



Appropriate Assessment Screening and Natura Impact Statement

North Wall Emergency Power Generation Plant

June 2022

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1 Introduction

1.1 Overview

The Electricity Supply Board (ESB) is proposing to demolish some buildings/plant within the existing North Wall Generating Station and to install an emergency power plant which will be operational for a period of up to five years. The site is located on Alexandra Road within Dublin Port, refer to Figure 1.1.

The proposed works will consist of the demolition of a number of buildings and plant within the existing site and installation of a temporary modular emergency power plant.

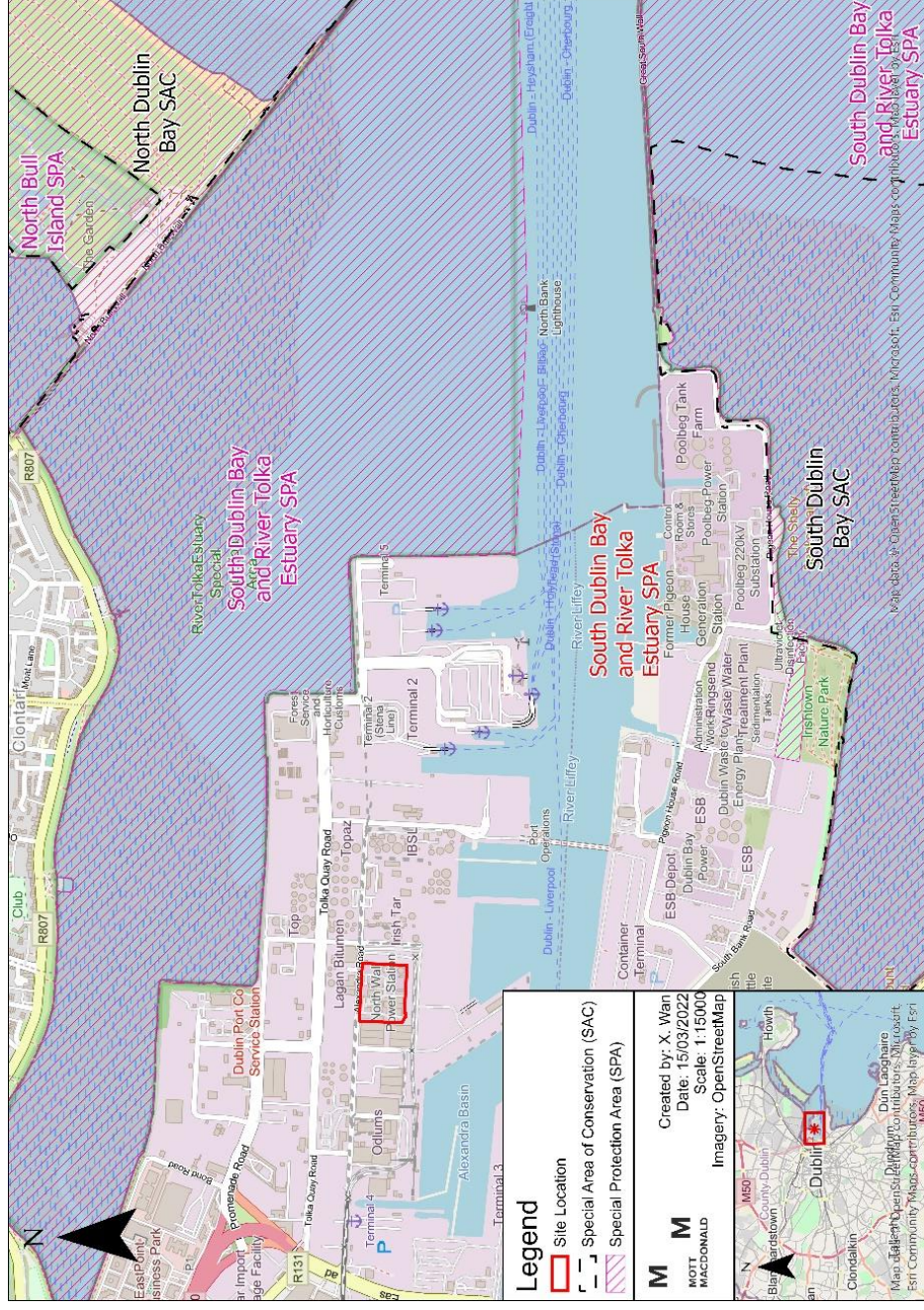
This screening assessment investigates, in view of best scientific knowledge, whether the proposed works at the North Wall Emergency Power Station, individually or in combination with other plans and projects, would be likely to have a significant effect on European sites. This report considers the likelihood of significant effects on European sites from the construction, operation and decommissioning of the proposed development.

Figure 1.1 presents details the location of the proposed development within industrially developed land on the northern side of the River Liffey Estuary.

1.2 Site Location

Figure 1.1 below details the location of the proposed development within industrially developed land on the northern side of the River Liffey Estuary.

Figure 1.1: Location of the existing North Wall Power Station site within Dublin Port



Source: OpenStreetMaps

1.3 Requirement for Appropriate Assessment

1.3.1 European Law

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ('the Habitats Directive') is European Community legislation aimed at nature conservation.

The Habitats Directive requires that where a plan or project is likely to have a significant effect on a European site (s), (and where the plan or project is not directly connected with or necessary to the nature conservation management of the European site), the plan or project will be subject to 'Appropriate Assessment' (AA) to identify any implications for the European site(s) in view of the site's Conservation Objectives. Specifically, 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.

Case law of the European Court of Justice (ECJ) has determined that AA is required, if likely significant effects cannot be excluded on the basis of objective information. Case law has also clarified that measures intended to avoid or reduce harmful effects on European sites, must not be considered when determining whether it is necessary to carry out an AA.

1.3.2 Irish Law

In the context of the Proposed Development, the Habitats Directive is transposed into Irish law by Part XAB of the Planning and Development Act 2000 (as amended) ('the Planning Acts'), and the Planning and Development Regulations 2001 as amended ('the Planning Regulations').

Under Section 177U (1) of the Planning Acts, a screening for AA of the Proposed Development shall be carried out by the competent authority (in this case, An Bord Pleanála) to assess in view of best scientific knowledge, if that Proposed Development, individually or in combination with other plans or projects, is likely to have a significant effect(s) on any European sites.

Under Section 177U (5) of the Planning Acts, the competent authority (in this case, An Bord Pleanála) shall determine that an AA of a Proposed Development is required if it *cannot be excluded* [emphasis added], on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site(s).

AA is the process provided for under Article 6 (3) of the Habitats Directive to determine whether a project or plan could 'adversely affect the integrity' of any European sites, either alone or in combination with other plans or projects, in light of the conservation objectives of the European sites in question.

Under Section 177V (1), An appropriate assessment *shall include a determination by the competent authority under Article 6.3 of the Habitats Directive as to whether or not a draft Land use plan or Proposed Development would adversely affect the integrity of a European site*

Under Section 177V (2), the competent authority (in this case, An Bord Pleanála) shall, in carrying out an appropriate assessment under subsection (1), *"take into account each of the following matters:*

- a. the Natura impact report or Natura impact statement, as appropriate;
- b. any supplemental information furnished in relation to any such report or *statement*;
- c. if appropriate, any additional information sought by the authority and furnished *by the applicant in relation to a Natura impact statement*;
- d. *any additional information furnished to the competent authority at its request in relation to a Natura impact report*;
- e. *any information or advice obtained by the competent authority*;
- f. *if appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for Proposed Development*;
- g. *any other relevant information.*”

1.4 Definitions

1.4.1 European sites and features

A network of European sites of conservation importance has been identified by each Member State, hosting habitats and/or species identified in the Directives as needing to be either maintained at or returned to ‘favourable conservation status’.

The sites of conservation importance known as European sites comprise the Natura 2000 network.

European sites comprise areas designated as Special Areas of Conservation (SACs) and/or Special Protection Areas (SPAs). The process of designating cSACs as SACs is ongoing in Ireland. Candidate sites (In Ireland, comprising cSACs) have the same legal protection as those whose designation is complete.

The designation features of SACs are referred to as Qualifying Interests (QIs), and these comprise both species (excluding birds), and habitats.

The designation features of SPAs are referred to as Special Conservation Interests (SCIs), and these comprise bird species, as well as wetland bird habitats.

The designation features of European sites are identified in the Statutory Instruments for European sites where such sites have completed the designation process. In all cases, designation features are also identified in Conservation Objectives published by the NPWS. Any Conservation Objectives referred to in this NIS are referenced to identify the date of publication and version number.

1.4.2 Favourable Conservation Status

Article 1 of the Habitats Directive states that favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

Article 1 of the Habitats Directive states that the favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and

- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

1.4.3 Natura Impact Statement

Under Section 177T of the Planning Acts (177T), a Natura Impact Statement (NIS) is defined as:

“A statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a Proposed Development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites”.

The NIS must *“include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites”.*

1.4.4 Statement of Competence

Authors.

- Roger Macnaughton (Principal Ecologist, Mott MacDonald). Roger is a qualified and experienced environmental consultant specialising in ecology. He has twenty year’s professional experience in the environmental consultancy sector and an additional seven years of primarily research-based experience in freshwater and marine ecology. He specialises in the delivery of Ecological Impact Assessment (EclA) and Appropriate Assessment (AA) for a broad range of projects potentially affecting; terrestrial, freshwater and marine ecology. His project related experience to date includes; two 400kV overhead lines, five 110kV overhead lines, overhead line up-rates, electricity substations, underground power cables, 35 terrestrial wind farms, two marine wind farms and five solar farms.
- Elaine Bennett (Principal Environmental Scientist, Mott MacDonald). Elaine is a qualified and experienced ecologist and environmental scientist. She has over 15 years’ experience in the consultancy sector. She has supported clients in providing environmental support for a wide variety of large-scale infrastructure, including wastewater treatment plants and pipelines, gas infrastructure, electrical infrastructure, wind farms and cables, solar farms, quarries and greenways. Elaine is a Principal Environmental Scientist and manages Environmental Impact Assessment Reports, Environmental Reports, Ecological Assessments and Appropriate Assessments (Screening and Natura Impact Statements). She has an excellent knowledge of environmental and planning legislation and keeps abreast of environmental Case Law which ensures her projects are developed in accordance with legislative requirements.

2 Methodology

2.1 Legislation and Guidance

This report has been prepared in accordance with the following European Commission Guidance:

- EC (2021) Assessment of Plans and Projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission Notice C (2018) 7621;
- DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (Revised 2010);
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC: Clarification of the concepts of alternative solutions and imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission;

This report has similarly been prepared with regard to relevant rulings by the Court of Justice of the European Union (CJEU), the High Court, and the Supreme Court.

2.1.1 Process for Screening for Appropriate Assessment

The European Commission Guidance '*Assessment of plans and projects significantly affecting Natura 2000 sites; Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*' (2021) prescribes a 4-step process in Screening for Appropriate Assessment as follows:

1. determine whether the project or plan is directly connected with or necessary to the management of the site.
2. describe the project or plan and describe and characterise other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site;
3. identify the potential effects on the Natura 2000 site;
4. assess the significance of any effects on the Natura 2000 site.

This report has been structured to reflect the 4-step screening process set out in the European Guidelines.

2.2 Desktop Assessment

A comprehensive desk study has been carried out in order to obtain information relevant to the completion of this report. This desk study, completed in July 2021 and updated in March 2022, relied on the following sources of information:

- Locations, extents and qualifying features of relevant European sites from the National Parks and Wildlife Service (NPWS), available at www.npws.ie;
- Site synopses and conservation objectives and supporting documents for relevant European sites from the NPWS, available at www.npws.ie;
- Satellite imagery from various sources and dates including Google, Bing, Digital Globe and Ordnance Survey Ireland;
- Data from winter bird surveys at Alexandra Basin West in 2012/13 and 2013/14, provided in Nairn (2014);

- Information on the locations of common and arctic tern nesting colonies in Dublin Port, provided in Tierney *et al.* (2017);
- Information from the Waterbird Disturbance and Mitigation Tool on the documented threshold levels for noise disturbance to relevant species, available at www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/;
- Information on the distribution of harbour porpoise within the Rockabill to Dalkey Island SAC from surveys carried out in 2008 and 2013, provided in O'Brien and Berrow (2013) & Berrow *et al.* (2008);
- Information on sightings of harbour porpoise within Dublin Harbour and the shipping channel from surveys commissioned by Dublin Port Company as part of past dredging activities, provided in RPS (2016 & 2019); and
- Information on the distribution of grey and harbour seals in Dublin Bay from the 2018 Dublin Bay Seal Census, provided in Lauder (2018).

A complete list of all publications consulted in the completion of this report is presented in Section 6 *References*.

2.3 Site Visit

A preliminary walkover survey of the site was carried out on 16 September 2019 to determine the scope of targeted ecological survey necessary to assess the likely effects of the project on biodiversity. The site is comprised almost entirely of hardstanding ground, buildings and structures. Small areas of amenity grassland will be removed to facilitate the project.

The preliminary walkover, coupled with the desktop assessment, concluded that given the location of the proposed development, and having regard to the built nature of the site, protected species likely to occur within the environs of the site are limited to bat species, which could potentially be roosting within structures within the existing power plant. There are no natural habitats or watercourses within or in proximity to the proposed development site. As such there is limited potential for the site to support protected mammals, birds, aquatic or invertebrate species.

A site visit was conducted on 22 July 2021 to inform potential for the site to be used by mobile feature of interest associated with European sites including nesting gull (Herring gull - *Larus argentatus* and Lesser black-backed gull - *Larus fuscus*) species and Peregrine (*Falco peregrinus*).

The area was searched for evidence of invasive plant species listed in Part 1 and non-native animal species listed in Part 2 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

The presence of drains was noted that may provide sources of surface water pollutants to the local environment.

2.4 Consultation

Written consultation was sent to Birdwatch Ireland and NPWS in 2020 requesting any available information in relation to waterfowl species and rare and protected species within the surrounding area.

Birdwatch Ireland reverted on 4 March 2020 and provided annual and monthly peak count data of waterfowl species within Dublin Bay sites.

The NPWS Scientific Unit reverted on 6 February 2020 providing known records of protected and rare plant and animal species occurring within the Irish Grid square O13X which encompasses the proposed development site.

3 Description of the Proposed Development

3.1 Overview

ESB proposes to develop six 35MWe nominal capacity modular gas turbine generators (LM2500Xpress units) within the existing North Wall Generating Station.

The North Wall Generating station is located to the east of Dublin City Centre, on the southern side of Alexandra Road within Dublin Port.

The surrounding area is largely industrial in nature and is dominated by Port activities. Dublin Port container stacking areas are situated to the south and west, Doyle Shipping Group is located to the east and Irish Tar and Bitumen is located on the northern boundary of Alexandra Road. The nearest residential property is located approximately 760m to the south.

Figure 3.1 illustrates the location of the proposed development within Dublin Port.

The proposed gas turbine generators, and the majority of other plant equipment, is modularised and will, for the most part, be delivered to site pre-assembled. The generators will operate using existing connections to natural gas and electricity transmission.

Excluding site specific preliminary works and civil works, the modularised nature of the proposals means that the units can be installed and commissioned in approximately eleven months. This compares to approximately two years for the installation and commissioning phases for a conventional power plant configuration.

