Irish Water

Untreated Agglomerations Study (UTAS) - Cork Project (Whitegate) - Marine SI

Report for Screening for Appropriate Assessment

257289-00

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Ove Arup & Partners Ireland Ltd

Arup
One Albert Quay
Cork
T12 X8N6
Ireland
www.arup.com

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		Name	Alexandra Fleming	Fiona Patterson	Marie Fleming
		Signature	Alexandra Fleming	Fiona Patterson	
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			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
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1 Introduction

1.1 Introduction

This report contains information required for the competent authority to undertake screening for Appropriate Assessment (AA) for proposed marine geotechnical site investigations in White Bay, Whitegate, Co. Cork. The proposed marine geotechnical site investigations (SI) herein referred to as the 'proposed marine SI works' will be undertaken on behalf of Irish Water to inform the design of a proposed waste water treatment plant (WWTP) at Whitegate.

This report for screening for AA is included in the application to for a Foreshore Licence, which is required under the Foreshore Act 1922 (as amended) to undertake the proposed marine SI works. Further information on the background of the SI works and the overall project are presented in Section 2.

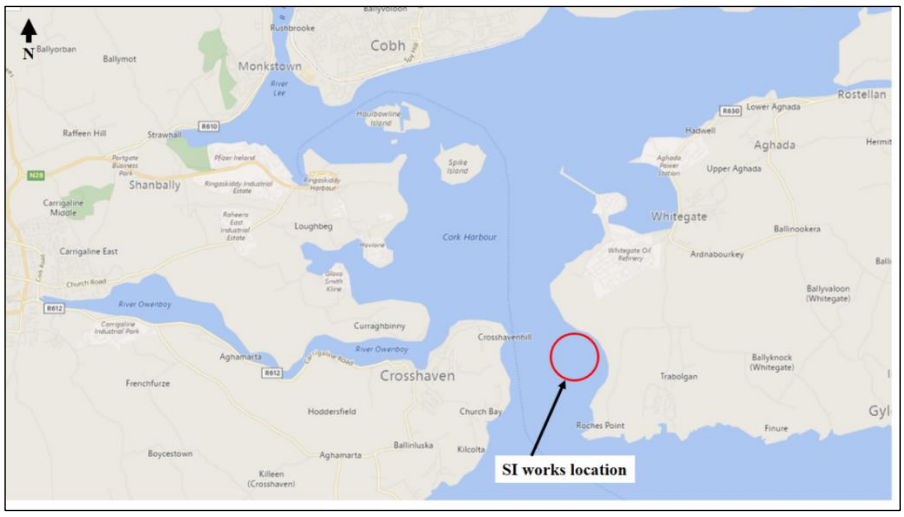
The aims of this report are to:

- Provide information on, and assess the potential for the proposed development to significantly impact on Natura 2000 Sites (also known as European sites);
- Determine whether the project is directly connected with, or necessary to, the conservation management of any Natura 2000 sites; and
- Determine whether the project, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

Figure 1 below show the approximate location of the proposed marine SI works. Refer also to **Drawing No. IW-10015229-03-04-001** in **Appendix A**.

This report for screening for AA was undertaken by Arup on behalf of Irish Water without the inclusion or consideration of potential mitigation measures.

Figure 1: Approximate location of the proposed SI works at White Bay. Source Bing Maps | Not to scale.



1.2 Methodology

1.2.1 Guidance and Data Sources

This report has been prepared with regard to the following guidance documents, where relevant:

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2000)*;* [hereafter referred to as MN 2000];
- *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);
- *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 NPW 1/10 and PSSP 2/10;*
- *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); and

Sources of information that were used to collect data on the Natura 2000 network of sites and on the existing ecological environment are listed below:

- Ordnance Survey of Ireland mapping and aerial photography (www.osi.ie) (viewed on 16 January 2018);
- Bing aerial photography (viewed on 16 January 2018);
- National Parks and Wildlife Service online data on European Sites and (www.npws.ie) (viewed on 16 January 2018);
- National Parks and Wildlife Service online data on protected flora and fauna (viewed on 16 January 2018);
- Information on environmental quality data available from www.epa.ie (EPA Online Environmental Map Viewer) (viewed on 16 January 2018);
- Information on environmental water quality data available from (EPA www.catchments.ie) (viewed on 16 January 2018);
- Ramsar Convention 1971 (www.ramsar.org/wetland/ireland);
- Cork County Council and Cork City Council *Cork Area Strategic Plan 2001-2020* (2001)*;*
- Cork County Council *East Cork Municipal District Local Area Plan* (2017);

- Cork County Council *Proposed Amendments to the Draft East Cork Municipal District Local Area Plan* (2017); and
- Cork County Council *County Cork Biodiversity Action Plan 2009-2014*.

Guidance which has assisted in determining whether impacts are likely to be significant include:

- *Guidelines on the Information to be Contained in Environmental Impact Statements* (Environmental Protection Agency, 2002);
- *Revised Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (Draft EPA August 2017);
- *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)* (EPA, 2003);
- *Draft Advice Notes for preparing Environmental Impact Statements* (EPA September 2015);
- *Guidelines for Ecological Impact Assessment in the Britain and Ireland, Marine and Coastal* (Institute of Ecology and Environmental Assessment, 2010); and
- *S.I. No. 237 of 2010 European Communities (Conservation of Wild Birds (Cork Harbour Special Protection Area 004030) Regulations 2010.*

1.3 Layout of Report

This report contains information required for the competent authority to undertake screening for Appropriate Assessment (AA) for the proposed SI works at Whitegate, County Cork. This report is based on a desk study only.

The screening information presented in this report is as follows:

- Legislative Background, refer to **Section 1.4**;
- Overview of the proposed development and receiving environment, refer to **Section 2**;
- Ecological Overview and Identification of relevant Natura 2000 sites (European sites) within the zone of influence of the proposed marine SI works, refer to **Section 3**;
- Assessment of likely significant effects on Natura 2000 Sites, refer to **Section 3** and **Section 4.**
- Conclusions, refer to **Section 5**.

If, based upon the currently available information, there are aspects of the proposed development that could have a significant effect on any Natura 2000 sites, then further analysis in the form of an Appropriate Assessment is required.

If the outcome of the screening exercise is that there are no significant impacts predicted, then an Appropriate Assessment is not required.

1.4 Legislative Background

According to the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC), Member States are required to establish a Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and all migratory birds and their habitats. The Annex habitats and species, for which each site is selected, are the qualifying interests (QI) of the site. Conservation objectives for the site are defined for these qualifying interests.

A key requirement of the Directives is that the effects of any plan or project, alone, or in combination with, other plans or projects, on the Natura 2000 site network, should be assessed before any decision is made to allow that plan or project to proceed. This process is known as Appropriate Assessment (AA). The obligation to undertake an Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive (92/43/EEC), and both involve a number of steps and tests that need to be applied in sequential order.

Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances.

