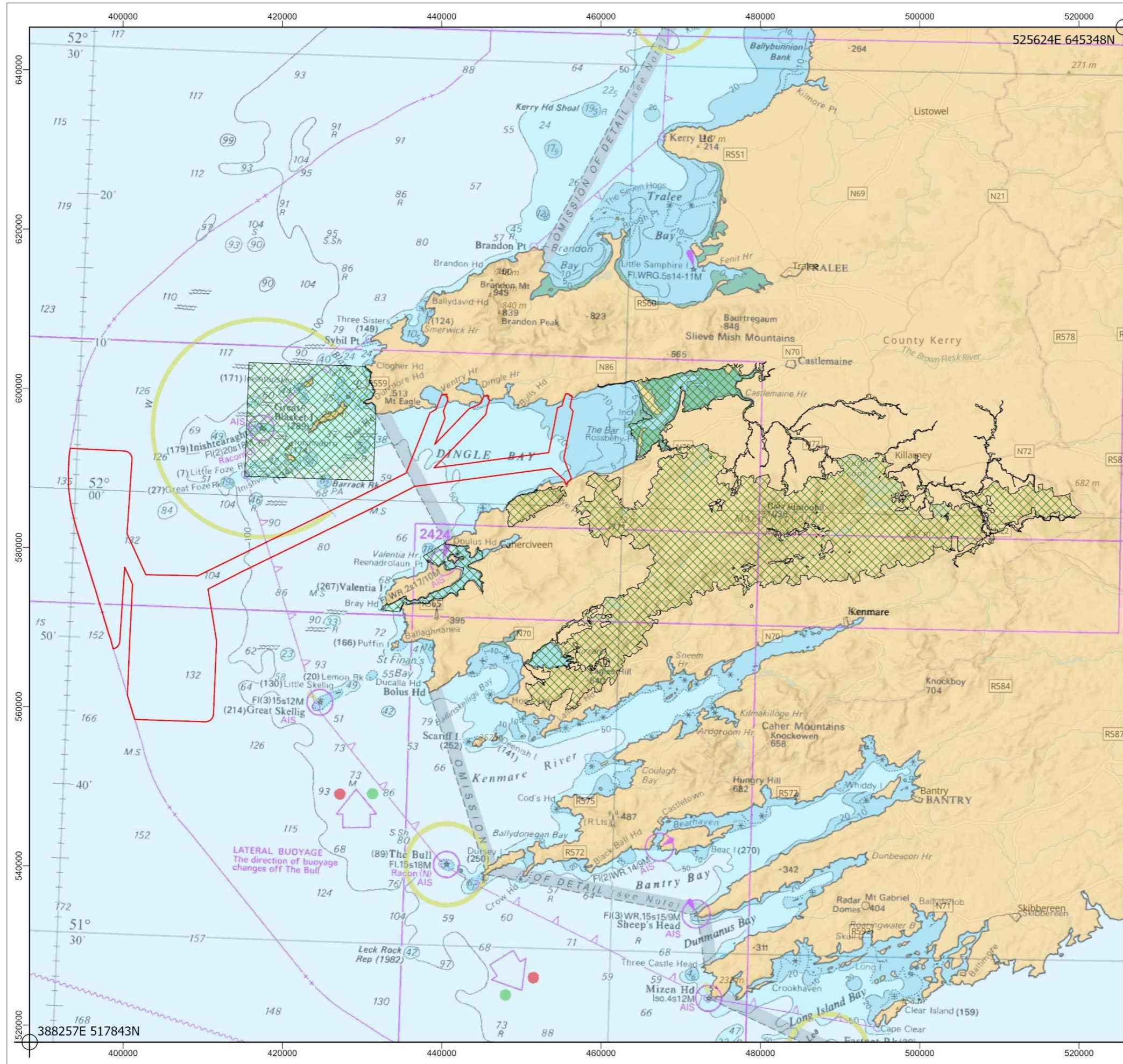
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Map F: Special Protection Areas (SPA), designated under the birds and habitats directives, located within the ZoI of the proposed Investigation Area. (Data Source: (national parks and wildlife services, 2021A)