Demolition of existing structures and buildings will be required to facilitate the installation of the proposed gas turbines. Details of the demolition works required are provided in Section 3.3.2. Modifications will also be required to the existing site drainage system, details of which are provided in Section 3.2.7.

The emergency power plant is designed to start quickly and will run when electricity demand is high and generation capacity from other sources available on the system is at risk of not meeting demand.

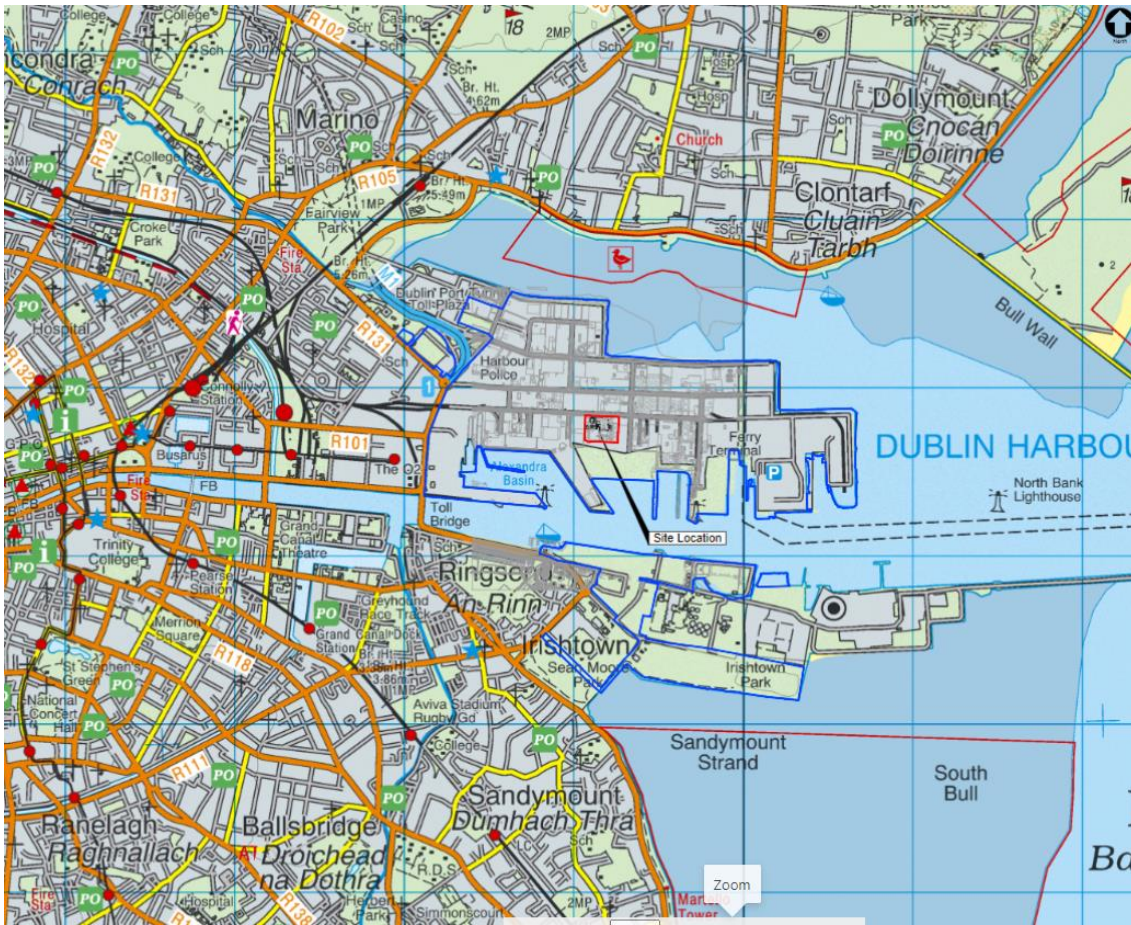
The temporary emergency generating plant will be installed for up to five years from early 2023 to late 2027 and will operate for up to 500 hours per annum on natural gas only, typically four hours per day when called on to operate.

Natural gas will be provided via the existing gas compound on site. The existing Gas Networks Ireland (GNI) Above Ground Installation (AGI) is located in the north-west corner of the site. On-site gas compression will be provided to meet the inlet pressures required by the gas turbines. Gas pipes from the AGI to the gas compressors and to the emergency generation units will be run on elevated pipe/cable racks. Each emergency generating unit will be connected to the existing on-site 220kV transformer by means of cables running on elevated pipe/cable racks. The banded 220kV transformer is connected to the national grid through the existing on-site 220kV Substation. The bund is inspected annually and tested in accordance with the existing Industrial Emissions licence, regulated by the EPA, (Registration Number: P0579-03).

No changes to the gas and electricity transmission supply infrastructure will be required to facilitate the proposed development.

Each generating unit will include one 11m high exhaust stack i.e, six stacks in total are proposed.

Figure 3.1: Site Location



Source: Drawing No. 229101053-MMD-00-XX-DR-C-0001

3.2 Key Plant, Processes and Operating Procedures

The following sections provide a description of the principal elements of plant, processes and operating procedures, as detailed in Table 3.1. A site layout drawing is provided in Drawing Reference No 229101053-MMD-00-XX-DR-C-0011.

Table 3.1: Proposed Plant and Equipment

Proposed Plant and Equipment	No. of Units	Height (m)	Width (m)	Length (m)	Diameter (m)
LM2500Xpress generator	6	11	10.75	27.7	N/A
Gas compressor	3	3.14	2.43	16.1	N/A
Fin-fan cooler	3	1.44	2.31	13	N/A
LM2500Xpress control house	6	3.39	2.62	6.76	N/A
Power control module	3	5.5	3.1	12.2	N/A
Raw & Fire water tank	1	14.5	N/A	N/A	12

Proposed Plant and Equipment	No. of Units	Height (m)	Width (m)	Length (m)	Diameter (m)
Fire water pump skid	1	5.5	4.8	12.75	N/A
Firefighting stores building	1	5.5	4.8	12.75	N/A
Air compressor	2	2.5	2.5	2.5	N/A
Reactors* (single)	12	3.7	N/A	N/A	1.95
Reactors* (double)	6	6.56	N/A	N/A	1.95
Fuel gas scrubber	1	3.5	3	3	N/A
Pipe and Cable Rack (over road)	2	8.6	4	12.6	N/A
Pipe and Cable Rack (admin and central)	2	5.6	2.4	N/A	N/A
Pipe and Cable Rack (gas compressor corridor)	2	1.6	2.4	N/A	N/A
Water wash drain tank	6	N/A	N/A	2	1

3.2.1 Modular Gas Turbine Technology

The gas turbine technology proposed will be the LM2500Xpress aeroderivative modular gas turbine which delivers 35 MWe of power generation per unit (nominal) and is transportable to any location by land, air, or sea. This proposed modular gas turbine power plant can operate on natural gas or liquid fuel. The proposed plant that is the subject of the EIAR will operate on natural gas only.

The LM2500Xpress units have been developed specifically to respond to fast and mobile power needs. The units will be delivered in fully assembled modules and tested to allow for quick installation, reliable operation, and ease of maintenance in the field whilst saving valuable construction and lead time, allowing a quick response to the national electricity emergency.

The proposed technology comprises a turbine module and a generator module. The turbine module will be connected to the generator module on site. Landing legs will be provided to support and level the equipment.

A control house module will be inter-connected electrically to the turbine and generator modules on site.

3.2.1.1 Turbine Module

The main deck of the turbine module includes an inlet silencing system for the turbine and the turbine module. The auxiliary skid, which contains the TCP (Turbine Control Panel) along with various package support systems are included at one end of the turbine module.

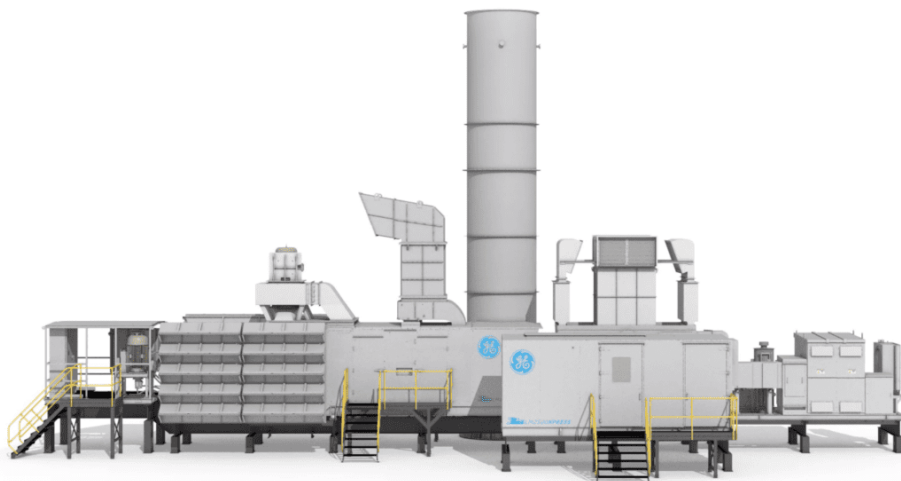
When the package is fully installed, the turbine module assembly will be fitted with the air filter modules, the turbine exhaust silencer, and the ventilation fan assembly for the turbine enclosure.

The following components and assemblies are included in the turbine module:

- Gas Turbine Engine w/ Turbine Enclosure
- Turbine Gauge Panel (TGP)
- Fire Protection Aerosol Canisters
- Auxiliary Skid - including the following:
 - Turbine Control Panel (TCP)
 - Hydraulic Start System
 - Turbine Lube Oil (TLO) System (shared)
 - Off-Line Water Wash System
- Air Inlet Silencer with enclosure
- Inlet Air Filter System
- Dual Fuel System (not in use)
- Turbine Exhaust
- High Speed Coupling Shaft
- Ventilation Fan Assembly skid
- Alignment System

An image of a typical LM2500Xpress Gas Turbine Generator is provided in Figure 3.2 below.

Figure 3.2: LM2500Xpress Gas Turbine Generator



Source: GE (Different Exhaust to that proposed for this project shown)

3.2.1.2 Generator Module

The main deck of the generator module contains the following components:

- Generator Module
- Generator Ventilation
- Generator
- Switchgear
- Generator Lube Oil Skid

The generator module will be connected to the turbine module on site. The alternating current (AC) generator will operate at a synchronous speed of 3,000 rpm for 50-Hz. The LM2500Xpress generator is an air-cooled Andritz generator (Model A03OP-T) or GEPC Generator with an air filter assembly and exhaust assembly.

3.2.1.3 Control House Module

The control house module will be inter-connected electrically to the turbine and generator modules on site. The control house module includes a lighted and insulated control house. The control house is equipped with an access door and air conditioner/heater.

The control house module consists of the following components:

- Human-Machine Interface (HMI)
- Motor Control Centre (MCC)
- Generator Control Panel (GCP)
- Batteries and Chargers

3.2.2 Above Ground Gas Installation

The site is currently connected to the natural gas network supplied to the site by GNI.

The existing GNI AGI, located in the north-west of the site, will supply gas to the emergency generation units. Gas pipes from the AGI to the gas compressors and to the emergency generation units will be run on elevated pipe/cable racks.

3.2.3 Gas Compressors

It will be necessary to increase the gas pressure on site in order to provide gas at the required pressure to the LM2500Xpress gas turbines. Three gas compressors will be provided. One gas compressor will be sufficient to provide the required gas quantity and gas pressure to three LM2500Xpress gas turbines meaning that there will be a gas compressor in standby to ensure the reliability of the gas system.

Cooling of the gas compressors will be via a closed-circuit cooling water system utilising fin fan coolers. Anti-freeze (Ethylene Glycol) may be added if required, no other chemical dosing of cooling water is proposed. Make-up of closed-circuit cooling water or blow-down discharge of cooling wastewater will not be required.

Each gas compressor will include the following:

- Compressor
- Main Drive Motor (Air Cooled)
- Oil System
- Closed Loop Water-Air Cooling System (Fin-Fan Air Cooler)
- Discharge Filter
- Enclosure for Compressor
- Control System
- Appropriate instrumentation

In addition to the gas compressor the following equipment will also be provided to condition fuel gas on site prior to use:

- Gas Fuel Main Shut-Off Skid
- Gas Fuel Scrubber

- Gas Fuel Filter/Coalescing Skid
- Gas Condensate Tank

3.2.4 Electricity Transmission Connection

The six LM2500Xpress units will be connected to the existing on-site 220kV/10.5kV/10.5kV T2004-5 Generator Step-up Transformer (GSUT) which will export to the grid through the existing cable connection to bay D2 at the existing North Wall 220kV Substation which is co-located on the same site. ESB is not aware of any reinforcement works required on the transmission bay to facilitate this proposed electrical power export.

The T2004-5 Generator Step-up Transformer is a three-winding transformer (300 MVA on 220kV side, 150MVA for each 10.5kV winding) with on-load tap changer (OLTC) and it is proposed to connect three LM2500Xpress units to each LV winding of the transformer.

Each of the LM2500Xpress generators will export power at 10.5kV to coordinate with the voltage ratings of the existing Isolated Phase Busbars (IPB's) and the existing Transformer LV windings.

The Gas Turbine Generators will connect by means of cabling running on elevated pipe and cable racks to the existing IPB via current limiting reactors. The current limiting reactors will be used to limit the fault current or restricting the fault levels of plant auxiliary systems.

3.2.5 Emissions Monitoring System

The exhaust gases from each gas turbine will be discharged to atmosphere through an 11m high stack. The (six in total) stacks will incorporate emissions monitoring sampling points in accordance with EPA Guidance Note on Site Safety Requirements for Air Emissions Monitoring (AG1)

Periodical sampling of exhaust gases will be undertaken following commissioning at a frequency to be agreed with the EPA.

3.2.6 Water Demand

Water will be supplied to site via two existing Irish Water towns water connections. Water will be used by the following consumers:

- Potable water used for general purposes (drinking water, toilets etc.); and
- Water for fire-fighting purposes.

As the proposed gas turbines use Dry Low NOx technology, there will be no water consumed as part of the power generation process.

The number of construction workers required during the construction phase is expected to peak at approximately 100 persons. Up to five operational staff will be on site during the day time and up to two staff will be on site in the evening time seven days a week. Water demand will typically be limited to domestic water consumption for staff welfare and there is sufficient existing water supply on site to meet water demand associated with the emergency plant.

Towns water will be stored in a common firewater/ storage tank of approximately 1250m³ in volume and will be used by the fire water system and for general domestic supplies.

3.2.7 Wastewater Drainage

3.2.7.1 Surface Water Drainage

Surface water runoff will be generated from all surfaces within the power plant site which are exposed to rainwater or to which water is applied in order to wash down. This includes all hardstanding surfaces, roofs, and other impermeable surfaces.

No change in run-off volume is proposed as the proposed plant area is on an area of existing hardstanding which drains to the existing surface water drainage system, in accordance with the existing EPA regulated IE licence. It will however be necessary to reconfigure the drainage network in the area of the main carpark where the Emergency Generation plant is to be located. This area currently drains, via the southern interceptor, to SW4 (IEL Monitoring/Discharge point SW4). The new surface water drainage network for the gas turbine area will continue to drain to SW4.