Article 6(3) of the Habitats Directive states:

"Any plan or project not directly connected with, or necessary to, the management of the 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 after 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) states:

"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 the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

The competent authority, is required to carry out Appropriate Assessment, as required by Article 6(3) and 6(4) of the Habitats Directive, as follows:

- **Stage 1 - Screening for Appropriate Assessment** – to assess, in view of best scientific knowledge, if the development, individually or in combination with another plan or project is likely to have a significant effect on the Natura 2000 site.
- **Stage 2 - Appropriate Assessment** – This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a Natura 2000 site. The appropriate assessment must include a final determination by the competent authority as to whether or not a proposed development would adversely affect the integrity of a Natura 2000 site. In order to reach a final determination, the competent authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination. The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.
- **Stage 3 – Assessment of alternative solutions**- the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.
- **Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain -** an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

2 Overview of the Proposed Development and the Receiving Environment

2.1 Background and Site Description

Irish Water proposes to provide a number of new wastewater treatment services for the Untreated Agglomerations Study (UTAS) site at Aghada, Whitegate, County Cork. This will include the construction of a new waste water treatment plant at Whitegate and a marine outfall. The proposed marine site investigation (SI) works are required to inform the design and construction of the proposed outfall which is likely to be approximately 100m long extending from White Bay at the entrance of Cork Harbour. White Bay is approximately 1.5km north of Roches Point, refer to **Figure 1** and **Figure 2**.

This site is one of 44 agglomerations in Ireland where untreated sewage is discharged to receiving waters, either directly from sewer network outfalls, or via septic or holding tanks where the level of treatment provided is negligible.

In order to ensure compliance with the Urban Wastewater Treatment Directive (91/271/EEC), the provision of a number of new wastewater treatment services has been proposed by Irish Water. These services will also be required to provide for sufficient wastewater treatment capacity to cater for the expected future population growth in Whitegate. The *East Cork Municipal District Local Area Plan 2017* (2017) (LAP) identifies Whitegate and Aghada as key villages within the municipality as well as being a Specialist Employment Centre. The LAP document states that the existing sewerage scheme is a combined sewerage scheme that currently discharges to the lower harbour at a number of locations though primarily at Long Point. Provision of a new foul sewer system and a new waste water treatment plant is required prior to any further development taking place in Whitegate and Aghada.

The proposed new waste water treatment plant (WWTP) at Whitegate will include an outfall pipeline to White Bay which will discharge treated effluent from the proposed WWTP site. The outfall will consist of a terrestrial section and a marine section. The terrestrial section will be constructed in agricultural fields. The length of the marine section (offshore) will be approximately 100 metres.

Prior to the construction of the proposed outfall pipeline, a programme of marine site investigation (SI) works will be required to be carried out in order to determine the underlying geotechnical and geological conditions. This will include non-intrusive investigations, such as geophysical surveys, at a minimum, but will also include intrusive investigations such as borehole drilling and rock coring.

2.2 Site Description

The location of the proposed marine SI works site are indicated in **Figure 2** and **Figure 3**. The proposed marine SI works site is an offshore area at the mouth of Cork harbour, along the eastern headland in an area known as White Bay.

This area is south of Whitegate village and approximately 17km southeast of Cork City and 0.5 to 1.5km north of Roches Point. Water depth within the proposed marine SI works site is up to 22m deep[1]. The land around the proposed marine SI works site is mainly agricultural land. The Whitegate oil refinery and power station is also located on the headland, approximately 1km northeast of the proposed marine SI works site.

It is a busy stretch of water, referred to as The Sound, used by port traffic to access the Cork City docks, Tivoli docks, Ringaskiddy, Cobh and Whitegate oil refinery as well as other smaller harbours and marinas within greater Cork Harbour.

Figure 2: Aerial image of the location of the proposed marine SI works area at White Bay. Source: Bing maps.

[1] Harbour and Anchorages in South West Ireland, Second Edition (15th March 2012) Chart No. 5622.10, United Kingdom Hydrographic Office.

Figure 3: Proposed marine SI works area at White Bay. Source Bing Maps.

2.3 Description of the Proposed Marine SI Works

2.3.1 Introduction

As discussed above this Report for Screening for AA concerns the proposed SI works that are required to inform and design of the proposed outfall pipe that is part of the proposed WWTP at Whitegate.

The proposed marine SI can be broken down as follows:

- 5 No. Grab samples of the seabed sediment;
- 6 No. cable percussion boreholes followed by rotary core drilling; and
- Offshore geophysical surveys including seismic reflection and refraction methods.

The locations and extent of the proposed marine SI works is shown in **Drawing No. IW-10015229-03-04-001** in **Appendix A**. As the works will take place in the harbour, a stable platform from which the marine SI investigations will take place will be used. The specifics of the platform will be finalised by the SI contractor. The SI plant will be secured on the platform to allow for the drilling and grab sampling activities. The platform will remain in place for the duration of the borehole installation. All plant and equipment will be removed from White Bay once the proposed marine SI works are complete. The offshore geophysical survey will be carried out by boat, refer to **Section 2.7.4**.

A start date between April and September 2018 is anticipated, subject to the approval of the Foreshore License application, appointment of a suitable contractor and suitable weather conditions. In order to allow for unforeseen delays, approval of a Foreshore Licence for the period until 31 December 2018 is sought.

Mobilisation of appropriate plant and equipment for proposed marine SI works will be carried out in a timely fashion. Arup envisage a period of approximately 8 to 12 weeks for mobilisation of the equipment following appointment of a suitable contractor. Arup anticipate the following duration for site works for the marine site investigation works and geophysical surveys:

Borehole installation is expected to take four to six weeks in total, subject to suitable weather conditions. Grab samples shall be taken concurrently.

The offshore geophysical surveys will take place for up to four weeks on site.

As outlined in **Section 2.7.2** the SI works will consist of a number of grab samples from the seabed sediment and cable percussion drilling, followed by rotary core drilling.

The National Parks and Wildlife Service (NPWS) has produced guidance, *Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters* for the operation of geophysical seismic surveys in relation to marine mammals. This methodology is standard practice for conducting geophysical seismic surveys. This guidance has been included as part of the operational methodology in the tender specification document for the marine SI works.

2.3.2 Grab Samples

Grab samples obtain a sample for sediment analysis using a Van Veen type grab sampler or similar.

Grab samples are similar to grab buckets on land and tend to be either hydraulically or manually operated. These would be deployed from the platform set up for site investigation (See Section 2.7.5.2) via on-board cranes.

There are many different types of tools used to recover samples, the method used will depend on water depth, currents and sample size required. Typical tools include a Van Veen type grab sampler, shown in **Figure 3**.

Figure 3: Van Veen grab sampler

Small Van Veen - 36 x 28cm; Large Van Veen - 70 x 36cm.

The preliminary locations of the proposed benthic sampling points are listed in **Table 1** below and shown in **Drawing No. IW-10015229-03-04-001** in **Appendix A**.

Table 1: Grab Sampling Points

Point	Easting (ING)	Northing (ING)
BGS606	182287	61690
BGS607	181829	61674
BGS608	181782	61166
BGS609	182163	60792
BGS610	182543	61310

2.3.3 Geotechnical Testing and Sampling

The marine ground investigation works will extend across the study area of the proposed marine outfall, as shown in **Drawing No. IW-10015229-03-04-001** in **Appendix A**. The provisional locations of the 3 No. proposed boreholes are included on this drawing. The marine ground investigation will comprise of the collection of sediment and bedrock cores.

Cable percussion boreholes will be carried out in the area followed by rotary core drilling at the same location to obtain samples of the firm to hard cohesive sediments and bedrock cores. Cable percussion rigs form boreholes by dropping a threaded weight onto tooling and driving this into the ground (hence percussion). Casing is inserted into the borehole for support. When rock is encountered a rotary core drilling is used to breakthrough rock using a powered rotary cutting head on the end of a shaft which is driven into the ground or rock as it rotates. The system requires lubrication (sea water) to keep the drilling head cool.

The anticipated locations of the boreholes required are shown in **Table 2**. Note that these may change depending on access.