Project:
Valentia Island Energy

Title:
SAC Sites



Legend

- Foreshore Licence Area
- SACs

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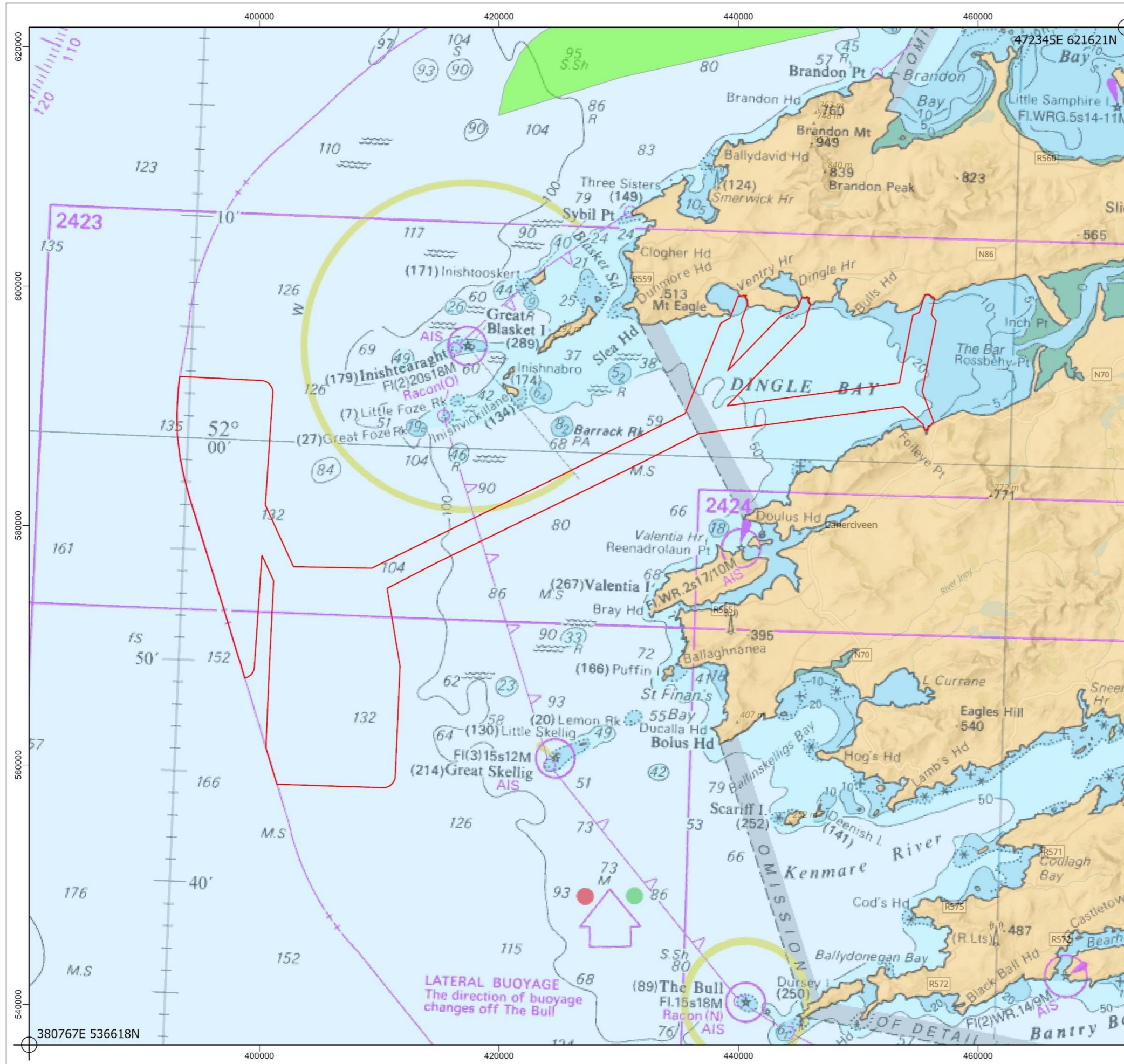
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02	01/06/2022		



Map G: Special Areas of Conservation (SAC's), designated under the habitat's directives, located within the Zol of the proposed Investigation Area. (Data source: (national parks and wildlife services, 2021A)