SW4 discharges to the River Liffey Estuary to the south of the site. Prior to the construction phase of this proposed development ESB will have installed an additional new Class 1 oil interceptor upstream of SW4, immediately upstream of the existing interceptor which will remain in-situ.

Surface water from the northern part of the North Wall site will also continue to be discharged to the Dublin Port rainwater collector drain on Alexandra Road which discharges to the Tolka Estuary (IE licence monitoring/discharge point SW3) via a Class 1 oil interceptor.

Water collected in the existing bunded 220kV transformer will be inspected prior to discharge to SW3 via the oil water interceptor in accordance with the existing IE licence.

Details of the drainage system are provided in Drawing Reference No 229101053-MMD-00-XX-DR-C-0031_P1.

3.2.7.2 Foul Wastewater Drainage

The existing foul wastewater drainage system will continue to be used. No new toilets or welfare facilities are proposed as existing facilities will be used.

There are two existing foul wastewater discharge points, one under the northern boundary (proximate to the 220 kV Substation) with the second at the southern boundary near the entrance to the control building. The existing foul wastewater system discharges to the main Dublin City sewer system.

The system has adequate capacity for both the construction and operational phase of his development.

3.2.7.3 Process Wastewaters

Wastewater will be generated by the fuel gas scrubber which will be stored in the fuel gas condensate tank. Water in this tank will contain hydrocarbons and will be disposed offsite by road tanker in accordance with the Waste Management Act 1996, and associated regulations.

Wastewater will also be generated by gas turbines during a compressor wash cycles. Wastewater from each gas turbine will be collected in its own dedicated Gas Turbine (GT) Area Drain Tank. The content of each GT Area Drain Tank will be collected by a suitably licenced waste contractor in accordance with the Waste Management Act 1996, and associated regulations for disposal.

No process wastewaters will be discharged to drain.

3.2.8 Firefighting Systems and Controls

A fire water storage tank of approximately 1250m³ will be installed on site. Water supply to this tank will be towns water via an existing Irish Water connection.

Firefighting on site will predominately be carried out by manual fire suppression using the fire water hydrant network on site. A new fire water hydrant network will be installed for the protection of the temporary equipment to be installed.

Fire water discharges will be collected in the surface drainage system and will be discharged from the site after passing through the drainage interceptors.

Specific items of equipment will have gaseous fire suppressions, for example, the gas turbine enclosure.

3.2.9 Chemical Storage

A number of chemicals and oils will be stored on site, including;

- Transformer Oil;
- Lubrication Oils (for each gas turbine, gas compressor, pumps etc);
- Carbon dioxide bottles (for fire suppression);
- Compressor cleaning detergent; and
- General oils and greases for rotating machinery.

All chemicals and oils will be stored in suitably bunded areas and with weather protection. Table 3.2 provides estimated quantities for each substance.

Table 3.2: Chemical Storage (Existing and Proposed)

Material/Substance	Nature	Amount Stored (estimate)	Storage Location	Location of Use	Notes
Gas Turbine Lubricating Oil (per GT)	Liquid	6m ³	Lube Oil Tank (of each Gas Turbine)	Gas Turbine Area	Tank will be banded. Volume is on a per GT basis
Gas Turbine Aerosol Fire Protection (per GT)	Gas	500Nm ³	Part of the turbine module of each gas turbine	Gas Turbine Area	Stored in high pressure storage bottles. Volume is on a per GT basis
Natural Gas for use in all GT's	Gas	N/A	N/A	Gas Turbine Area, Gas Compressor area, central pipe rack	Gas is consumed as part of the generation process. No gas stored on site.
Water Wash Drain Tank (per GT)	Liquid	1.5m ³	Water Wash Drain Tank (of each Gas Turbine)	Gas Turbine Area	Tank will be banded. Volume is on a per GT basis
Fuel Gas Condensate Tank	Liquid	8m ³	Adjacent to AGI	Adjacent to AGI	Tank will be banded.
Raw and Fire Water Tank	Liquid	1250m ³	Water Tank	Overall Site	None
Fire Fighting Pump Diesel Tank	Liquid	100litres	Fire Fighting Pump House	Fire Fighting Pump House	None
Fire Fighting Pump Lube Oil	Liquid	9litres	Fire Fighting Pump House	Fire Fighting Pump House	None
Gas Compressors Lubricating Oil (per gas compressor)	Liquid	3m ³	Gas Compressor Area	Gas Compressor Area	Volume is on a per GT basis
Fin Fan Cooling Water with Corrosion Inhibitor [Water with Ethylene Glycol]	Liquid	10m ³	Gas Compressor Area	Gas Compressor Area	Volume is on a per gas compressor basis
Compressor Water Wash Chemicals	Liquid	m ³	Gas Turbine Area	Gas Turbine Area	None
Nitrogen	Gas	1500Nm ³	Gas Compressors Area	Gas Compressors Area	Stored in high pressure storage bottles.
Chemicals in the Control of ESB Networks (existing)					
SF6 Circuit Breakers	Gas	1,565kg	ESB Networks GIS	ESB Networks GIS	Existing equipment
220 kV Cable Oil Tank	Liquid	40m ³	Dublin Transmission Network	Cable Oil Storage Tank	Existing Equipment Tank will be installed in a bund
GIS generator diesel pump	Liquid	1m ³	ESB Networks GIS	ESB Networks GIS	Existing equipment

3.2.10 Lighting

Power supply to the existing site lighting network has been disconnected to allow for safe demolition work on site. A new lighting arrangement will be provided to ensure a safe work environment for staff on site.

New outdoor lighting will be minimised for health and safety requirements. Lighting will consist of LED luminaires due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. A warm white spectrum will be adopted to reduce blue light component. Only luminaires with an upward light ratio of 0% and with good optical control will be used and there should be no upward tilt. It is expected however that site lighting will remain dominated by the high intensity port lighting to the south of the site.

3.2.11 Security

There are no proposed changes to the existing site security measures or boundary walls. The site is secured by high walls with security gates. Gates are remotely operated by security. Notices at the gates inform visitors to site on contact methods for security to gain access. The gate will operate in line with the current arrangements for the existing gates. During times of high traffic volumes to and from the site the gate will be manned.

3.3 Construction Phase Activities

The following sections provide a description of the construction phase activities, which will be carried out in three phases, as detailed in Table 3.3.

3.3.1 Construction Phase Description and Duration

The total number of construction staff on-site will vary during the construction phase of the works but are expected to peak at approximately 100 persons.

Normal working hours for external site activities during the construction period are expected to be Monday to Friday 07:00 to 19:00 hours and 08.00 to 17.00 on Saturday. During certain stages of the construction phase, it is expected that some work will have to be carried out outside of normal working hours however this will be kept to a minimum.

Construction activities will gradually phase from pre-construction site preparation and removal of redundant structures to predominantly construction and modular assembly works followed by commissioning and testing of the proposed power plant and equipment.

The construction phase of the project is expected to commence in Q2 / Q3 2022 and last for approximately 15 months. Table 3.3 provides an outline schedule of the proposed activities.

Table 3.3: Construction Schedule

Phase	Timeline
1. Pre-construction works	Two months
2. Demolition works	Two months
3. Plant construction works	Eleven months (six months civil works and five months installation works)
Total	15 months

The demolition works and plant construction works will be carried out by separate contractors. This approach has been adopted to ensure that a contractor with the appropriate competency and experience is carrying out the relevant construction phase.

All waste arisings will be managed in accordance with the Waste Management Act 1996, and associated regulations.

3.3.2 Pre-construction Works

The pre-construction phase of development includes preparatory works and consultation with statutory bodies [Health and Safety Authority (HSA), EPA etc] and the public as required. Following this process, site clearance activities will commence. Typical activities will include preparation of the construction working area, laydown area and site clearance as required. During this period the structural assessments of any buildings proposed for demolition will be undertaken to determine demolition method and sequencing.

The site has been in use for electricity generation since the late 1940's and its history of use is well known and documented. A number of areas of the site will require excavation for construction purposes. In addition to the previous studies carried out and the assessment presented in the EIAR, soil in these areas will be tested in advance of or during the construction phase to identify the appropriate waste classification which will determine the appropriate route for disposal.

3.3.2.1 Demolition Works

The proposed foundations for the temporary generation plant will generally be constructed to finish above the existing ground levels on site. Where existing substructures or foundations are encountered, these will be removed where necessary. It is expected that the maximum depth of any new foundation inclusive of stone capping layers will be 800mm. Below ground services in conflict with the new foundations will also be removed as required.

Where openings are created in buildings by the removal of equipment or part of the building during the alterations works, recycled similar finish materials from the site will be used to close the openings where possible. This will help reduce the waste generated by the works while ensuring the finish to buildings matches with the current finishes. Where recycled material cannot be used new materials will be sourced to match the existing finishes.

The equipment and structures identified in Drawing No 229101053-MMD-00-XX-DR-C-0010 will be removed by a specialist contractor prior to the construction phase.

The general methodology of removal will be by mechanical dismantling that will bring all structures and equipment to ground level/grade in a progressive manner using a top-down approach. All buildings will go through a structural appraisal process prior to dismantling works commencing, to ensure the proposed demolition sequence maintains the stability of the remaining buildings and unplanned collapse is prevented. All open spaces/voids created as part of the removal process will be backfilled with suitable materials to the surrounding grade levels.

Prior to general removal works all hazardous materials will be identified and will be removed by specialist contractors in advance of the general dismantling and demolition works.

Services to the buildings and structures will be isolated and physically disconnected. Any remaining chemicals will be removed, and tanks/vessels will be decontaminated to reduce the residual risk to as low as reasonably practicable.

Further detail on specific equipment and structures is provided in Table 3.4 overleaf.

Table 3.4: Equipment and structures to be removed

Equipment / Structure to be Removed	Details
Gas Compressor Building	<p>The building is constructed on a concrete foundation with an internal precast concrete frame and a mixture of brick and corrugated cladding for the lower and upper parts of each elevation. The lower part of the building is of cavity wall construction with a blockwork inner leaf. The roof consists of a steel frame with purlins and roof bracing. The roof is finished with profiled with steel cladding. The structure is roughly 204m² measuring approximately 17m long x 12m high x 12m wide. The building together with redundant plant, equipment and piping will be demolished to slab level. Existing foundations, ground slab and below ground services in conflict with the new foundations will also be demolished as required. There is a switch room to the North of the building, that will also be demolished to ground level. The switch room houses the electrical switch gear for the compressors and is constructed from brick with a block inner leaf and a concrete roof.</p>
38kV Substation	<p>The 38kV substation is located to the south of the main car park and must be removed in its entirety to facilitate the installation of the temporary gas turbines.</p> <p>The 38kV substation building is approximately 29m long x 6m wide x 5m high and covers approximately 174m². It is a free-standing single-story building of cavity wall construction (brick outer leaf with concrete block inner leaf) accessible from ground level. The building contains a concrete slab (which is believed to be ground bearing) with the floor coated with an epoxy paint.</p> <p>All equipment internal to the 38kV building has previously been removed.</p> <p>The 38kV building will be demolished to a maximum of 800mm below existing ground level. The transformer bunds and fire walls will be demolished. Existing foundations and below ground services above 800mm below ground level, will also be demolished as required. This excavation will be backfilled where necessary with appropriate inert engineering fill and finished at ground level to facilitate the placement of the emergency generation equipment.</p>
Fuel Oil Pump House	<p>The Fuel oil Pump House is located on the south-eastern side of the site, adjacent to oil tanks 3 and 4 and the 38kV substation. The building will be demolished to ground level. Existing foundations and below ground services in conflict with the new foundations will also be demolished as required.</p> <p>The equipment floor area of the building is approximately 1.2m below ground level. This area will be backfilled with appropriate inert engineering fill and finished at ground level.</p>
Air Inlet Filter House and Electrical Rooms	<p>The air intake structures located at the southern ends of the turbine hall for CT4 and CT5, supplied combustion air to the now redundant gas turbines on site. Below each air intake is a decommissioned electrical room that contains high voltage switchgear and control and instrumentation panels for the redundant gas turbines.</p> <p>The intake structure is a steel skeletal frame and a mixture of brick and corrugated cladding. The air intake structure also supports a number of fin fan coolers which formed part of the gas turbine cooling water system</p> <p>The air intake structure, Speedtronic rooms and a number of fin fan coolers will be demolished and a new gable end to the building installed on the remaining portion of the turbine halls. .</p>
Gate Keeper's House	<p>The existing gate house is a single store building of traditional block work construction. This building will be demolished to slab level.</p>

3.3.2.2 Site Offices, workshop and storage building

The existing administration and workshop building will be used as site offices and a workshop and storage building during both the construction and operational phases. This work is likely to include the electrical rewiring of the building to electrically separate the building from any existing electrical circuits and allow for the safe completion of the demolition works identified in section 3.3.2.1.

During the construction phase temporary welfare facilities will be provided. These will be connected to a sealed holding tank to be emptied and disposed of off-site by a licensed contractor to an approved licenced facility, in accordance with the Waste Management Act 1996 and associated regulations.

3.3.2.3 Ground Works

The areas for the installation of new equipment will be levelled and new equipment foundations will be constructed. New equipment foundations are expected to extend over an area of approximately 3,500 m², have a thickness of 300 to 400mm, with up to 200mm of this depth above existing ground level. Beneath this proposed foundation will be a layer of new formation stone capping extending up to 800mm below existing ground level. Existing foundations or buried structures will be removed to a depth of 800mm. Existing below ground services (surface water drains) will be rerouted around areas where foundations are to be constructed.

It is anticipated that foundations will be raft type ground bearing foundations however some shallow piled foundations may be required.

In 2004 there was an incident on site that resulted in the loss of approximately 8,000 litres of diesel on site. Approximately 6,000 – 7,000 litres of diesel were recovered by ESB, however an oily plume remains under part of the site and is the subject of ongoing monitoring.

Foundations for the gas turbine generators will be adjacent and, in some cases, above the existing oil plume on site. Foundations will be constructed above the water table to avoid impacts on groundwater. A number of existing ground water monitoring wells will need to be relocated. New locations will be agreed with the EPA prior to construction but are expected to be located down gradient of the existing plume.

The minimum recorded depth below the surface to the plume in the affected part of the site is approximately 1.57m, although it has been recorded at depths to 2.3m. As the source of the contamination has lower density than water, it forms a narrow layer on the top of the groundwater.

To avoid interaction with the plume during construction the excavation depth over the plume will be minimised to avoid encountering groundwater and contaminated material.

The following measures will also be implemented:

- The majority of the civil works are planned to take place in summer months. Where heavy rainfall is forecast during the civil works, or if the civil works extend into the Winter season, the following measures will be put in place to restrict rainwater seepage into the ground:
 - Minimise extent and duration of exposed excavation surfaces.
 - Cover/protect excavations with use of water-tight membranes together with use of pump sumps or equivalent where required.
 - Excavations to be blinded with concrete immediately following excavation together with use of pump sumps or equivalent.
 - Surface water runoff will be treated in accordance with *Ciria C750 Groundwater Control – Design and Practice*.