Table 2: Marine site investigation boreholes required – Provisional Locations

Number	Borehole Depth	Easting (ING)	Northing (ING)
TCBH601	15m	182448	61476
TCBH602	15m	182547	61615
TCBH603	15m	182656	61748
TCBH604	15m	182717	61769
TCBH605a	15m	182136	61316
TCBH606b	15m	181921	61071

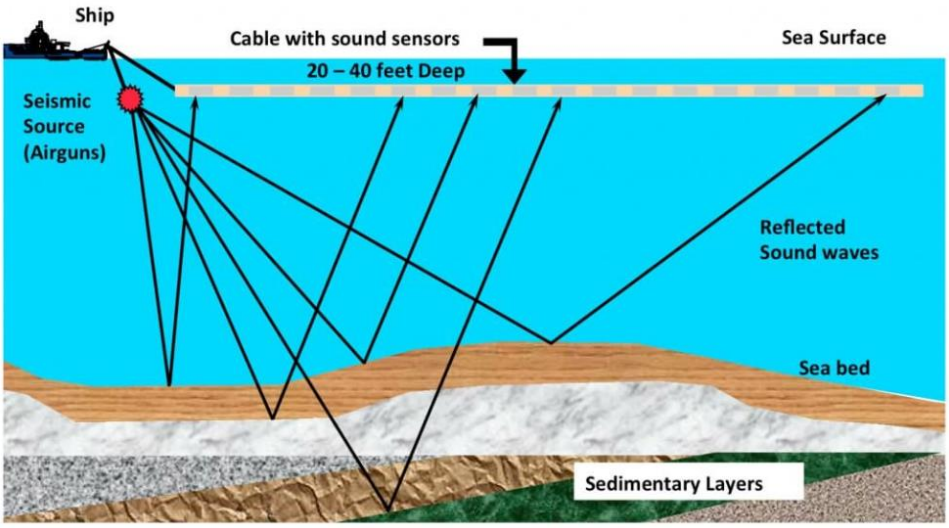
2.3.4 Offshore Geophysical Survey

The objectives of the proposed survey are to map the type and thickness of the sediment layers, determine sediment stiffness, map the depth to bedrock, map variation in bedrock type and rock quality and determine engineering parameters across the study area shown in **Drawing No. IW-10015229-03-04-001** in **Appendix A**. These works will involve a number of different geophysical methods, including seismic reflection and refraction methods.

Surveyors release compressed air into the water to create short duration sound waves that reflect off subsurface rock layers and are "heard" by sensors being towed behind the vessel. The sound produced during seismic surveys is comparable in magnitude to many naturally occurring and other man-made ocean sound sources, including wind and wave action, rain, lightning strikes, marine life, and shipping. Survey operations are normally conducted at a speed of approximately 4.5 to 5 knots (~5.5 mph), with the sound source typically activated at 10-15 second intervals. As a result, the sound does not last long in any one location and is not at full volume 24 hours a day.[2] This is illustrated in **Figure 4**[3].

[2] Seismic Surveying 101 © Copyright 2014 – American Petroleum Institute (API), all rights reserved. Digital Media | DM2014-229 | 12.16 | PDF
[3] © Copyright 2014 – American Petroleum Institute (API), all rights reserved. Digital Media | DM2014-229 | 12.16 | PDF Seismic Surveying 101

Figure 4: Schematic of marine seismic survey. Source © Copyright 2014 – American Petroleum Institute (API)



These surveys will be carried out for the entire area enclosed by a red line (extent of survey area) on **Drawing No. IW-10015229-03-04-001**. A typical survey vessel is shown in **Figure 5**. The survey vessel will manoeuvre to obtain full coverage of the survey area. The appointed vessel will mobilise and de-mobilise on a daily basis. The SI contractor will be responsible to locate a suitable mobilisation point.

The findings of the geophysical survey will influence the final location of the offshore ground investigation locations.

Figure 5: Typical Survey Boat - Typical dimensions 10 m to 12 m length.

2.3.5 Proposed Equipment and Methodology

It is envisaged that the installation of boreholes will be carried out from equipment mounted on a stable platform, for example a jack-up barge, floating pontoon or similar.

2.3.5.1 Jack Up Barge

The jack-up barge is a type of mobile platform that consists of a buoyant hull fitted with a number of spud legs, capable of raising its hull using a hydraulic jacking system. The barge will be fully equipped with all specialist plant and tools required for the site investigation. **Figure 6** illustrates a typical jack-up barge being used for similar marine geotechnical investigation.

The jack-up barge is manoeuvred from one location to the next by way of a dedicated tug boat. Once on location the platform level is raised to the required elevation above the sea surface, its legs supported by the seabed, before testing and sampling can begin. The barge then remains in location for the duration of that borehole installation.

Figure 6: Image of a typical Jack-up barge.

2.3.5.2 Floating Pontoon

The floating pontoon is normally constructed of individual elements making it modular in design. It can be assembled with a moon pool configuration allowing for a cable percussive rig to be set up in the centre of the pontoon. The pontoon will be fully equipped with all specialist plant and tools required for the site investigation. **Figure 7** illustrates a typical floating pontoon being used for marine geotechnical investigation.

The pontoon is manoeuvred from one location to the next by way of a dedicated tug boat. Once on location, the pontoon is fixed in place by the deployment of anchors or spuds. For locations closer to the quay side, the pontoon may be moored to the quay wall, whichever arrangement is more suitable, before the marine sediment investigation works can begin.

Figure 7: Floating pontoon

It is likely that the platform used will be mobilised and de-mobilised to/from a mooring point/pier. The mooring point will be finalised by the SI contractor. Personnel will transfer to and from the platform via a dedicated transfer boat.

Sampling will be performed by use of a cable percussive rig for the upper sediment samples, and a rotary coring rig when rock is encountered at greater depth.

When using the cable percussive rig, disturbed sample recovery (sediment disturbed by the drilling action) and undisturbed sample recovery (sample preserved as in-situ) is obtained by means of either self-weight or mechanical penetration of cutting tools and hollow tubes (casing) into the ground and withdrawing the resulting core.

Rotary coring to obtain samples is by way of wire-line, double-tube or triple-tube core barrels. Depending on the set up, the outer core barrel rotates and the core is obtained within the inner barrel and brought up the surface for removal.

When bedrock is encountered, the cable percussive rig will be replaced with a rotary coring rig to recover rock cores for testing.

All marine plant will be fit for purpose and certified where required and navigation aid lightning will be used on all vessels and plant. The marine geotechnical investigation works will be coordinated around shipping activities.

An exclusion zone will be allocated around the jack-up barge or floating pontoon to demarcate working areas. Navigation is to be undertaken with clearance of Port of Cork Authorities and appropriate notices to mariners will be issued to inform the locations of the investigation works.

2.3.6 Emissions

This section describes the emissions to water, ground, air and noise emissions as a result of the proposed marine SI works.

2.3.6.1 Emissions to Water

There will be no direct emissions to water (seawater or other) during the proposed marine SI works.

Minor indirect emissions to water may occur due to runoff from the platform into the sea. There is potential for seawater run-off to wash any substances on the pontoon into the harbour.

As per standard operational procedure, the equipment and platform surface will be kept clean and free from any substances associated with the equipment (e.g. lubricant, oil) that could be washed off the platform and into the harbour.

2.3.6.2 Emissions to Ground

There will be no direct or indirect emissions to the ground (or underlying sediment). If the contractor employs a jack-up barge, as discussed in **Section 2.7.5**, there will be temporary disturbance to the underlying sediment and seafloor. However, this area will be limited to the footprint of the stabilising structures (spud legs) and in place temporarily during the proposed drilling and grab-sampling works for each borehole/grab sample location.