Project:
Valentia Island Energy

Title:
Proposed Infrastructure



Legend

- Foreshore Licence Area
- Mainstream Tralee Windfarm

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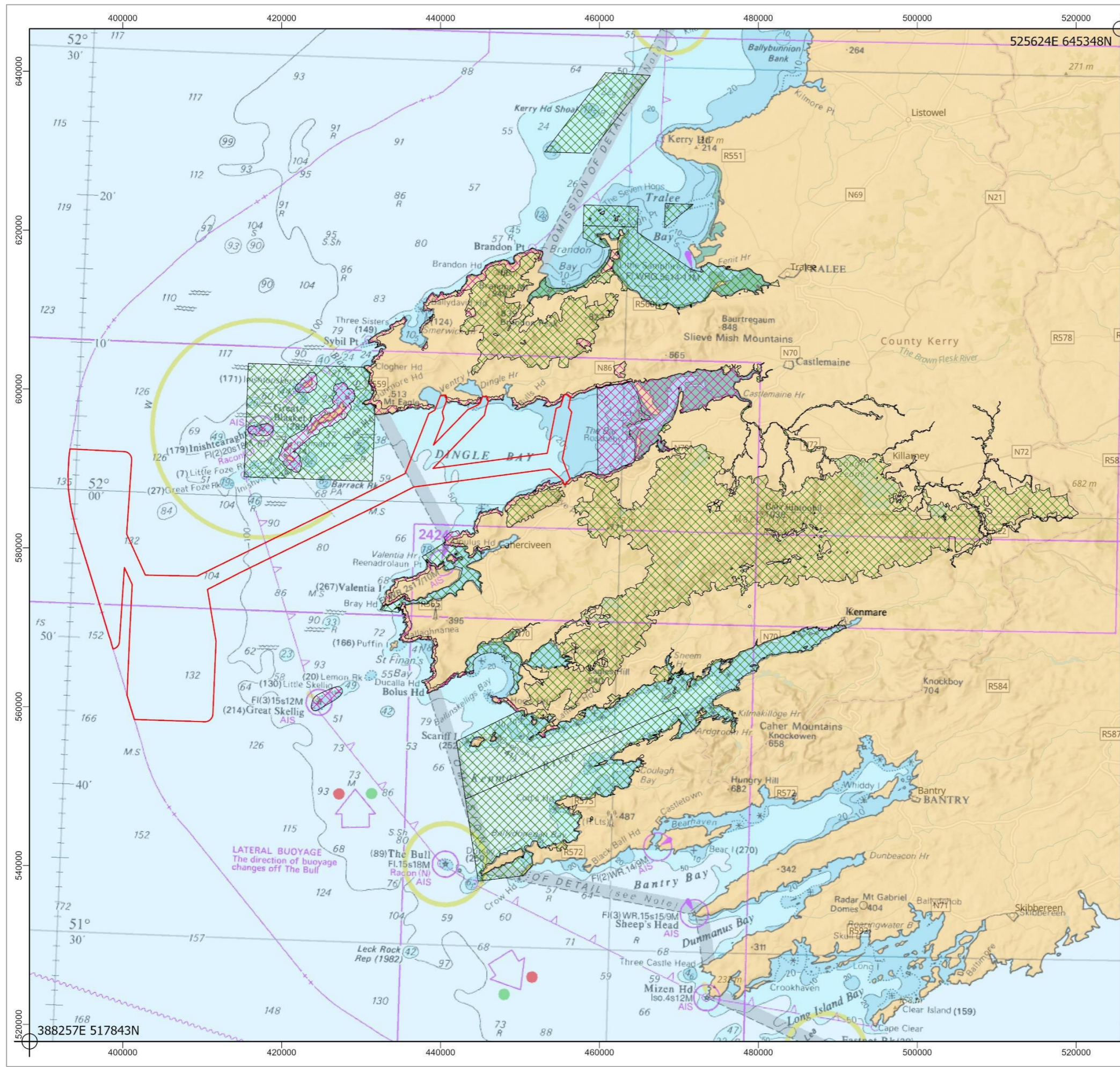
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Map H: Other Potential Proposed Activity located within/surrounding the vicinity of the Investigation Area



Project:
Valentia Island Energy

Title:
Natura 2000 Sites within the ZoI



- Legend**
- Foreshore Licence Area
 - SPAs
 - SACs

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Map I: Identification of relevant Natura 2000 sites, sites within the vicinity of the proposed Investigation Area.