- The requirements for excavation over the plume will be minimised. Site services (fuel gas, water supply, electrical cables, control and instrumentation cables) will be positioned above ground level on pipe and cable racks.
- The main foundations supporting plant and equipment in the area of the plume will be designed so as to not extend below the ground water level. The level of the top of the foundations will extend above the current level of the existing site to minimise the depth of excavation required.
- A raft type / floating design of the main equipment foundations will avoid the requirement for piling in the area of the plume. Excavation depth will be limited to 800mm in this area. The surface water drainage network will be designed to be above the ground water level.
- Piling will be avoided in the area of the plume.
- Where piling is required outside the area of the plume, it will be undertaken in accordance with the parameters assessed in this EIAR and in the NIS and in the CEMP. A Source-Pathway-Receptor hazard risk assessment will be undertaken in consideration of the extensive monitoring regime present on site. The pile type will be selected and installed by a specialist contractor and be considerate of current guidance such as *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention* published by the National Groundwater and Contaminated Land Centre Report No. NC/99/73 (UK Environment Agency). The following will be incorporated into the detailed design:
 - Low vibration piling techniques.
 - Piling techniques which avoid the creation of preferential pathways.
 - Piling techniques which avoid pushing contaminated soil into uncontaminated soil.
- On completion of construction, the site will comprise paved surfaces of similar area to existing, laid to falls. Surface rainwater will be collected at low points by a series of gulleys or equivalent and be conveyed by a network of underground drainage pipes laid to shallow falls in accordance with *Specification for Road Works Series 500 - Drainage and Service Ducts, CC-SPW-00500* March 2015, Transport Infrastructure Ireland, connecting into the existing site main drainage infrastructure, discussed in Section 3.2.7 *Wastewater Drainage*.

All works will be carried out within the parameters assessed in the EIAR supporting the application and the parameters assessed in this NIS and the measures detailed in the Construction and Environmental Management Plan (CEMP), refer to Section 3.3.6 of the EIAR.

The Contractor will comply with the *Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites* and with the conditions detailed in the existing IE licence.

Excavated soil, and piling arisings if any, will be tested on site prior to disposal off site or reuse on site.

Excavation will be supervised by a qualified and experienced hydrogeologist/soil contamination expert and the Environmental Clerk of Works (EnCoW) throughout the period of such works, refer to Section 3.3.7.

Existing ground water monitoring/treatment wells that may be affected by the works will be identified and amendments to the monitoring well network will be agreed with the EPA prior to commencement of works.

3.3.3 Plant Construction Works

The Main Contractor will be responsible to ESB for the design and installation of the emergency power generation plant. This will include the design, supply, and installation of all equipment and the installation of all equipment foundations.

Most of the new equipment will be skid mounted or containerised elements fabricated off site and delivered finished or for final assembly on site. The main exception to this is the pipe and cable corridor which will contain the plant pipework (natural gas, fire water etc) and cables (power cables, control cables etc) which will have to be fabricated on site.

The Main Contractor will be responsible to ESB for the construction of the equipment foundations, including the excavation and appropriate disposal of excavated material as well as the construction of the main equipment raft foundations and any piled foundations needed. The Main Contractor will manage the excavation of are confined to material and the safe disposal of this material to a suitably licenced waste disposal facility. In-situ concrete casting will be fully controlled to ensure that cement bound materials are confined within the formwork.

In-situ concrete casting will be fully controlled to ensure that cement bound materials are confined within the formwork.

As detailed in Section 3.2.7, in the area of the main carpark, where the gas turbines are to be installed, the existing surface water network will need to be modified and re-routed. Surface water drains will also be re-routed and/or sealed in advance of any concrete being cast.

Trucks, mixers, and concrete pumps that have contained concrete will be washed out in a designated impermeable area to prevent pollution. A designated area for concrete truck / shute washout will be provided on site comprising a lined bund to contain wash out. Concrete waste will be removed at regular intervals (every 2-3 days) and reused on site or disposed off-site with other construction waste materials.

As described above the maximum proposed excavation will not exceed a depth of 800mm for the raft foundations. If piled foundations are required, it is envisaged that these would require a similar depth of below ground excavation.

3.3.4 Construction Traffic

The majority of construction traffic will be generated during phase two and phase three (refer to Table 3.3), the demolition phase and the construction phase. The demolition phase which will see material being removed from site and being disposed of at various licenced waste disposal facilities, depending on the waste classification and quantity of material to be removed from site. As part of the demolition phase there will also be some inert material imported to site. This will generally be used to infill existing but redundant service trenches and basement structures.

For the demolition works it is estimated that up to 50 Heavy Good Vehicles (HGVs) loads from the site (100 HGV movements) will be required (maximum of 15 loads per day) to remove material over the period of asbestos removal and demolition which is expected to extend over a period of two months.

On completion of the demolition phase, the construction phase will commence. The construction phase will see the delivery of construction material such as packaged skids, piping, cabling, secondary steel support frames and bulk material like concrete for the construction of foundations.

Excavated material for the construction of foundations will also be disposed of offsite to suitably licenced waste facilities during the construction phase. It is expected that a peak of construction, approximately 15 HGV loads daily (30 HGV movements) will be required. An average of four HGV loads daily (8 HGV movements) is anticipated.

It is anticipated that much of the emergency generation plant and equipment, for example, LMXpress units, fin fan coolers, gas skids, pumps skids will be shipped to Ireland through Dublin Port and directly to site and will therefore not need to use the public road network. The proposed new equipment is set out in Table 3.5 below.

Two existing gates are currently used to access the site from Alexandra Road. The M50 Dublin Port Tunnel is located approximately 1.6km to the south-east of the site and is the major route in and out of the docklands for HGVs.

Table 3.5: Proposed New Equipment

Item	Description	Construction Method
1	LM2500Xpress Gas Turbines	Delivered to Site in Prefabricated Modules to be connected together on site
2	Water Wash Drain Tank	Delivered to Site Prefabricated
3	Fuel Gas Filter Skid	Delivered to Site Prefabricated
4	BOP PCM	Delivered to Site Prefabricated
5	N2 Storage Rack	Delivered to Site Prefabricated
6	Air Compressor for Gas Compressor	Delivered to Site Prefabricated
7	Fuel Gas Scrubber	Delivered to Site Prefabricated
8	Fuel Gas Condensate Tank	Delivered to Site Prefabricated
9	Raw & Fire Water Tank	Delivered to Site in Prefabricated Modules with final assembly on site
10	Fire Water Pump Skid	Delivered to Site Prefabricated
11	Current Limiting Rectors	Delivered to Site Prefabricated
12	Fuel Gas Emergency Shut-Off	Delivered to Site Prefabricated
13	MV Motor Starter Panel for Gas Compressor	Delivered to Site Prefabricated
14	Fuel Gas Compressor and Fin Fan Cooler	Delivered to Site Prefabricated
15	Water Storage Tank	Delivered to Site Prefabricated
16	Service and Potable Water Pressure Unit	Delivered to Site Prefabricated
17	Fuel Gas Skid	Delivered to Site Prefabricated
18	LM2500Xpress Control House	Delivered to Site Prefabricated
19	Pipe & Cable Corridor	Delivered to Site in Prefabricated Modules with final assembly on site
20	Crossover (Pedestrian)	Delivered to Site in Prefabricated Modules with final assembly on site
21	Stack (11.0m)	Delivered to Site in Prefabricated Modules with final assembly on site
22	Diesel Fire Fighting Pump	Delivered to Site in Prefabricated Modules with final assembly on site
23	Fuel Condensate Pump	Delivered to Site Prefabricated
24	Pipe & Cable Corridor (Pipebridge)	Delivered to Site in Prefabricated Modules with final assembly on site
25	GT Area Drain Tank	Delivered to Site Prefabricated

It is expected that a number of abnormal load deliveries will be required during the construction phase of the project. These abnormal loads will be delivered to Dublin Port. From Dublin Port, abnormal loads will be transferred directly to the site via Dublin Port internal road network and will therefore not need to use the public road network. The expected abnormal loads are as follows;

- 6 x Turbine Module Units
- 6 x Control Module Units,
- 6 x Generator Module Units;
- 3 x Balance of Plant Power Control Modules;

- 1 x Fire Fighting Module.

A traffic control person (TCP) will be used to control traffic to and from the site.

The number of construction workers required during the construction phase is expected to peak at approximately 100 persons. It is assumed that staff will travel to site via a combination of public transport, cycling, carpooling, minibus and private passenger vehicles. The site has good public transport links given its proximity to the Luas Red Line and several bus stops.

It is anticipated that a mobile crane will be needed on site for part of the construction and demolition works on site. It is not anticipated that there will be a requirement to over-sail any adjacent sites.

3.3.5 Construction Compounds / Laydown Areas

Given the modular nature of the development, no designated construction compound / laydown area is proposed.

Equipment will be delivered to site in a phased manner and located in its final position on arrival. Small items of plant and materials such as pipework, cables, tools and installation equipment will be stored in the existing stores building.

3.3.6 Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) is included as Appendix 3.1 of the EIAR. The CEMP will be implemented during the construction phase. The CEMP will remain a 'live' document which will be reviewed regularly and revised as necessary to ensure that the measures implemented are effective.

The primary objective of the CEMP is to safeguard the environment, site personnel and nearby sensitive receptors from site activity which may cause harm or nuisance. As such, the CEMP sets out a project framework to ensure that key mitigation measures and conditions set out in the EIAR are translated into measurable actions and are appropriately implemented during the construction phase of the proposed development. As part of this framework, transparent and effective monitoring of the receiving environment during construction will be used to inform and manage on-going activities on site and to demonstrate effectiveness of the measures outlined therein.

ESB will monitor the contractor(s) performance on a regular basis and will undertake various compliance checks throughout the duration of the construction period including:

- Review contractor documents against the requirements of the CEMP;
- Undertake regular audits;
- Continuously check records;
- Set up a contractor reporting structure; and
- Conduct regular meetings (at least fortnightly) where Environmental Health and Safety is an agenda item.

3.3.6.1 Construction Resource Waste Management Plan

Prior to commencement of the development, the appointed Contractor will implement the Construction Resource Waste Management Plan (included as part of the CEMP in Appendix 3.1 of the EIAR) which will provide for the segregation of all construction wastes into recyclable, biodegradable and residual wastes to facilitate optimum levels of re-use, recovery, and recycling operations.

The plan has been prepared in accordance with waste management guidance and principles as outlined in *Best practice guidelines for the preparation of resource & waste management plans for construction & demolition projects* (EPA, 2021).

All operations at the site will be managed and programmed in such a manner as to prevent / minimise waste production and maximise upper tier waste management (i.e. re-use, recycle, and recovery) in line with the Waste Hierarchy where technically and economically feasible. The Plan will also deal with any litter arising during the construction phase of the development.

Waste sent off site for recovery or disposal will only be conveyed by an authorised waste contractor and transported from the proposed development site to an authorised site of recovery / disposal in a manner which will not adversely affect the environment. All employees will be required to comply with the obligations under the Plan.

The Plan will be available for inspection at the site office at all reasonable times for examination by the Consenting Authority.

3.3.7 Environmental Clerk of Works

The Contractor's Environmental Clerk of Works (EnCoW) will have suitable environmental qualifications and the necessary experience and knowledge appropriate to the role. The EnCoW will be delegated sufficient powers under the construction contract to instruct the Contractor to stop works and to direct the carrying out of emergency mitigation / clean-up operations. The EnCoW will also manage consultation with key stakeholders as appropriate. The EnCoW will be responsible for carrying out regular monitoring of the Contractor's CEMP and will report monitoring findings in writing to ESB on a regular basis (at least weekly, but immediately in the case of incidents or accidents).

3.4 Operational Phase Activities

3.4.1 Hours of Operation

The emergency plant will operate up to 500 hours per annum on natural gas only, typically four hours per day when called on to run.

The operating regime of the plant will be determined by EirGrid, which is the Transmission System Operator (TSO), subject to the 500 hours per annum limit.

3.4.2 Maintenance and Operation

The EPA grants and enforces Industrial Emissions (IE) licences for specified industrial and agricultural activities.

These IE licences contain strict conditions on how an activity must operate so as to protect the environment from pollution that might otherwise arise. The EPA Act, 1992 specifically prohibits the EPA from granting a licence if emissions from the activity would cause pollution.

The proposed temporary plant will continue to operate under the existing IE licence regulated by the EPA (Registration Number: P0579). ESB is in the process of preparing an application for review of IE licence P0579 to allow for the proposed development.

During the operational phase the emergency power generation plant will be attended by up to five operational staff (day-time) and two staff (night-time) seven days a week. Operational staff will be responsible for controlling the generation plant and responding to calls from the system operator to start and stop the plant.

Scheduled maintenance of the power generation units will be undertaken on a phased basis. Maintenance requirements will be dependent on the operating profile of the plant but are

expected to occur annually and take approximately 14 days depending on the level of maintenance required.

Given the low number of operating hours per annum (500 hours), unscheduled maintenance due to plant breakdown will be minimal. For the purpose of the EIAR however it is assumed that unscheduled maintenance will lead to loss of operation of an individual generating unit for no more than 14 days per annum to repair and / or replace faulty equipment. A maintenance crew of approximately three persons will attend site in such instances.

Waste materials generated on site will be domestic such as paper and food waste from the personnel on site, non-hazardous such as clean metal and wood waste from delivery pallets and hazardous for waste oils and greases generated from the operation of the plant.

All waste will be appropriately segregated and will be collected by suitably licenced waste contractors for disposal and in accordance with the existing IE licence and the Waste Management Act 1996, as amended and associated Regulations.

3.5 Health and Safety Considerations

3.5.1 Project Supervisor Design Process / Project Supervisor Construction Stage

ESB has been appointed PSDP for the initial design phase of this project. A detailed project specific preliminary health and safety plan detailing the site constraints, work hazards and all other pertinent information has been prepared.

A specialist Demolition Contractor will be appointed to the role of PSDP and will take on the role of PSCS as the demolition works move to their execution phase.

Following completion of the demolition works on site, the Main Contractor will be appointed to the role of PSDP and PSCS for the installation, commissioning and testing of all equipment including the gas turbines.

3.5.2 COMAH Regulations

North Wall Generating Station was previously designated a lower tier site due to the quantity of liquid fuel stored on site. Currently there is no bulk distillate fuel oil stored on site in North Wall Generating Station. As of the 8 September 2021, following a site inspection by the HSA, the North Wall Generating Station site, the subject site of this application, has been De-Notified as a Seveso Site.

The proposed gas turbines will operate on natural gas only and therefore there will be no bulk storage of distillate fuel oil on site. A quantity of natural gas will be maintained in the gas system and a small quantity of diesel will be stored on site for use by the diesel fire pump.

A list of chemicals expected to be stored on site is provided in Section 3.2.9 *Chemical Storage*. The volumes of hazardous substances to be stored on site will be less than the requirements of the COMAH regulations.

3.6 Decommissioning

The operational life of the temporary power plant is expected to be up to five years. Thereafter, the emergency generation plant will be disconnected and removed from site. This equipment is likely to be shipped, via Dublin Port, from Ireland for use at another location.

Remaining equipment such as the water tank, gas compressors, pipework and cabling, will be made safe and retained on site for potential future uses at North Wall Generating Station. Equipment will be stored under appropriate conditions and the site and all associated buildings

will be secured. All lubricating oils other potentially polluting consumables will be removed from site.

Waste materials generated during the decommissioning of the plant will be removed from site.

The activities associated with the decommissioning phase will be similar to those associated with the construction phase of the project.