2.3.6.3 Emissions to Air

There will be some emissions to air from the operation of the equipment which will include a generator (for the drilling machinery).

2.3.6.4 Noise Emissions

Noise emissions may occur during the drilling activities however these will be at a level consistent with normal harbour activity and will be intermittent in duration. The works are anticipated to take place over a two-week period between April and September.

Noise emissions will be associated with the offshore geophysical survey and drilling. As described in **Section 2.7.5**, the standard NPWS guidance will be implemented as part of the operational procedure for these activities.

3 Ecological Overview

3.1 Site Baseline

The proposed marine SI works will be carried out within an area of coastal water, up to 100m off the shore, referred to as White Bay, which lies east of a stretch of water referred to as The Sound. The Sound is used by all marine traffic entering Cork Harbour and White Bay is unlikely to be of significant environmental importance, refer to **Figure 7**.

Aerial imagery from Bing maps indicate the coastline at White Bay is mainly rocky coastline with no evidence of sand dunes or mudflats.

There is a small sandy or gravel beach (it is not apparent from the aerial imagery) which is included in the proposed SI works area. Details of the ecologically designated sites are provided in the sections below.

3.2 Zone of Influence

The zone of influence comprises the area within which the proposed development may potentially affect the conservation objectives or qualifying interests (QI) of a Natura 2000 site. There is no recommended zone of influence, and guidance from the National Parks and Wildlife Service (NPWS) recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in-combination effects.

In ecological and environmental impact assessment, for an impact to occur, there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a ‘receptor’ (e.g. a Special Area of Conservation (SAC) or other ecologically sensitive feature), and a pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the SAC).

Consideration is therefore given to the source-pathway-receptor linkage and associated risks between the proposed development and Natura 2000 sites. For a significant effect to occur there needs to be a risk associated with pollutant linkages whereby a source (i.e. contaminant or pollutant arising from construction activities) affects a particular receptor (i.e. Natura 2000 site) through a particular pathway (e.g. a watercourse which connects the proposed development with the Natura 2000 site).

The identification of risk does not automatically mean that an effect will occur, nor that it will be significant. The identification of these risks means that there is a possibility of environmental or ecological damage occurring. The level and significance of the effect depends upon the nature of the consequence, likelihood of the risk and characteristics of the receptor. The precautionary principle is applied for the purposes of screening to ensure that consideration and pre-emptive action is undertaken where there is a lack of scientific evidence.

3.3 Natura 2000 Sites

Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor link exists between a proposed development and a Natura 2000 site(s)). This can take the form of a direct impact (e.g. where the proposed development and/or associated construction works are located within the boundary of the Natura 2000 site(s) or an indirect impact where impacts outside of the Natura 2000 site(s) affect ecological receptors within (e.g. impacts to water quality which can affect riparian habitats at a distance from the impact source).

As a general rule of thumb, it is often considered appropriate to examine all European sites within 15km as a starting point. In some instances, where there are hydrological connections, a whole river catchment or a marine area or a ground water aquifer may need to be included.

Taking this into account, as a starting point, all European sites within 15km of the proposed marine SI works site were examined.

However, given that the proposed marine SI works are located in a marine environment, there is potential for mobile marine qualifying interest (QI) species from European sites beyond the 15km zone to use the harbour for feeding (for example harbour seals following the fishing boats), Therefore European sites (Natura 2000 species) with relevant mobile marine QI species beyond 15km were also considered in the assessment. No Natura 2000 sites with relevant mobile QI species were identified beyond the 15km.

Therefore, given the low level of emissions predicted from the proposed marine SI works, the short duration of the works, the low ecological importance of the area, and given that no relevant mobile QI species from Natura 2000 sites outside the 15km were identified, it was considered that the Zone of Influence of the works would not extend beyond 15km.

Consultation of NPWS online data identified two Natura 2000 sites located within 15km of the site which are of relevance for the proposed SI works. The sites identified are listed below in **Table 3** and indicated on **Figure 8**.

Table 3 identifies the Natura 2000 sites identified as potentially being within the Zone of Influence. The QI species or Special Conservation Interest (SCI) species for these Natura 2000 sites are detailed in **Table 4**.

Table 3: Natura 2000 sites within the Zone of Influence

Site Name	Site Code	Distance over land from proposed marine SI works site boundary (km)
Cork Harbour SPA	004030	2.0
Great Island Channel SAC	01058	7.0 (9[4])

3.3.1 Special Protection Areas within the Zone of Influence

Table 4: SPA sites within Zone of Influence and the features of interest.

Site Name and Code	Distance (km)	Qualifying Interests (QI) (Bird Species)
Cork Harbour SPA Site Code: 004030	2km over land from the proposed marine SI works boundary. Located within same water body.	Little Grebe (*Tachybaptus ruficollis*) [A004] Great Crested Grebe (*Podiceps cristatus*) [A005] Cormorant (*Phalacrocorax carbo*) [A017] Grey Heron (*Ardea cinerea*) [A028] Shelduck (*Tadorna tadorna*) [A048] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Lapwing (*Vanellus vanellus*) [A142] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Common Tern (*Sterna hirundo*) [A193] Wetland and Waterbirds [A999]

Table 4 shows the Qualifying Iinterest (SCI) bird species of the Cork Harbour SPA.

[4] Approximately distance of the hydrological pathway between the proposed marine SI works site and the Great Island Channel SAC.

Direct Impacts

The Cork Harbour SPA is made up of a number different sites across Cork Harbour. Refer to **Figure 4**. The nearest designated sites of the Cork Harbour SPA are both approximately 2km (overland) from the proposed marine SI works site boundary; Lough Beg (east) and Whitegate Bay (west). The SPA is located in the same water body (Cork Harbour) as the proposed marine SI works. None of the QI bird species, which form part of the Cork Harbour SPA (and listed in **Table 4**) will be directly impacted by the proposed marine SI works. No SPA sites are within or near the proposed marine SI works site. The proposed marine SI works is located within a busy stretch of water, referred to as The Sound, used by port traffic to access the Cork City docks, Tivoli docks, Ringaskiddy, Cobh and Whitegate oil refinery as well as other smaller harbours and marinas within greater Cork Harbour. Any QI bird species who forage in the area will already be habituated to the marine traffic in this area.

Indirect Impacts

There is a potential indirect hydrological pathway to the SPA sites, however given the low level emissions predicted from the proposed marine SI works, the distance of proposed SI works site from the Cork Harbour SPA sites and given that the proposed marine SI works are downstream of these site, this hydrological pathway is not considered significant.

Aerial imagery (Bing maps) was examined to identify any potential habitats that are important to the QI bird species of the Cork Harbour SPA. Refer to **Figure 8**. Cork Harbour is designated for the large number of birds that use the mudflats and sandflats as well as other coastal habitats for feeding and nesting. Cork Harbour is of international importance for the total numbers of wintering waterbirds (>20,000 individuals) and for the populations of Black-tailed Godwit and Redshank which are some of the QI species for the Cork Harbour SPA.

The extensive wetlands are particularly important for these bird species. Several of the species present are listed on Annex I of the EU Birds Directive such as the Whooper Swan, Little Egret, Golden Plover, Bar-tailed Godwit, Ruff, Mediterranean Gull and Common Tern.