Project:
Valentia Island Energy

Title:
SAC Locations - Annex II Species Management Unit ZoI



Legend

-  Foreshore Licence Area
-  Special Area of Conservation
-  UK SACs with Marine Components

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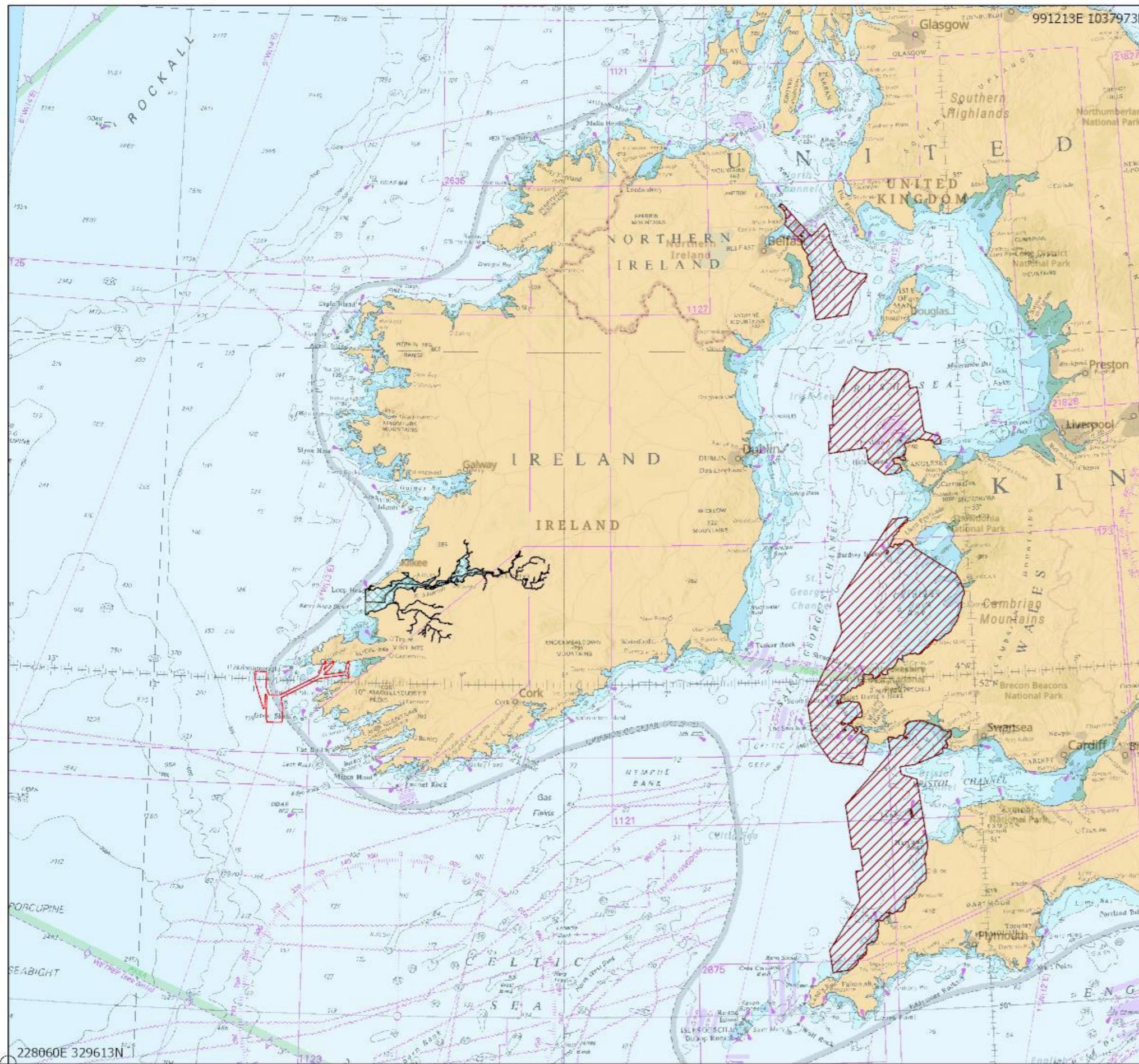
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Map J: Special areas of conservation (SAC's) within mobile Annex II species in Management Unit Zones of Influence (INCC, 2015).