4 Screening for Appropriate Assessment

4.1 Management of European sites

The Proposed Development is not directly connected with or necessary to the 'management' of European sites within the Natura 2000 Network having regard to Article 6 of the Habitats Directive. As such it is appropriate that the Proposed Development is subjected to screening for AA.

This screening assessment investigates, in view of best scientific knowledge, whether the Proposed Development, individually or in combination with other plans and projects, would be likely to have a significant effect on European sites. This report considers the likelihood of significant effects on European sites from the construction, operation, and decommissioning of the Proposed Development.

4.2 European Sites within the Zone of Influence

4.2.1 Zone of Influence

In the context of an ecological impact assessment generally (CIEEM, 2018) the zone of influence (Zol) for a proposed development is defined as that:

“the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries” and that “the zone of influence will vary for different ecological features depending on their sensitivity to an environmental change.”

The Zol varies depending on the construction and operational activity and the sensitivity of the receptor (e.g., flora, birds, terrestrial mammals) to the effect encountered.

The Zol identified for various ecological receptors, having regard to the potential for impact as outlined previously are as detailed below:

- 100m either side of the cable route midline for breeding birds
- The footprint of the proposed development for direct damage to habitats
- The Zol is taken as 50m for dust effects within this NIS.
- The Zol for noise effects is taken as the site and 100m buffer noting the area is an urban environment with high baseline noise locally.
- Catchment wide Zol for surface waterbodies
- 250m for groundwater dependant terrestrial ecosystems (GWDTEs)¹

¹ Kilroy G, Dunne F, Ryan J, O'Connor A, Daly D, Craig M, Coxon C, Johnston P and Henning M (2008). A Framework for the Assessment of Groundwater Dependent Terrestrial Ecosystems under the Water Framework Directive. Environmental Research Centre Report. Environmental Protection Agency Ireland.

4.2.2 Source-Pathway-Receptor and Impact Assessment

Projects have the potential to impact on European sites beyond the footprint of the project itself. National Guidance² states that screening for AA should be carried out for any European site within the likely 'Zone of Influence' of a plan or project. For projects, the guidance recommends that the Zone of Influence (Zoi) must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects.

In order to establish the Zoi of the Proposed Development, desktop and field survey data on protected habitats and species was mapped using a Geographic Information System (GIS). This data was interrogated for source-pathway-receptor connectivity.

The source (potential impacts from the Proposed Development), pathways (hydrological, physical or ecological connectivity) and receptors (QIs and SCIs of the European sites) were identified through a combination of bespoke field survey, and desktop survey including use of GIS software. and through examination of aerial photography. Any European sites identified to have a viable source-pathway-receptor link to the Proposed Development were then examined further to determine the potential for significant effects.

The potential environmental effects of the Proposed Development can be summarised as:

- Dust deposition;
- Human presence;
- Noise and vibration;
- Accidental release of pollutants into surface waters, and underground conduits; and
- Dispersion of pollutants to air during the operational phase.

All works associated with the Proposed Development are located wholly outside of the boundaries of any European sites. Figure 4.1 below illustrates the location of the proposed development and European Sites in the vicinity.

² Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2009

Figure 4.1: European Sites in relation to the Proposed Development

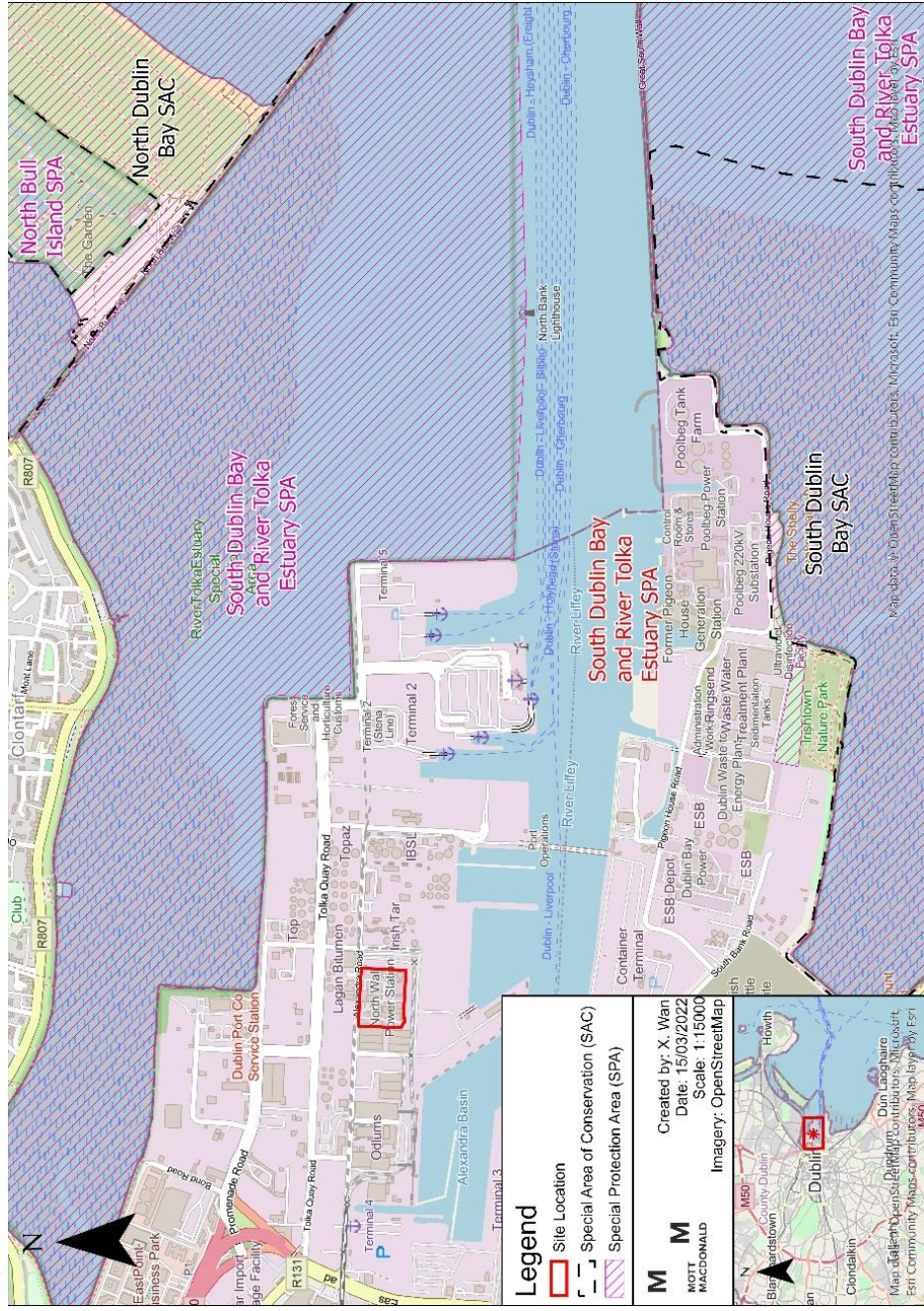


Table 4.1: European Sites within the Zone of Influence

Site Name and Code	Approximate Distance from North Wall Generating Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Site (* denotes priority habitat)
South Dublin Bay and River Tolka Estuary SPA [004024]	0.35km	<ul style="list-style-type: none"> ● Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] ● Oystercatcher (<i>Haematopus ostralegus</i>) [A130] ● Ringed Plover (<i>Charadrius hiaticula</i>) [A137] ● Grey Plover (<i>Pluvialis squatarola</i>) [A141] ● Knot (<i>Calidris canutus</i>) [A143] ● Sanderling (<i>Calidris alba</i>) [A144] ● Dunlin (<i>Calidris alpina</i>) [A149] ● Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] ● Redshank (<i>Tringa totanus</i>) [A162] ● Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] ● Roseate Tern (<i>Sterna dougallii</i>) [A192] ● Common Tern (<i>Sterna hirundo</i>) [A193] ● Arctic Tern (<i>Sterna paradisaea</i>) [A194] ● Wetland and Waterbirds [A999]
South Dublin Bay SAC [000210]	1.36km	<ul style="list-style-type: none"> ● [1140] Tidal Mudflats and Sandflats ● [1210] Annual vegetation of drift lines ● [1310] <i>Salicornia</i> and other annuals colonising mud and sand ● [2110] Embryonic shifting dunes
North Dublin Bay SAC [000206]	2.16km	<ul style="list-style-type: none"> ● [1140] Tidal Mudflats and Sandflats ● [1210] Annual Vegetation of Drift Lines ● [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)* ● [2190] Humid Dune Slacks ● [1395] Petalwort (<i>Petalophyllum ralfsii</i>)
North Bull Island SPA [004006]	2.16km	<ul style="list-style-type: none"> ● Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] ● Shelduck (<i>Tadorna tadorna</i>) [A048] ● Teal (<i>Anas crecca</i>) [A052] ● Pintail (<i>Anas acuta</i>) [A054] ● Shoveler (<i>Anas clypeata</i>) [A056] ● Oystercatcher (<i>Haematopus ostralegus</i>) [A130] ● Golden Plover (<i>Pluvialis apricaria</i>) [A140] ● Grey Plover (<i>Pluvialis squatarola</i>) [A141] ● Knot (<i>Calidris canutus</i>) [A143] ● Sanderling (<i>Calidris alba</i>) [A144] ● Dunlin (<i>Calidris alpina</i>) [A149] ● Black-tailed Godwit (<i>Limosa limosa</i>) [A156] ● Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] ● Curlew (<i>Numenius arquata</i>) [A160] ● Redshank (<i>Tringa totanus</i>) [A162] ● Turnstone (<i>Arenaria interpres</i>) [A169]

Site Name and Code	Approximate Distance from North Wall Generating Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Site (* denotes priority habitat)
		<ul style="list-style-type: none">● Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]● Wetland and Waterbirds [A999]

Table 4.2: Source-Pathway-Receptor, Zones of Influence and Assessment of Effects.

Project Activity / Cause	Potential Biophysical Change	Zones of Influence	European Sites within the Zol and assessment of effects?
<p>Direct removal and alteration of existing habitat from demolition and refurbishment works</p> <p>The North Wall Generating Station is composed almost entirely of hardstanding surfaces and existing structures. The proposed works will result in the removal of some existing structures, and minor areas of amenity grassland. These areas do not constitute designated habitat, nor do they provide supporting habitat for any qualifying interest or SCI species of any European site.</p>	<p>Loss and alteration of existing habitat.</p>	<p>Loss / alteration of habitats is taken as within the footprint of the proposed works.</p>	<p>No, there are no European sites within the Zol of the proposed project in relation to loss / alteration of habitat.</p>
<p>Noise and vibration generated during construction and operational phases</p> <p>The proposed development will generate noise in the local vicinity during the construction and operational phases. Noise has the potential to cause disturbance to qualifying interest and special conservation interest (SCI) species, should the species be present in sufficiently close proximity to the works and should the noise and vibration generated be of sufficient scale and/or duration to cause disturbance to such species.</p> <p>A detailed noise model has been completed which outlines predicted worst-case noise levels from the proposed development during both construction and operation at varying distances and receptor points. The outputs of this noise study have been used to assess the potential for disturbance to qualifying interest and SCI species from noise generated from the proposed development.</p> <p>Construction vibration due to the proposed development is assumed to be negligible as these will be shallow piles and the works will not be in proximity to the river.</p>	<p>Disturbance to qualifying interest and SCI species due to noise and vibration.</p>	<p>The Zol for noise is dependent on the sensitivity of receptor species to disturbance from noise. The only qualifying features sensitive to noise disturbance identified within the surrounding environment of the proposed development relate to birds from SPA sites in Dublin Bay.</p> <p>The Zol in relation to noise has been determined on a case by case basis for relevant species based on published literature and guidance from the Waterbird Disturbance and Mitigation Toolkit.</p>	<p>No, there are no European sites within the Zol of the proposed project in relation to noise.</p> <p>The closest European site to the proposed development is South Dublin Bay and River Tolka Estuary SPA, located c.350m north. The worst-case predicted noise levels at the closest point of this SPA during both the construction and operational phase, inclusive of background ambient noise, are below 55dB. These levels are well below documented thresholds for noise disturbance in waterbirds species known to regularly occur at the estuary (i.e. c.70dB, as outlined in the WDM Toolkit).</p> <p>Similarly, the four tern nesting sites within Dublin Bay are all >700m distance from the North Wall Power Station. Predicted worst-case noise levels at the closest nesting site are below 55dB during construction and operation, inclusive of background ambient noise.</p> <p>While outside of any SPA, brent geese are known to occur at Alexandra Basin West, where they opportunistically forage on agricultural foodstuff spilt along the berths</p>

Project Activity / Cause	Potential Biophysical Change	Zones of Influence	European Sites within the Zol and assessment of effects?
<p>Dust emissions during demolition and refurbishment works</p> <p>Activities associated with the construction phase of the proposed development have the potential to result in temporary emissions of dust to atmosphere, e.g. during demolition/dismantling activities.</p>	<p>Disturbance to qualifying interest and SCI species and/or degradation of designated habitats due to emissions of dust.</p>	<p>The Zol for dust impacts on ecological receptors is assessed as 50m from the source³.</p>	<p>during cargo deliveries. Alexandra Basin West is located c.200m south-west of the North Wall Power Station at its closest point. Predicted worst-case noise levels at Alexandra Basin West from the proposed development are well below the documented threshold values for disturbance to brent geese from noise.</p> <p>No, there are no European sites within the Zol of the proposed project in relation to dust.</p>
<p>Increased human presence during demolition and construction works</p> <p>The proposed works will result in a temporary increase in human activity within the North Wall Generating Station during the demolition and proposed works. It is expected that there will be approximately 50no. personnel on-site during dismantling/removal works and up to a peak of 100 personnel during construction works.</p>	<p>Disturbance to qualifying interest and SCI species due to human presence.</p>	<p>The project site is located within a highly urban environment with numerous existing busy industrial facilities and associated activities in the immediate surrounding area. The proposed works are contained within an existing enclosed facility with high boundary walls. As such, the Zol for visual disturbance to species as a result of human presence is assessed as within the enclosed North Wall Generating Station site where works will take place.</p>	<p>No, there are no European sites within the Zol of the proposed project in relation to human presence.</p>
<p>Surface water run-off during construction and changes to the existing wastewater infrastructure during operation</p> <p><i>Construction phase</i></p> <p>Surface water at the existing site is collected in a series of stormwater drains. The stormwater system</p>	<p>Changes in water quality.</p>	<p>The Zol for impacts to water quality is assessed as downstream of the proposed works, where any connectivity exists.</p>	<p>The stormwater system discharges off-site at two locations; at Alexandra Basin East into the Liffey Estuary, and at north of the Alexandra Road Extension into the Tolka Estuary and therefore there is hydrological connectivity between South Dublin Bay and River Tolka</p>

³ The Institute of Air Quality Management 'Guidance on the Assessment of dust from demolition and construction' (Holman *et al*, 2014) prescribes potential dust emission risk classes to ecological receptors. The guidelines specify that, for highly sensitive ecological receptors, sensitivity to dust is 'High' up to 20m from the source, 'Medium' up to 50m from the source and reduces to 'Low' at distances over 50m from the source.