The location of the proposed marine SI works site is not in an area of significant interest to these QI bird species for roosting or foraging; White Bay does not (from aerial imagery and admiral charts[5]) contain such suitable habitats as sheltered and shallow mudflats and sandflats) for roosting and foraging. As described in Section 2.6, the proposed marine SI works is located within a busy stretch of water, referred to as The Sound, used by port traffic to access the Cork City docks, Tivoli docks, Ringaskiddy, Cobh and Whitegate oil refinery as well as other smaller harbours and marinas within greater Cork Harbour.

[5] Harbour and Anchorages in South West Ireland, Second Edition (15th March 2012) Chart No. 5622.10, United Kingdom Hydrographic Office.

The proposed marine SI works area which will be located from the shoreline to a water depth up to 22m deep[6], does not provide ideal conditions for wader bird species such as the Redshank and Curlew. The proposed marine SI works site is quite exposed, located approximately 500m north of Roches Point at the mount of Cork Harbour and does not contain sheltered mudflat or sandflat habitats preferred by many of the QI bird species.

There is the potential indirect pathway between the proposed marine SI works area and the QI bird species as some species may use the proposed marine SI works site for feeding or roosting however the proposed marine SI works site does not contain suitable roosting or feeding habitat and given the distance of the proposed marine SI works site from the Cork Harbour SPA sites this pathway is not considered significant.

Therefore, it is concluded that the proposed marine SI works will not significantly impact any of the QI bird species of the Cork Harbour SPA or their prey given the following factors:

- Duration of the works (up to six weeks),
- The noise emissions (on a par with the port traffic),
- The unsuitability of the habitats for feeding or roosting, identified within the proposed marine SI works site and,
- Existing high levels of marine traffic accessing the harbour and ports through the Sound and White Bay, and the
- Distance of the proposed marine SI works from the SPA sites.

3.3.2 Special Area of Conservation within the Zone of Influence

Table 5: SAC site within Zone of Influence and the features of interest.

Site Name and Code	Distance (km)	Features of Interest
Great Island Channel SAC Site Code: 001058	7km overland from the proposed marine SI works boundary. Located within the same water body.	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]

Table 5 lists the QI for the SAC site within the Zone of Influence, Great Island Channel SAC.

Direct Impacts

None of the Qualifying Interest (QI) habitats, which form part of the SAC listed in **Table 5** will be directly impacted by the proposed marine SI works.

[6] Harbour and Anchorages in South West Ireland, Second Edition (15th March 2012) Chart No. 5622.10, United Kingdom Hydrographic Office.

No SAC sites are within or near to the proposed marine SI works. The only SAC site within the Zone of Influence, the Great Island Channel SAC, is approximately 7km over land from the proposed marine SI works site boundary.

Refer to **Table 5** below for details of the Great Island Channel SAC and associated QI habitats. Refer to **Figure 8** for the location of the Natura 2000 sites.

Indirect Impacts

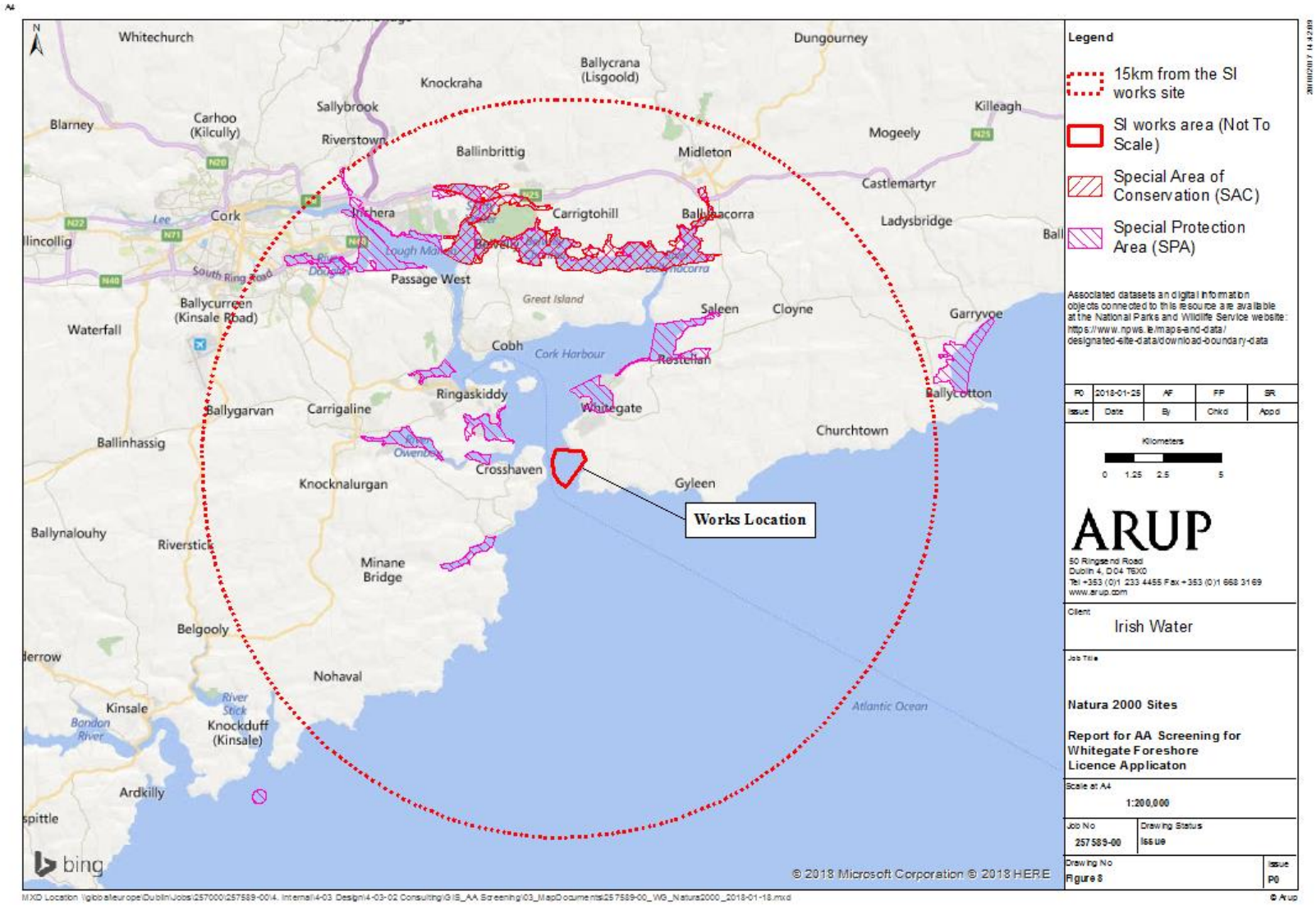
There is a potential indirect hydrological pathway from the proposed marine SI works to the Great Island Channel SAC however the given the distance between the Great Island SAC and the proposed marine SI works (approximately 9km via the channel) and given the proposed marine SI works are located downstream of the SAC, this indirect pathway is not considered significant. Refer to **Figure 8**.

The Great Island Channel SAC does not contain any mobile QI species.

Therefore, it is concluded that the proposed marine SI works will not significantly impact any of the QI habitats of the Cork Harbour SPA or their prey given the following factors:

- Distance of the proposed marine SI works from the Great Island Channel SAC site, and
- Location of the proposed marine SI works (downstream of the Great Island Channel SAC).

Figure 4: Natura 2000 sites in proximity to the proposed marine SI works area.



3.4 Other Designated Sites

3.4.1 Natural Heritage Areas and Proposed Natural Heritage Areas

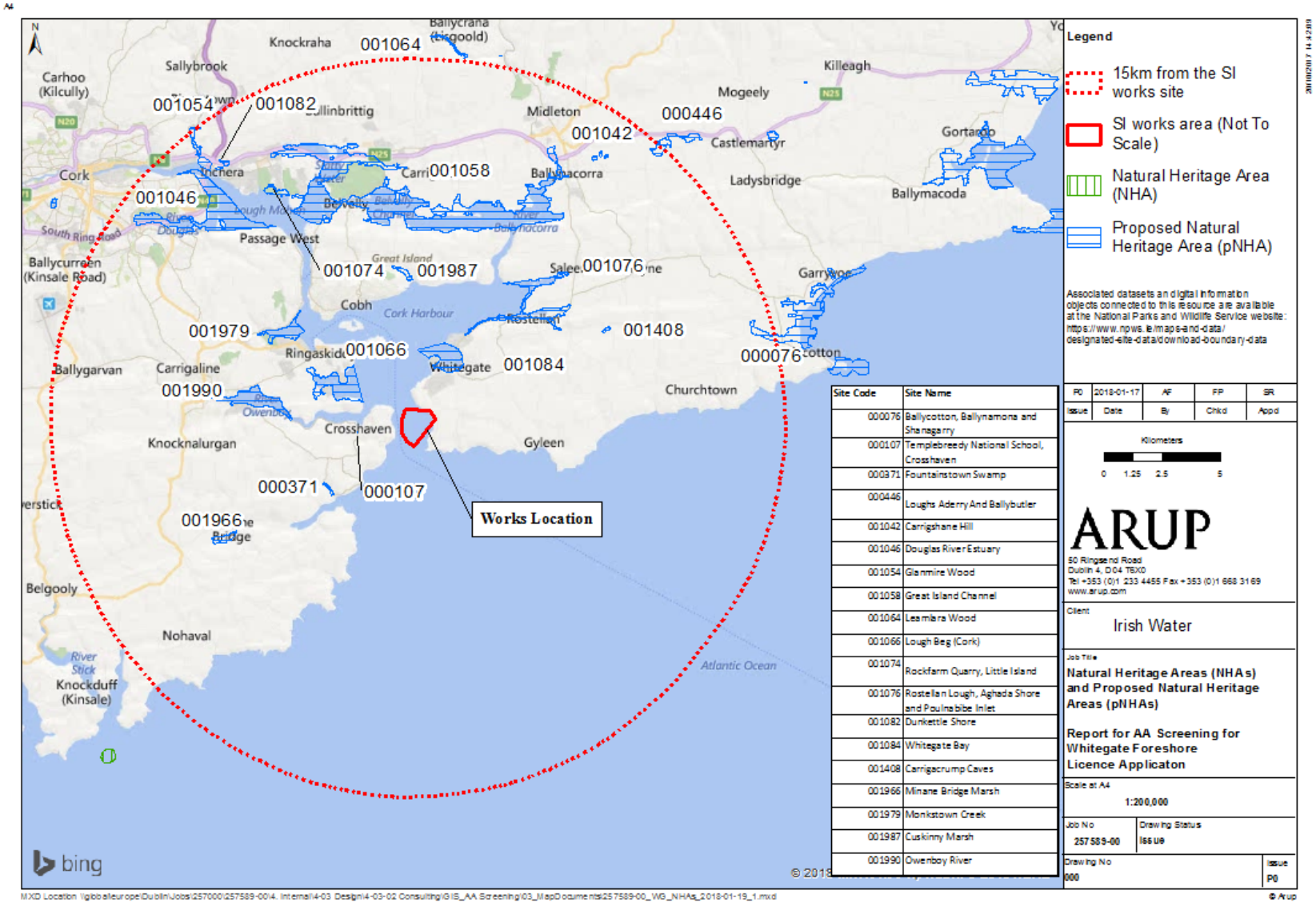
Natural Heritage Areas (NHAs) and Proposed Natural Heritage Areas (pNHAs) can be considered to be 'stepping stones' between Natura 2000 sites and are therefore considered in this assessment. Consultation of NPWS online data identified 19 No. pNHAs (no NHAs were identified) within 15km of the proposed marine SI works site. These are listed in **Table 5** and their distances from the site of the proposed SI works are also provided. **Figure 9** shows the location of the pNHAs listed in **Table 5**. None of the pNHA sites listed below are considered to be of relevance to the proposed marine SI works due to their distance from, and lack of connectivity with the proposed marine SI works and due to the nature of the proposed marine SI works.

Table 6: pNHAs within 15km of the Proposed SI works.

Site Code	Site Name	Distance from the proposed SI works site (km)
000076	Ballycotton, Ballynamona and Shanagarry pNHA	14.0
000107	Templebreedy National School, Crosshaven pNHA	2.0
000371	Fountainstown Swamp pNHA	4.0
000446	Loughs Aderry and Ballybutler pNHA	14.5
001042	Carrigshane Hill pNHA	13.2
001046	Douglas River Estuary pNHA	9.6
001054	Glanmire Wood pNHA	13.2
001058	Great Island Channel pNHA	7.7
001064	Leamlara Wood pNHA	15.0
001066	Lough Beg (Cork) pNHA	1.8
001074	Rockfarm Quarry, Little Island pNHA	1.8
001076	Rostellan Lough, Aghada Shore and Poulnabibe Inlet pNHA	3.9
001082	Dunkettle Shore pNHA	13.0
001084	Whitegate Bay pNHA	2.2
001408	Carrigacrump Caves pNHA	8.2

Site Code	Site Name	Distance from the proposed SI works site (km)
001966	Minane Bridge Marsh pNHA	8.5
001979	Monkstown Creek pNHA	5.4
001987	Cuskinny Marsh pNHA	5.3
001990	Owenboy River pNHA	4.6

Figure 5: Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) nearby proposed marine SI works. Source NPWS website | Not to scale.



3.5 Ramsar Convention

The UN Convention on Wetlands, called the Ramsar Convention, was ratified by the UN in 1971. It is an intergovernmental treaty that aims to provide a framework for "*the conservation and wise use of all wetlands through local and national actions and international cooperation as a contribution towards achieving sustainable development throughout the world*".

The Ramsar Treaty came into force in Ireland in 1985 and currently there are 25 sites in Ireland with Ramsar status including Cork Harbour (Ramsar site No. 837). It is included because of the international importance of the harbour for wintering and spring staging waterbirds and important feeding areas for waders.

As discussed in **Section 2.10**, the emissions from the proposed marine SI works will be very low and the works will be of very short duration. The habitats located within the area proposed for the marine SI works site are unsuitable for many of the wintering and spring staging waterbirds and waders. This site is quite exposed, approximately 0.5km to 1.5km from Roches Point and in proximity to main harbour shipping channel that all marine traffic for Cork harbour sail through when entering or existing the harbour. Therefore, Ramsar site No 837 (Cork Harbour) will not be impacted by the proposed development.

3.6 Rare and Protected Species

The proposed development is located within the NPWS 10 kilometre grid square W86. The National Parks and Wildlife Service database (www.npws.ie) was consulted with regard to rare species and species protected under the Flora (Protection) Order (2015) within this square. Three plant species were recorded within this grid square (Saxifraga granulate, Scleranthus annuus and Misopates orontium) however as these are terrestrial species the proposed marine SI works will not impact on these species.

Similarly, five terrestrial mammal species (Red Squirrel, Hedgehog, Pygmy Shrew, Fallow Deer and Stoat) were recorded that are listed in the Wildlife (Amendment) Act (2000), the Fourth and Fifth Schedule under Section 23 of the Act however as terrestrial species, the proposed marine SI works will not have any significant impact on these species.