Project Activity / Cause	Potential Biophysical Change	Zones of Influence	European Sites within the Zol and assessment of effects?
<p>discharges off-site at two locations; at Alexandra Basin East into the Liffey Estuary, and north of the Alexandra Road Extension into the Tolka Estuary. There is an oil plume within the site; hazardous materials are stored on site; sediment may be released during excavations – these all potentially could enter the drainage system and be released into the Liffey Estuary and/or Tolka Estuary.</p>	<p>Changes in air quality</p>	<p>An air quality assessment carried out in relation to the proposed development has determined that emissions of pollutants during the operational phase will not result in air quality impacts to the surrounding environment. As there is no potential for negative effects on the surrounding environment, there is no respective Zol for emissions during the operational phase.</p>	<p>Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and South Dublin Bay SAC. It would be expected that European Sites further east would be outside the Zol in the event of a contaminant spill due to the large dilution factor available. On this basis, there is potential for significant effects to South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and South Dublin Bay SAC.</p>
<p>Emissions of pollutants during operational phase of refurbished power Station The proposed development will operate via the combustion of natural gas. An air quality assessment carried out in relation to the proposed development modelled the predicted concentrations of pollutants during the operational phase and assessed the potential for impact on European sites, for natural gas. With respect to natural gas, the primary pollutants of concern are oxides of nitrogen (NO₂) and carbon monoxide (CO). The results for NO_x show that the predicted concentrations at the closest European Site are 0.32% of the AQS (the AQS is 30µg/m³). As such, there is no potential for effects on European sites from the operational phase of the proposed development in relation to the combustion of natural gas.</p>	<p>Changes in air quality</p>	<p>An air quality assessment carried out in relation to the proposed development has determined that emissions of pollutants during the operational phase will not result in air quality impacts to the surrounding environment. As there is no potential for negative effects on the surrounding environment, there is no respective Zol for emissions during the operational phase.</p>	<p>No, there are no European sites within the Zol of the proposed project in relation to emission of pollutants during the operational phase.</p>

4.3 Plans and Projects and In Combination Effects

Article 6(3) of the Habitats Directive requires that:

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.

Existing Pressures

Conservation objectives for QI and SCI at relevant European Sites are based on existing developments (projects) i.e., current developments are the baseline to which conservation objectives have been set. These objectives are outlined in Table 5.5.

It is noted that European sites were designated in relatively recent years based on the baseline i.e. presence of Dublin city and associated developed areas. Newer projects that add to the baseline are the key consideration regarding Appropriate Assessment i.e. additional projects (potential pressures) are assessed having regard to general conservation objectives for relevant European sites (maintain at stable/ favourable conservation status).

The baseline (existing projects) are considered as part of the in-combination assessment.

Plans

The Dublin City Development Plan 2022- 2028⁴ which incorporates the area of the proposed development and hydrologically linked European Sites, has been subject to Appropriate Assessment for proposed development plans. The following applies in this development plan;

*To ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and/ or proposed plans or projects, will not have a significant effect on a European Site, or where such a plan is likely or might have such a significant effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92/43/EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. **Only after having ascertained that the plan will not adversely affect the integrity of any European site, will the planning authority adopt the plan, incorporating any necessary mitigation measures.** A plan which could adversely affect the integrity of a European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.*

The Dublin City Development Plan 2016-2022 include objectives and policies which are associated with the protection of the natural environment, European sites and Natural Heritage Areas. Relevant objectives to this assessment include: GI2, GI16, GI22, GI23, GI24 and GIO24. All new plans and projects proposed within proximity to the proposed development must adhere to the above-mentioned policies and objectives. Adherence to the Council's policies and objectives will ensure that any new plans and projects will not result in significant effects on European Sites. There are no current projects/ plans that have followed the Article 6(4) process in relation to European sites of interest to the proposed development.

Proposed Projects

It is also required that the potential impacts of the Proposed Development are considered in combination with any other relevant proposed plans or projects. A planning search was

⁴ <https://www.dublincity.ie/sites/default/files/2021-12/volume-1-draft-dublin-city-development-plan-2022-2028-low-res.pdf>

conducted in March 2022 to determine if there are other plans or projects which may act in combination with the proposed emergency power plant.

The MP2 Project is a Strategic Infrastructure Development at Dublin Port which will include the construction of a new Ro-Ro jetty, construction of new quay walls, works to existing berths, new berth 53, dredging works and amendments to consented developments with planning reference numbers 3084/16 & 3638/18, and the ABR Project (ABP Ref. 29N.PA0034). An Environmental Impact Assessment Report (EIAR) of the project was undertaken by RPS on behalf of Dublin Port Company (RPS, 2019⁵). The assessment identified the potential for impacts to fisheries, marine mammals and potential disturbance and loss of nesting habitats of avian species. The assessment outlines mitigation measures which will be implemented and concluded that the proposed project will not result in any adverse effects on any European sites integrity.

The Natura Impact Statement for the Brexit Infrastructure at Dublin Port assessed proposed port-cabin structures, resurfacing and amalgamation of 8 existing yards, modification of drainage and lighting, provision of parking, gates, signage and ancillary site works. The NIS found that given the inclusion of strict Best Practice Construction Measures and CEMP, that this development would have no predicted adverse effects on any European Site integrity.

Dublin Port Alexandra Basin Development consists of the redevelopment of Alexandra Basin West, including demolition of part of North Wall Quay Extension, new quay walls, dredging, infilling works, two new berths and an interpretive centre. Works began in 2016 and are continuing. The NIS found that following the full implementation of mitigation measures, there would be no significant effects on mammals including the harbour porpoise. No adverse effects on European Site integrity were outlined.

The Tolka Estuary Greenway / Liffey-Tolka Project consists of works to the Port's private internal road network. The development consists of a high-quality public realm with new and enhanced segregated pedestrian and cycle routes from the interface of Dublin Port and the City immediately to the north of the Tom Clarke Bridge at the River Liffey to the Tolka Estuary. The NIS found that following the application of mitigation measures there will be no adverse effects upon the integrity of any of the European Sites concerned.

There is a proposed Strategic Housing Development at North Wall Quay. The site was previously used as warehousing/industrial use. The project will comprise 1,005 no. residential units arranged in 3 blocks and ranging in height from 8 – 45 storeys over a triple level basement. The NIS found that following the full implementation of mitigation measures there would be no risk of adverse effects on QI habitats or species or SCI species, or the attainment of conservation objectives, alone or in combination with other plans and projects. There would be no adverse effects on European Site integrity.

4.4 Summary of Potential Significant Effects and Screening Conclusion

In the absence of mitigation, potential for likely significant effects on European Sites have been identified for the proposed development. Due to the hydrological linkage between the proposed development site to the Liffey Estuary and Tolka Estuary, there is potential for contamination effects, in the absence of mitigation, on the following European Sites:

- South Dublin Bay and River Tolka Estuary SPA
- North Bull Island SPA
- North Dublin Bay SAC
- South Dublin Bay SAC

⁵ RPS (2019) MP2 Project Environmental Impact Assessment Report Main Document (Part 1)

The Appropriate Assessment Screening concludes that likely significant effects on European Sites cannot be excluded on the basis of objective evidence, from the proposed development alone, or in combination with other plans or projects.

5 Natura Impact Statement

5.1 Introduction

This Natura Impact Statement (NIS) has been produced in support of the Appropriate Assessment of the Proposed Development to be undertaken by the competent authority. The NIS considers whether the elements of the proposed development with potential for likely significant effects will adversely affect the integrity of European Sites with respect to each site's conservation objectives. Mitigation measures are identified to avoid adverse effects on the integrity of European Sites.

5.2 Description of the Development

The proposed development is presented in Section 3 of this report.

5.3 Description of the Receiving Environment

5.3.1 Desktop Assessment

A comprehensive desk study has been carried out in order to obtain information relevant to the completion of this report. This desk study relied on the following sources of information:

- Locations, extents and qualifying features of relevant European sites from the National Parks and Wildlife Service (NPWS), available at www.npws.ie;
- Site synopses and conservation objectives and supporting documents for relevant European sites from the NPWS, available at www.npws.ie;
- Satellite imagery from various sources and dates including Google, Bing, Digital Globe and Ordnance Survey Ireland;
- Data from winter bird surveys at Alexandra Basin West in 2012/13 and 2013/14, provided in Nairn (2014);
- Information on the locations of common and arctic tern nesting colonies in Dublin Port, provided in Tierney *et al.* (2017);
- Information from the Waterbird Disturbance and Mitigation Tool on the documented threshold levels for noise disturbance to relevant species, available at www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/;
- Information on the distribution of harbour porpoise within the Rockabill to Dalkey Island SAC from surveys carried out in 2008 and 2013, provided in O'Brien and Berrow (2013) & Berrow *et al.* (2008);
- Information on sightings of harbour porpoise within Dublin Harbour and the shipping channel from surveys commissioned by Dublin Port Company as part of past dredging activities, provided in RPS (2016 & 2019); and
- Information on the distribution of grey and harbour seals in Dublin Bay from the 2018 Dublin Bay Seal Census, provided in Lauder (2018).

5.3.2 Site Visit

As part of a previous application, a preliminary walkover survey of the site was carried out on 16th September 2019 to determine the scope of targeted ecological survey necessary to assess the likely effects of the project on biodiversity. The site is comprised almost entirely of hardstanding ground, buildings and structures. Small areas of amenity grassland will be removed to facilitate the project.

The preliminary walkover, coupled with the desktop assessment, concluded that given the location of the proposed development, and having regard to the built nature of the site, protected species likely to occur within the environs of the site are limited to bat species, which could potentially be roosting within structures within the existing power plant. There are no natural habitats or watercourses within or in proximity to the proposed development site. As such there is limited potential for the site to support protected mammals, birds, aquatic or invertebrate species.

A site visit was conducted on 22nd July 2021 to inform potential for the site to be used by mobile feature of interest associated with European sites including nesting gull (Herring gull - *Larus argentatus* and Lesser black-backed gull - *Larus fuscus*) species and Peregrine (*Falco peregrinus*).

The area was searched for evidence of invasive plant species listed in Part 1 and non-native animal species listed in Part 2 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

The presence of drains was noted that may provide sources of surface water pollutants to the local environment.

5.4 Desktop Assessment Findings

5.4.1 Records of rare and protected species and habitat

A review of published records of plants and animals protected under law, and invasive species listed in the Third Schedule of the Birds and Habitats Regulations was undertaken. Data sources reviewed included:

- National Parks and Wildlife Services & National Biodiversity Data Centre;
- Botanical Society of Britain and Ireland;
- BirdWatch Ireland;
- National Biodiversity Data Centre; and
- Review of unpublished ecological assessments carried out within proximity to the site.

The findings are summarised hereunder.

Records of rare and/or protected flora species

Known records of protected or rare flora species occurring within the Irish Grid square O13X were supplied by the NPWS Scientific Unit. These primarily relate to historic records from 50-100 years ago outside of Dublin Port. Species recorded included; shepherd's-needle (*Scandix pecten-veneris*) (1948), blue fleabane (*Erigeron acer*) (2000), rough poppy (*Papaver hybridum*) and wild clary (*Salvia verbenaca*). There are records of wood small-reed (*Calamagrostis epigejos*) within Dublin Port from 1999, near the Tolka Quay Road.

Referring to the NPWS vascular plant Red List for Ireland, wood small-reed is currently listed as 'Vulnerable', blue fleabane and wild clary are both listed as 'Least Concern' and rough poppy and shepherd's-needle are both listed as 'Regionally Extinct'.

A desktop search of the Botanical Society of Britain and Ireland's (BSBI) Distribution Database for the 10km tetrad O13X which encompasses the proposed development site was undertaken. Recent records (between 2000 – 2019) indicate that 60 plant species have previously been

recorded within the tetrad. Only one species; wood small-reed is listed as ‘Vulnerable’ within the Ireland Red List No. 10 Vascular Plants⁶.

Protected Mammal Species

National Biodiversity Data Centre records of protect mammal species which have been recorded within the 2km grid square (O13X) which encompass the proposed development site are included in Table 5.1.

Table 5.1: NBDC Mammal Records

Name	Date of Record	Title Dataset	Designation(s)
Fin Whale	4/10/2019	IWDG Cetacean Strandings Database	EU Habitats Directive: Annex II and IV; Wildlife Act
Otter (<i>Lutra lutra</i>)	08/10/2015	Atlas of Mammals in Ireland 2010-2015	EU Habitats Directive: Annex II & Annex IV; Wildlife Acts.
	01/09/2010	National Otter Survey of Ireland 2010/12	

Bat species have been recorded in the wider environment including Brown Long-eared Bat (*Plecotus auritus*), Lesser Noctule (*Nyctalus leisleri*), and Soprano Pipistrelle (*Pipistrellus pipistrellus sensu lato*).

Protected Bird Species

Dublin Waterbird Survey Programme 2011/12

Low-tide and high-tide winter bird surveys were undertaken across Dublin Bay as part of the Waterbird Survey Programme in 2011/12 (NPWS, 2014⁷). The survey area included South Dublin Bay SPA and North Bull Island SPA site boundaries which were further subdivided into subsites. The closest subsite to North Wall Generating Station is subsite 0UL44 (Clontarf Baths) which is located approximately 350m north of the site, within the Tolka Estuary. Following a review of survey findings, it was noted that the majority of foraging and roosting sites of the designated waterbird species occur at subsites 0UL43 (Fairview Park) located at the closest point approximately 690m north-west of the Power Plant and subsites 0U465 (Wooden Bridge – Causeway), 0U466 (North of Causeway) and 0UL48 (Sutton Strand South), which are located north of North Bull Island, which lies at the closest point approximately 2.2km north-east of the Power Plant.

A slightly lower number of birds were recorded foraging at subsite 0UL44. A total of 11no. species were recorded within the subsite during the low-tide surveys: brent geese, shelduck, teal, oystercatcher, grey plover, knot, black-tailed godwit, curlew, redshank, turnstone and black-headed gull (NPWS, 2014).

Irish Wetland Bird Survey (I-WeBS)

The Irish Wetland Bird Survey (I-WeBS), a joint scheme of BirdWatch Ireland and the National Parks and Wildlife Service, monitors the numbers of wintering waterbirds in Ireland at a range of sites throughout the country. There are a number of sub-sites of Dublin Bay (0U404) located within Dublin Port and the Tolka Estuary.

The closest site to North Wall Generating Station is subsite Poolbeg (Liffey) (0U603) which is located, at the closest point, approximately 600m south-west of the site. Following a request for

⁶ Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

⁷ NPWS (2014) North Bull Island Special Protection Area (Site Code 4006) & South Dublin Bay and River Tolka Estuary Special Protection Area (Site Code 4024).

data, BirdWatch Ireland provided the annual peak counts for subsite 0U603 on the 02/03/2020 which is outlined in Table 5.2 below.