There is NPWS recording of Otter (Lutra lutra) and the Grey Seal (Halichoerus grypus), both recorded in 1990 at Crosshaven, approximately 2.5km west of the proposed marine SI works site. There is potential for Otters or Grey seals to be present within the proposed marine SI works area. Otters are known to have extensive territories (though typically smaller along coasts) and seals are known to follow trawlers, however given the low level emissions from the proposed SI works and the short duration it is unlikely the proposed marine SI works will have a significant impact on Otters, Grey seals or their prey.

Marine mammals such as dolphin, porpoise, seals and whales are listed in the Fifth Schedule under Section 23 of the Wildlife Act 1976 (and the Amendment Act 2000).

Dolphins are a common sighting in Cork Harbour as well as other marine mammal species, which have been reported within the harbour. The County Cork Biodiversity Plan 2014 states that there may be a resident population of Bottlenose Dolphins in Cork Harbour though further research is needed to determine whether these are seasonal or year-round residents.

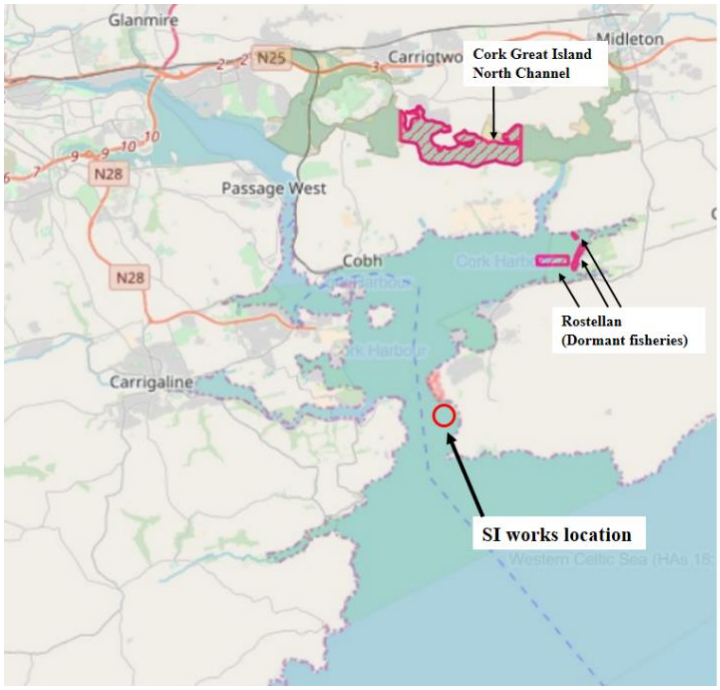
The location of the proposed marine SI works is part of a busy stretch of channel for marine traffic in and out of the harbour and the works will be temporary, up to six weeks in duration. Therefore, the potential for the proposed marine SI works to significantly impact on the marine mammals such as dolphins and seals will not arise.

3.7 Fisheries

Shellfish Areas are designated under the Irish Shellfish Regulations (S.I. No. 200 of 1994) and which were updated by S.I. No. 55 of 2009, in accordance with the European (Quality of Shellfish Waters) (amendment) Regulations 2009.

The EPA Catchments website showed a number of sites within Cork Harbour which are classified as Shellfish Areas however, the Sea-fisheries Protection Authority (SFPA) website[7] lists Rostellan as being a 'Dormant Fishery'. Refer to **Figure 6**. The proposed marine SI works will not impact on these areas due to the distance to these areas, short duration of works and low levels of emissions from the works.

Figure 6: Location of designated Shellfish Areas. Source: EPA via www.catchments.ie



[7] http://www.sfpa.ie/Seafood-Safety/Shellfish/Classified-Areas

3.8 Cumulative Impacts with other Projects

The Cork County Council Development Plan and Cork County Council online planning records for the area were consulted (18 January 2018).

There are no other known proposed projects in the vicinity of the proposed SI works which the proposed marine SI works will interact with and which could result in cumulative impacts upon any Natura 2000 site.

4 Assessment of Significance

The proposed SI works will not result in any significant direct, indirect or cumulative impacts on Natura 2000 sites. Refer to **Table 6** below which has been used to determine whether significant impacts are likely.

Table 6: Significant Impacts Checklist[8]

Does the project have the potential to	Yes or No
Reduce the area of key habitats?	No
Reduce the population of key species?	No
Change the balance between key species?	No
Reduce diversity of the site?	No
Result in disturbance that could affect population size or density or the balance between key species?	No
Result in fragmentation?	No
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?	No
Cause delays in progress towards achieving the conservation objectives of the site	No
Interrupt progress towards achieving the conservation objectives of the site?	No
Disrupt those factors that help to maintain the favourable conditions of the site	No
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	No
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No

In addition, this judgement has been arrived at on the following basis:

- No direct source-pathway-receptor link between the area of the proposed development and any Natura 2000 sites, NHA or pNHA has been identified.
- The proposed marine SI works will be confined to the site boundary areas. No marine SI works will take place in the vicinity of the nearby protected sites and no equipment or materials will be stored in the vicinity of these sites. The employment of good SI management practices and standard environmental management will serve to minimise the risk of pollution from run-off.

[8] European Commission, *Assessment of plans and projects affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (Luxembourg, 2001)

- There will be some noise emissions associated with the proposed marine SI works however, given the short duration and distance of the proposed marine SI works to nearby protected sites, it is predicted that there will be no adverse impacts on the qualifying interests of these sites from noise levels generated.
- There will be some temporary emissions to air from the generators to power the drilling machinery however these will not be significant and only for the duration of the proposed marine SI works.
- Therefore, given the short duration of the proposed marine SI works, the nature of the emissions and given the distance of the nearest Natura 2000 site from the proposed marine SI works, it is concluded that the proposed marine SI works will not significantly impact on any of the above Natura 2000 sites.

5 Conclusions

The aims of this report were as follows:

- Provide information on, and assess the potential for the proposed development to significantly impact on Natura 2000 Sites (also known as European sites).
- Determine whether the proposed development is directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- Determine whether the proposed development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

It has been objectively concluded by Arup that:

- There is no potential for the proposed SI works to significantly impact on Natura 2000 Sites.
- The proposed SI works are not directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- The proposed SI works, alone or in combination with other projects, are not likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

It has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites. It is the view of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process.

Refer to **Appendix B** *Finding of No Significant Effects Report*.

Appendix A

Drawing Showing Proposed SI Works Site

A1

E 584280.984
N 562782.386

CARLISLEFORT
Cnoc an Oirchéadaigh

GLANAGOW
Gleann an Ghabha

BALLYTIGEEN
Baile Thaidhgín

TRABOLGAN
Trá Bholgan

Area A, 136.5ha

CORK HARBOUR

BGS607
BGS606
BGS608
BGS609
BGS610

TCBH603
TCBH604
TCBH602
TCBH601
TCBH605A
TCBH606A

WHITE BAY

ATLANTIC OCEAN

ENHILL
eartaigh

Rams Head
Grab-all Bay
Weaver's Point
Poulnacallee Bay
Canavan Point
Roche's Point

E 580651.235
N 559912.386

GENERAL NOTES

N
W E
S

LEGEND:

TCBHXXX — Borehole

BGSXXX — Benthic Grab Sample

Foreshore Licence Area (136.5ha)

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3-3-34
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
3. ANY QUERIES OR DISCREPANCIES ARE TO BE REFERRED TO THE EMPLOYER'S REPRESENTATIVE IMMEDIATELY.
4. OFFSHORE WORKS SUBJECTED TO FORESHORE LICENCE.

CERTIFY THAT THE AREA OF THE FORESHORE LICENCE AREA IS 136.5Ha.

SIGNED

POSITION

Rev	Date	Description	By	Chk	App
I1	30/04/18	FOR INFORMATION	JT	SR	MF

BYRNELOOBY PHMcCARTHY
2100 Cork Airport Business Park, Kinsale Road, Cork
tel: +353 (0) 21 2407988
email: cork@ByrneLooby.com www.ByrneLooby.com
BAHRAIN • IRELAND • QATAR • SAUDI ARABIA • UAE • UK
CIVIL·STRUCTURAL·WATER & GEOTECHNICAL SPECIALISTS

ARUP
Arup,
One Albert Quay
Cork
Tel +353(0)21 422 3200
www.arup.com

CLIENT
Obair i gcomhpáirtíocht
Working in Partnership

UISCE ÉIREANN : IRISH WATER

PROJECT
UTAS - CORK BUNDLE
WHITEGATE - AGHADA

DRAWING TITLE
FORESHORE LICENCE MAP

STATUS
FOR INFORMATION

Date: 04-04-18	Scale: 1:200	Drawn: TD	Chk: SR	App: MF
Project No: 257589-00	Dlg. No: IW-10015229-03-04-001			Rev: I1

Schedule of Proposed Marine Ground Investigation Locations – Whitegate Aghada UTAS

Schedule to be read in conjunction with Drawing IW-10015229-03-04-001 and the supporting information provided with the application for the foreshore licence for the ground investigation for the UTAS project at Whitegate Aghada.

GI Number	Type[2]	Length	Depth	A (starting)		B (ending)		Surface Type	Vessel Type	Remarks
				Easting[3]	Northing	Easting	Northing			
BGS606	BGS	N/A	N/A	582241	561754	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
BGS607	BGS	N/A	N/A	581783	561738	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
BGS608	BGS	N/A	N/A	581737	561230	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
BGS609	BGS	N/A	N/A	582117	560857	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
BGS610	BGS	N/A	N/A	582497	561375	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
TCBH601	BH/RC	N/A	15	582402	561541	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
TCBH602	BH/RC	N/A	15	582501	561679	n/a	n/a	Foreshore	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
TCBH603	BH/RC	N/A	15	582610	561812	n/a	n/a	Beach	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
TCBH604	BH/RC	N/A	15	582671	561833	n/a	n/a	Beach	Jack up barge/Floating Pontoon	Foreshore[9] Arch[8]
GP601	GP	50		582367	561534	582408	561505	Foreshore	Boat with trailing equipment	Geophys[10]
GP602	GP	50		582431	561624	582472	561595	Foreshore	Boat with trailing equipment	Geophys[10]
GP603	GP	50		582495	561714	582536	561685	Foreshore	Boat with trailing equipment	Geophys[10]
GP604	GP	270.5		582373	561499	582530	561720	Foreshore	Boat with trailing equipment	Geophys[10]
Sub bottom	GP	138ha. Approx.						Foreshore	Boat with trailing equipment	Sub-bottom[11]

Notes:

2. BH = Borehole, RC = Rotary Core, ST = Slit Trench, TP = Trial Pit, IP = Inspection Pit, BGS = Benthic Grab sample, PLT = Plate Load Test, WAC = Waste Acceptance Criteria Sample, SPA = Special Protection Area (www.npws.ie), ATT = Archaeological Test Trench.
3. Coordinates given in ITM
8. An archaeologist may be required at these locations. Contact archaeologist before excavating for specific requirements.
9. Benthic surface grab sample. See foreshore license and Section 2.4.6 and 2.9 for restrictions.
10. Geophysical survey including underwater MASW and seismic refraction as per this specification.
11. Sub bottom profiling as per the BOQ and drawings

Appendix B

Finding of No Significant Effects Report

B1 Finding of No Significant Effects Report

Name of Project:

Site Investigation Works for Untreated Agglomerations Study (UTAS) – Cork Project (Whitegate)Untreated Agglomerations Study (UTAS) - Cork Project (Whitegate) - Marine SI

Names of Natura 2000 Sites of relevance to the proposed scheme:

Cork Harbour SPA – Site Code 004030. The Cork Harbour SPA is considered to be of relevance to this report due to its proximity to the proposed SI works site. The nearest section of this SPA is located approximately 2km northwest of the proposed marine SI works site.

The Great Island Channel SAC – Site Code 001058. The Great Island Channel SAC is considered to be of relevance to this report due to its proximity to the proposed SI works site. This SAC is approximately 7km north of the proposed marine SI works site.

Is the project or plan directly connected with or necessary to the management of the site?

No

Are there other projects or plans that together with the project or plan being assessed could affect the site?

No

THE ASSESSMENT OF SIGNIFICANCE OF EFFECTS

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

It has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites. It has also been determined by Arup that it is possible to rule out likely significant impacts on the Cork Harbour SPA and Great Island Channel SAC.

Explain why these effects are not considered significant.

- No direct source-pathway-receptor link between the area of the proposed SI works and the SPAs, NHA or pNHA has been identified.
- The proposed SI works for the proposed development will be confined to the site boundary areas. No works will take place in the vicinity of the nearby protected sites and equipment or materials will be stored in the vicinity of these sites. The employment of good SI management practices and standard environmental management will serve to minimise the risk of pollution of run-off.

- The proposed SI works does not appear to contain habitats such as sheltered shallow water and mudflats which are important to QI bird species of the Cork Harbour SPA. The site is a relatively exposed site, 0.5km north of Roches Point and would likely not be suitable for those QI bird species that prefer sheltered shallow waters to feed.
- Given the distance from the proposed development to nearby protected sites, and given the site is located downstream of the designated sites, the hydrological link between the Natura 2000 sites and the proposed SI works is not significant.
- Air emissions will not be significant during the proposed SI works and temporary.
- Given the nature of the emissions, short duration and location of the proposed marine SI works and given the distance of the proposed marine SI works from the Natura 2000 sites, it is predicted that no significant negative impacts on the qualifying interests of nearby protected sites will arise as a result of the proposed marine SI works.

List of Agencies consulted

It is anticipated that the National Parks and Wildlife Service will be consulted by competent authority as part of the Foreshore Licence Application.

DATA COLLECTED TO CARRY OUT THE ASSESSMENT

Who carried out the assessment?

The assessment was carried out by the Arup in house ecologist.

Sources of Data -

Sources of data included:

- Ordnance Survey of Ireland mapping and aerial photography (www.osi.ie) (viewed on 16 January 2018);
- Bing aerial photography (viewed on 16 January 2018);
- National Parks and Wildlife Service online data on European Sites and (www.npws.ie) (data downloaded on 16 January 2018);
- National Parks and Wildlife Service online data on protected flora and fauna (viewed on 16 January 2018);
- Information on environmental quality data available from the EPA's map viewers, Envision Online Environmental Map Viewer (https://gis.epa.ie/EPAMaps/) and www.catchments.ie (viewed on 16 January 2018);
- Cork County Council *Cork County Development Plan 2014;*
- Cork County Council *County Cork Biodiversity Action Plan 2009-2014;*
- Cork County Council *East Cork Municipal District Local Area Plan* (2017); and

- Cork County Council *Proposed Amendments to the Draft East Cork Municipal District Local Area Plan* (2017).

OVERALL CONCLUSIONS

Based on the information provided above, and by applying the precautionary principle, it has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites and therefore it is the view of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process.