Table 5.2: Annual Peak Counts at Subsite 0U603

Species	1% National	1% International	Annual Peak Count (2016/17)
Mute Swan	90	100	1
Light-bellied Brent Goose	350	400	290
Wigeon	560	14000	13
Teal	360	5000	55
Red-breasted Merganser	25	860	12
Red-throated Diver	20	3000	1
Great Crested Grebe	30	6300	6
Cormorant	110	1200	48
Grey Heron	25	5000	1
Oystercatcher	610	8200	139
Ringed Plover	120	540	1
Sanderling	85	2000	6
Dunlin	460	13300	250
Black-tailed Godwit	200	1100	285
Curlew	350	7600	16
Redshank	240	2400	45
Turnstone	95	1400	19
Black-headed Gull	n/a	20,000	750
Common Gull	n/a	16,400	120
Lesser Black-backed Gull	n/a		1
Herring Gull	n/a	10,200	18
Great black backed gull	n/a	4,200	8

A total of 22 species have been recorded at the Poolbeg (Liffey) I-WeBS monitoring site. It is noted that this is a recently established monitoring subsite. Of these 22 species, one has been recorded in numbers of national importance; black-tailed godwit.

Dublin Bay Birds Project

There are several common and arctic tern nesting sites within Dublin Harbour which are monitored by BirdWatch Ireland as part of the Dublin Bay Birds Project. These monitored nesting sites comprise four small artificial structures within the Tolka and Liffey Estuaries (Tierney *et al.*, 2017). One of these four nesting sites is designated as part of South Dublin Bay and River Tolka Estuary SPA, the ESB Dolphin, located over 1.4km from the North Wall Power Plant. The closest of the nesting sites to the North Wall Power Plant is Pontoon TP1, located in the Tolka Estuary c.790m to the northeast.

National Biodiversity Data Centre (NBDC)

Records of protect bird species which have previously been recorded within the 2km grid square (O13X) which encompass the proposed development site are included in Table 5.3.

Other birds of conservation concern which have been recorded in the wider environment include Barn Owl (*Tyto alba*) (Red List), Barn Swallow (*Hirundo rustica*) (Amber List), Merlin (*Falco columbarius*) (Amber List) and Short-eared Owl (*Asio flammeus*) (Amber List).

Table 5.3: Records of protected birds

Name	Date of Record	Title Dataset	Location in relation to the survey area	Designation(s) ⁸
Black Guillemot (<i>Cephus grylle</i>)	05/06/2016	Seabird 2000	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Black-headed Gull (<i>Larus ridibundus</i>)	10/03/2012	Birds of Ireland	Previously recorded within the 10km square grid which encompasses the site. Sighting also recorded ca. 350m north of the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Kittiwake (<i>Rissa tridactyla</i>)	10/03/2012	Birds of Ireland	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: OSPAR Convention Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Black-tailed Godwit (<i>Limosa limosa</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Brent Goose (<i>Branta bernicla</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site. Sighting also recorded ca. 440m south of the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Guillemot (<i>Uria aalge</i>)	09/03/2009	Birds of Ireland	Sightings recorded ca. 350m north of the site. Sightings also recorded ca. 690m east of the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Redshank (<i>Tringa totanus</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Shelduck (<i>Tadorna tadorna</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

⁸ Gilbert G, Stanbury A and Lewis L (2021), "Birds of Conservation Concern in Ireland 2020 –2026". Irish Birds 9: 523–544

Name	Date of Record	Title Dataset	Location in relation to the survey area	Designation(s) ⁸
Curlew (<i>Numenius arquata</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Oystercatcher (<i>Haematopus ostralegus</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Teal (<i>Anas crecca</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Black-backed Gull (<i>Larus marinus</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts
Great Cormorant (<i>Phalacrocorax carbo</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Crested Grebe (<i>Podiceps cristatus</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Herring Gull (<i>Larus argentatus</i>)	10/03/2012	Birds of Ireland	Previously recorded within the 10km square grid which encompasses the site. Sighting also recorded ca. 350m north of the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Lesser Black-backed Gull (<i>Larus fuscus</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Little Egret (<i>Egretta garzetta</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
Mallard (<i>Anas platyrhynchos</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species >> Birds of Conservation Concern - Amber List
Common Gull (<i>Larus canus</i>)	13/09/2014	Birds of Ireland	Previously recorded within the 10km	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species:

Name	Date of Record	Title Dataset	Location in relation to the survey area	Designation(s) ⁸
			square grid which encompasses the site.	Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mute Swan (<i>Cygnus olor</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Red-breasted Merganser (<i>Mergus serrator</i>)	31/12/2011	Bird Atlas 2007 - 2011	Previously recorded within the 10km square grid which encompasses the site.	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species

5.5 Output of Field Surveys

5.5.1 Habitat and Flora

A description of the habitats located within the proposed development site is presented below. Habitats were described in accordance with Fossitt (2000)⁹. An assessment of the habitats was undertaken in accordance with the NRA Guidelines (2009)¹⁰ and CIEEM Guidelines (2018)¹¹.

An aerial image of the Existing North Wall Power Plant facility is shown in Figure 5.1 below.

Figure 5.1: Existing North Wall Power Plant facility (drone footage, looking south)



Source: ESB, 2019

⁹ Fossitt (2000) A Guide to Habitats in Ireland, The Heritage Council

¹⁰ NRA (2009), Guidelines for Assessment of Ecological Impacts of National Roads Scheme.

¹¹ CIEEM (2018, updated 2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater Coastal, and Marine Version 1.1.

Building and Artificial Surfaces (BL3)

The proposed development site predominantly comprises hardstanding ground and large buildings and structures.

The site is entirely tarmacked with the exception of a few small areas of amenity grassland. A small carpark occurs towards the centre of the site which is used by site personnel. The site is enclosed by a concrete wall, with a main entrance gate located off the Alexandra Road.

The building/structures and artificial surfaces within the site were all assessed as having Local Importance (Low Value) due to the low ecological value the habitats provide.

Figure 5.2: Existing buildings located within the proposed development site



Source: Mott MacDonald, 2019

Amenity Grassland (GA2) and Ornamental Shrub (WS3)

Small patches of amenity grassland occur at the centre and north-eastern corner of the site. Ornamental shrubs also occur in areas around the site.

The habitats were assessed as assessed as having Local Importance (Low Value) due to the low ecological value the habitats provide.

Figure 5.3: Amenity grassland and ornamental shrubs within the proposed development site



Source: Mott MacDonald, 2019

Tidal River (CW2)

The River Liffey at its closest point is located approximately 200m to the south of the proposed development site boundary. The river, at this location, is classified as the transitional waterbody Liffey Estuary Lower (IE_EA_090_0300). The watercourse forms part of the Dublin Port Channel and is regularly traversed by ships.

The transitional watercourse is currently assigned 'intermediate' WFD status (2018-2020). The watercourse does not form part of an international or nationally designated site but is directly linked to coastal designated sites in Dublin Bay.

Inland Fisheries Ireland (IFI) carried out fish stock surveys at a total of seven sites within the Liffey Estuary in 2010, both the lower and upper Liffey estuary were assigned 'Moderate' ecological status (IFI, 2010)¹². A total of 17 species were recorded within the watercourse during the survey, with thick-lipped grey mullet (*Chelon labrosus*) being the most common. The River Liffey has county important populations of Otter (*Lutra lutra*), Salmon (*Salmo salar*), Kingfisher (*Alcedo atthis*) and other species.

Protected and Invasive plant species

No rare or threatened species or species listed as a Flora Protection Order (FPO) species or Annex I habitats protected under the Habitat Directive were recorded within the site.

Similarly, no invasive species listed in the Third Schedule of S.I. No. 477 of 2011, European Communities (Bird and Natural Habitats) Regulations 2011, as amended, were identified within the site.

Butterfly-bush (*Buddleja davidii*) a non-native species and considered moderately invasive plant species occurs locally on the site.

5.5.2 Fauna

Protected Mammal (non-volant) Species

¹² Inland Fisheries Ireland (2010) Sampling fish for the Water Framework Directive – Transitional Waters 2010. Liffey Estuary.

No evidence of protected mammal species or suitable habitat to support same was identified within the proposed development site. The hardstanding and built nature of the site provides negligible value to protected species.

Evidence of foxes (*Vulpes vulpes*) and feral cats (*Felis catus*) noted within the site boundary included scat and feeding remains. No breeding sites were recorded. Foxes are not currently protected under National law; however, there is an obligation to protect biodiversity within Ireland under the Convention on Biological Diversity.

Bats

All bat species and their roost sites are protected under both National and European legislation.

Mott MacDonald ecologists undertook a daytime bat roost assessment of all structures to be affected by the proposed works on 7 November and 4 December 2019.

A follow up survey was conducted during July 2021. The survey included visual checks of the exterior of all buildings and interior of all buildings proposed for demolition.

No active bat roosts were identified within the buildings surveyed. No evidence of bat activity was identified during the internal or external inspection of the buildings. All buildings within the site were assessed as having 'Negligible' suitability to support bat roosts in accordance with Collins (2016)¹³.

Birds

All wild birds and their nests and eggs are protected under the Wildlife Acts.

The proposed development site comprises built ground and has limited suitable habitat to support breeding bird species. There are a number of ornamental shrubs which occur within the site which may provide some nesting habitat for breeding birds, however considering the highly disturbed nature of the site this is likely to be limited.

Mott MacDonald ecologists examined the internal and external areas of buildings which will be affected by the proposed works on 7 November and 4 of December 2019 and again in July 2021. The buildings were examined for evidence of usage by birds e.g. old nest material, droppings, pellets and feathers, and for suitable access points for birds. No evidence of usage by birds was observed. The buildings have low suitability for usage by birds. They are generally in regular use, are well sealed and are illuminated internally and externally on a 24-hour basis. No suitable habitat to support wintering bird species occurs within the proposed development site. The site predominantly comprises hardstanding ground and built structures which provide no value for wintering bird species. Small areas of amenity grassland occur within the site. Considering the small areas of amenity grassland within the site, and the highly disturbed nature of the site, there is no potential that the amenity grassland provides an important foraging habitat for protected wintering bird species.

Invertebrate, Amphibian and Reptile Species

No suitable habitat to support protected invertebrate, amphibian or reptile species was identified within the proposed development site. In addition, there are no records of protected invertebrate, amphibian or reptile species previously recorded within the 2km grid square O13X which encompasses the site. The built and highly disturbed nature of the site makes it unfavourable for these protected species.

¹³ Collins (2016) Bat Surveys for Professional Ecologists, Good Practice Guidelines

5.6 European Sites

Detailed in the table below are the European Sites which have the potential to be affected by the proposed development. Also included are the qualifying interests and special conservation interests, after which 'R' = restore and 'M' = Maintain are listed. 'R' denotes that the overall conservation objective is to restore the favourable conservation condition of the habitat/species and 'M' denotes that the overall conservation objective is to maintain the favourable conservation condition of the habitat/species. Detailed conservation objectives with attributes and targets are also presented.

Table 5.4: Special Conservation Interest (SCI) and Qualifying Interest (QI) of relevant European Sites Conservation targets and Potential for Effects

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
South Dublin Bay and River Tolka Estuary SPA [004024]	0.35km	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hirota</i>) [A046] (M) Oystercatcher (<i>Haematopus ostralegus</i>) [A130] (M) Ringed Plover (<i>Charadrius hiaticula</i>) [A137] (M) Grey Plover (<i>Pluvialis squatarola</i>) [A141] – proposed for removal as an SCI Knot (<i>Calidris canutus</i>) [A143] (M) Sanderling (<i>Calidris alba</i>) [A144] (M) Dunlin (<i>Calidris alpina</i>) [A149] (M) Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] (M) Redshank (<i>Tringa totanus</i>) [A162] (M) Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] (M) Roseate Tern (<i>Sterna dougalli</i>) [A192] (M) Common Tern (<i>Sterna hirundo</i>) [A193] (M) Arctic Tern (<i>Sterna paradisaea</i>) [A194] (M) Wetland and Waterbirds [A999] (M) 	<p>Conservation objectives for most SCIs relate to:</p> <ul style="list-style-type: none"> Population trend - that it is stable or increasing Distribution – no significant decrease in the range, timing or intensity of the use of the area other than natural patterns of variation. <p>In relation to Roseate and Arctic terns, the following apply:</p> <ul style="list-style-type: none"> Passage Population – no significant decline Distribution: roosting areas – no significant decline Prey biomass available – no significant declines Barriers to connectivity – No significant increase Disturbance at roosting site – human activities should occur at levels that do not adversely affect the numbers <p>For Common tern, the following apply:</p> <ul style="list-style-type: none"> Breeding population abundance – no significant decline Productivity rate – no significant decline Passage population – no significant decline Distribution: breeding colonies – no significant decline Distribution: roosting areas – no significant decline Prey biomass available – no significant decline 	<ul style="list-style-type: none"> The proposed development has the potential to affect water quality, potentially affecting wetlands and feeding area for the SCIs within the SPA via the mobilisation of contaminants within the site due to excavation works.

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
South Dublin Bay SAC [000210]	1.36km	[1140] Tidal Mudflats and Sandflats (M)	<ul style="list-style-type: none"> Barriers to connectivity – no significant increase Disturbance at breeding site - human activities should occur at levels that do not adversely affect the population Disturbance at roosting site - human activities should occur at levels that do not adversely affect the numbers <p>For Wetlands:</p> <ul style="list-style-type: none"> Habitat area – the permanent area should be stable and not significantly less than the area of 2,192ha, other than that occurring from natural patterns of variation. 	<ul style="list-style-type: none"> The proposed development has the potential to affect water quality within the SAC, thus affecting the mudflat and sandflat habitats via excavations within the site
			<ul style="list-style-type: none"> Habitat area – the permanent area to be stable or increasing, subject to natural processes. Community extent – Maintain the extent of <i>Zostera</i>-dominated community, subject to natural processes. Community structure: <i>Zostera</i> density – conserve the high quality of the <i>Zostera</i>-dominated community, subject to natural processes. Community distribution – conserve Fine sands with <i>Angulus tenuis</i> in a natura condition. 	
		[1210] Annual vegetation of drift lines (not listed in Conservation Objectives (NPWS, 2013a))		
		[1310] <i>Salicornia</i> and other annuals colonising mud and sand (not listed in Conservation Objectives (NPWS, 2013a))		

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
North Dublin Bay SAC [000206]	2.16km	<ul style="list-style-type: none"> [2110] Embryonic shifting (not listed in Conservation Objectives (NPWS, 2013a)) [1140] Tidal Mudflats and Sandflats (M) 	<ul style="list-style-type: none"> N/A Habitat Area – stable or increasing subject to natural processes. Community extent – maintain extent of <i>Mytilus edulis</i>, subject to natural processes Community structure: <i>Mytilus edulis</i> density – conserve the high equality <i>M. edulis</i> community subject to natural processes. Community distribution - Conserve the following community types in a natural condition: Fine sand to sandy mud with <i>Pygospio elegans</i> and <i>Crangon crangon</i> community complex; Fine sand with <i>Spio martinensis</i> community complex. 	<ul style="list-style-type: none"> The proposed development has the potential to affect water quality within the SAC, thus affecting the habitats and species via excavations within the site
		<ul style="list-style-type: none"> [1210] Annual Vegetation of Drift Lines (R) 	<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: functionality and sediment supply - Maintain the natural circulation of sediment and organic matter, without any physical obstructions Vegetation structure: zonation - Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation composition: typical species and sub communities - Maintain the presence of species-poor communities with typical species: 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
	<ul style="list-style-type: none"> [1310] <i>Salicornia</i> Mud (R) 	<p>sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenya peploides</i>), prickly saltwort (<i>Salsola kali</i>) and oraches (<i>Atriplex</i> spp.)</p> <ul style="list-style-type: none"> Vegetation composition: negative indicator species - Negative indicator species (including non-natives) to represent less than 5% cover 	<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply - Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions Physical structure: creeks and pans - Maintain creek and pan structure, subject to natural processes, including erosion and succession Physical structure: flooding regime - Maintain natural tidal regime Vegetation structure: zonation - Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation structure: vegetation height - Maintain structural variation within sward Vegetation structure: vegetation cover - Maintain more than 90% of area outside creeks vegetated 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
		<p>(* denotes priority habitat)</p>	<ul style="list-style-type: none"> Vegetation composition: typical species and sub communities - Maintain the presence of species-poor communities Vegetation structure: negative indicator species - <i>Spartina anglica</i> - No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1% 	
	<ul style="list-style-type: none"> [1330] Atlantic Salt Meadows (M) 		<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply - Maintain natural circulation of sediments and organic matter, without any physical obstructions Physical structure: creeks and pans - Maintain creek and pan structure, subject to natural processes, including erosion and succession Physical structure: flooding regime - Maintain natural tidal regime Vegetation structure: zonation - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation structure: vegetation height - Maintain structural variation within sward Vegetation structure: vegetation cover - Maintain more than 90% area outside creeks vegetated 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
		<p>(* denotes priority habitat)</p>	<ul style="list-style-type: none"> Vegetation composition: typical species and sub communities - Maintain range of sub communities with typical species Vegetation structure: negative indicator species - <i>Spartina anglica</i> - No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1% 	
	<ul style="list-style-type: none"> [1410] Mediterranean Salt Meadows (M) 			<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply – Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions Physical structure: creeks and pans - Maintain creek and pan structure, subject to natural processes, including erosion and succession Physical structure: flooding regime - Maintain natural tidal regime Vegetation structure: zonation - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation structure: vegetation height - Maintain structural variation in the sward Vegetation structure: vegetation cover - Maintain more than 90% of area outside creeks vegetated

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
		<p>(* denotes priority habitat)</p>	<ul style="list-style-type: none"> Vegetation composition: typical species and sub communities - Maintain range of subcommunities with characteristic species Vegetation structure: negative indicator species - <i>Spartina anglica</i> - No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1% 	
	<ul style="list-style-type: none"> [2110] Embryonic Shifting Dunes (R) 		<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply – Maintain natural circulation of sediments and organic matter, without any physical obstructions Vegetation structure: zonation - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation composition: plant health of foredune grasses - More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present) Vegetation composition: typical species and sub communities - Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
		<ul style="list-style-type: none"> [2120] Marram Dunes (White Dunes) (R) 	<ul style="list-style-type: none"> Vegetation composition: negative indicator species - Negative indicator species (including non-native species) to represent less than 5% cover Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply – Maintain natural circulation of sediments and organic matter, without any physical obstructions Vegetation structure: zonation - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation composition: plant health of dune grasses - 95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present) Vegetation composition: typical species and sub communities - Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme grass (<i>Leymus arenarius</i>) Vegetation composition: negative indicator species - Negative indicator species (including non-natives) to represent less than 5% cover 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
		<ul style="list-style-type: none"> [2130] Fixed Dunes (Grey Dunes)* (R) 	<ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes. Physical structure: sediment supply – Maintain natural circulation of sediments and organic matter, without any physical obstructions Vegetation structure: zonation - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession Vegetation structure: bare ground - Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes Vegetation structure: sward height - Maintain structural variation within sward Vegetation composition: typical species and sub communities - Maintain range of sub communities with typical species Vegetation composition: negative indicator species (including <i>Hippophae rhamnoides</i>) - Negative indicator species (including non-natives) to represent less than 5% cover Vegetation composition: scrub/trees - No more than 5% cover or under control 	<ul style="list-style-type: none"> [2190] Humid Dune Slacks (R) <ul style="list-style-type: none"> Habitat Area – stable or increasing subject to natural processes. Habitat distribution - No decline, or change in habitat distribution, subject to natural processes.

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
			<ul style="list-style-type: none"> • Physical structure: sediment supply – Maintain natural circulation of sediments and organic matter, without any physical obstructions • Physical structure: hydrological and flooding regime - Maintain natural hydrological regime • Vegetation structure: zonation - Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession • Vegetation structure: bare ground - Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground • Vegetation structure: vegetation height - Maintain structural variation within sward • Vegetation composition: typical species and sub communities - maintain range of subcommunities with typical species • Vegetation composition: cover of <i>Salix repens</i> - Maintain less than 40% cover of creeping willow (<i>Salix repens</i>) • Vegetation composition: negative indicator species - Negative indicator species (including non-natives) to represent less than 5% cover • Vegetation composition: scrub/trees - No more than 5% cover or under control 	
		<ul style="list-style-type: none"> • [1395] Petalwort (<i>Petalophyllum ralfsii</i>) (M) 	<ul style="list-style-type: none"> • Distribution of populations – No declines • Population size - No decline. • Area of suitable habitat – No decline • Hydrological conditions: soil moisture - Hydrological conditions: soil moisture 	

Site Name and Code	Distance from North Wall Power Station	Qualifying Interests / Special Conservation Interests (SCI) of the European Sites (* denotes priority habitat)	Conservation Objectives – Summary of Attributes and Targets	Potential for effects
North Bull Island SPA [004006]	2.16km	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branita bernicla hrota</i>) [A046] (M) Shelduck (<i>Tadorna tadorna</i>) [A048] (M) Teal (<i>Anas crecca</i>) [A052] (M) Pintail (<i>Anas acuta</i>) [A054] (M) Shoveler (<i>Anas clypeata</i>) [A056] (M) Oystercatcher (<i>Haematopus ostralegus</i>) [A130] (M) Golden Plover (<i>Pluvialis apricaria</i>) [A140] (M) Grey Plover (<i>Pluvialis squatarola</i>) [A141] (M) Knot (<i>Calidris canutus</i>) [A143] (M) Sanderling (<i>Calidris alba</i>) [A144] (M) Dunlin (<i>Calidris alpina</i>) [A149] (M) Black-tailed Godwit (<i>Limosa limosa</i>) [A156] (M) Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] (M) Curllew (<i>Numenius arquata</i>) [A160] (M) Redshank (<i>Tringa totanus</i>) [A162] (M) Turnstone (<i>Arenaria interpres</i>) [A169] (M) Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] (M) Wetland and Waterbirds [A999] (M) 	<p>Vegetation structure: height and cover - Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground</p> <p>For the bird SCIs, the following conservation objectives apply:</p> <ul style="list-style-type: none"> Population trend - Long term population trend stable or increasing Distribution - No significant decrease in the range, timing or intensity of use of areas by the SCIs, other than that occurring from natural patterns of variation <p>For Wetlands, the attribute and target is:</p> <ul style="list-style-type: none"> Habitat Area – The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713ha, other than that occurring from natural patterns of variation. 	<ul style="list-style-type: none"> The proposed development has the potential to affect water quality, potentially affecting wetlands and feeding area for the SCIs within the SPA via the mobilisation of contaminants within the site due to excavation works.

5.7 Impact Prediction

The potential for impacts on the QIs/SCIs of European sites, as outlined above, associated with the construction and operational phases of the Proposed Development are discussed below.

5.7.1 Construction Phase

During construction, foundations will be required for items of plant within the site. There is an existing oil plume within the site and therefore, there is potential for the oil to be mobilised and potentially move through groundwater within the site which is likely to be linked to the Liffey Estuary and/or Tolka Estuary. There is also potential for sediment and other contaminants such as concrete to enter the drainage system and discharge to the Liffey Estuary.

A summary of the civil works that are generally foreseen over the area of the hydrocarbon plume in the groundwater on the site is provided as follows:

- Demolition, site clearance, removal of site surfacing and any interfering existing redundant infrastructure.
- Excavations for foundations and underground services.
- Laying, backfilling and compaction of imported engineered fill material and/or spoil generated on site where acceptable
- Placement of concrete blinding, laying of steel reinforcement and placement of embedments, and pouring of concrete foundations.
- Laying of surface water drainage pipes below ground in narrow trenches.
- Reinstatement of site surfacing and site finishes.
- Piling may be required, subject to completion of the detailed design.

Table 5.4 above outlines in detail potential for effects and hence likelihood of adverse effects. The likelihood of adverse effects on integrity of European sites is confirmed below under potential impacts considered from the proposed development.

Direct Impact to Qualifying Interests/Special Conservation Interests

No direct impacts and likely from the proposed development to QI and SCI of any European site. No adverse effects on any European Site's Integrity will arise.

Noise and Vibration

The project is located within an entirely built ground location subject to ongoing noise. It is well removed from locations where SCI birds may congregate. Noise disturbance is not likely to SCI (birds) from the proposed developments construction. No adverse effects on any European Sites Integrity will arise.

Pollution/Sedimentation Associated with Construction

As outlined in Section 5.6.1 there is an existing oil plume in sediments under the site. There is potential for sediment and other contaminants such as concrete to enter the drainage system and discharge to the Liffey Estuary which is hydrologically linked to the four European Sites. The release of sediment/ oil in sufficient quantities to pollute downstream QI/ SCI is not likely based on proposed construction methods. However, precautionary mitigation (Section 5.8) is proposed to minimise this risk and therefore rule out possibility of adverse effects to hydrologically linked European Sites including.

- South Dublin Bay and River Tolka Estuary SPA
- North Bull Island SPA

- North Dublin Bay SAC
- South Dublin Bay SAC

This mitigation will minimise risks for example possible temporary indirect effects on fish prey species for Common Terns (SCI), or possible increased mortality to invertebrate prey species of SCI birds in downstream mudflat QI habitat. There is uncertainty of possible effects associated with a release of sediments from the site in-combination with existing (baseline) pollution loads on water quality. Mitigation is outlined in Section 5.7 to avoid uncertainty regarding the assessment conclusions.

Human and Machinery Presence – Visual Disturbance

The site is well screened and at a distance from European sites and potential *ex situ* sites used by SCI birds. No adverse effects on any European Sites Integrity will arise from visual disturbance.

Dewatering Associated with construction

There is potential for dewatering associated with construction to cause a localised draw down in groundwater. There are no Groundwater Dependent Terrestrial Ecosystems associated with European sites located within 250m of the proposed development. No adverse effects on any European Sites Integrity will arise from dewatering.

Introduction/Spread of Invasive Species

No Schedule 3¹⁴ listed invasives species were recorded on the site. Standard good practise including removal of waste to EPA registered waste management facilities will be conducted as a general construction protocol i.e. it is not specifically required to protect European sites. No adverse effects on any European Sites Integrity will arise from spread of schedule 3 listed invasive species.

Dust

The proposed construction works will include excavation activities, drilling, stripping of soil and the storing of spoil material. All activities have the potential to result in the generation of dust over the duration of the construction works.

The Zol of dust is taken to be 50m from the proposed development. The development is removed from potential sensitive QI/SCI receptors.

Standard dust control measures will be conducted in any case. These measures are not required for protection of any European site. No adverse effects on any European Sites Integrity will arise from dust deposition.

5.7.2 Operational Phase

There are no predicted impacts to the qualifying interests or special conservation interests of European sites as a result of the operation of the proposed development (refer to section 4.2.2 of this document).

5.7.3 Decommissioning Phase

The effect pathways during the decommissioning of the proposed development are assumed to be similar to those identified in the construction phase.

¹⁴ Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011-2021 (S.I. 477/2011) (under Regulations 49 & 50).

5.7.4 Plans and Projects Which Might Act In combination

Article 6(3) of the Habitats Directive requires that:

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.

Existing Pressures

Conservation objectives for QI and SCI at relevant European Sites are based on existing developments (projects) i.e., current developments are the baseline to which conservation objectives have been set. These objectives are outlined in Table 5.5.

It is noted that European sites were designated in relatively recent years based on the baseline i.e. presence of Dublin city and associated developed areas. Newer projects that add to the baseline are the key consideration regarding Appropriate Assessment i.e. additional projects (potential pressures) are assessed having regard to general conservation objectives for relevant European sites (maintain at stable/ favourable conservation status).

The baseline (existing projects) are considered as part of the in-combination assessment.

Plans

The Dublin City Development Plan 2022- 2028¹⁵ which incorporates the area of the proposed development and hydrologically linked European Sites, has been subject to Appropriate Assessment for proposed development plans. The following applies in this development plan;

*To ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and/ or proposed plans or projects, will not have a significant effect on a European Site, or where such a plan is likely or might have such a significant effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92/43/EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. **Only after having ascertained that the plan will not adversely affect the integrity of any European site, will the planning authority adopt the plan, incorporating any necessary mitigation measures.** A plan which could adversely affect the integrity of a European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.*

The Dublin City Development Plan 2016-2022 include objectives and policies which are associated with the protection of the natural environment, European sites and Natural Heritage Areas. Relevant objectives to this assessment include: GI2, GI16, GI22, GI23, GI24 and GIO24. All new plans and projects proposed within proximity to the proposed development must adhere to the above-mentioned policies and objectives. Adherence to the Council's policies and objectives will ensure that any new plans and projects will not result in significant effects on European Sites. There are no current projects/ plans that have followed the Article 6(4) process in relation to European sites of interest to the proposed development.

Proposed Projects

It is also required that the potential impacts of the Proposed Development are considered in combination with any other relevant proposed plans or projects. A planning search was

¹⁵ <https://www.dublincity.ie/sites/default/files/2021-12/volume-1-draft-dublin-city-development-plan-2022-2028-low-res.pdf>

conducted in March 2022 to determine if there are other plans or projects which may act in combination with the proposed emergency power plant.

The MP2 Project is a Strategic Infrastructure Development at Dublin Port which will include the construction of a new Ro-Ro jetty, construction of new quay walls, works to existing berths, new berth 53, dredging works and amendments to consented developments with planning reference numbers 3084/16 & 3638/18, and the ABR Project (ABP Ref. 29N.PA0034). An Environmental Impact Assessment Report (EIAR) of the project was undertaken by RPS on behalf of Dublin Port Company (RPS, 2019¹⁶). The assessment identified the potential for impacts to fisheries, marine mammals and potential disturbance and loss of nesting habitats of avian species. The assessment outlines mitigation measures which will be implemented and concluded that the proposed project will not result in any adverse effects on any European sites integrity.

The Natura Impact Statement for the Brexit Infrastructure at Dublin Port assessed proposed port-cabin structures, resurfacing and amalgamation of 8 existing yards, modification of drainage and lighting, provision of parking, gates, signage and ancillary site works. The NIS found that given the inclusion of strict Best Practice Construction Measures and CEMP, that this development would have no predicted adverse effects on any European Site integrity.

Dublin Port Alexandra Basin Development consists of the redevelopment of Alexandra Basin West, including demolition of part of North Wall Quay Extension, new quay walls, dredging, infilling works, two new berths and an interpretive centre. Works began in 2016 and are continuing. The NIS found that following the full implementation of mitigation measures, there would be no significant effects on mammals including the harbour porpoise. No adverse effects on European Site integrity were outlined.

The Tolka Estuary Greenway / Liffey-Tolka Project consists of works to the Port's private internal road network. The development consists of a high-quality public realm with new and enhanced segregated pedestrian and cycle routes from the interface of Dublin Port and the City immediately to the north of the Tom Clarke Bridge at the River Liffey to the Tolka Estuary. The NIS found that following the application of mitigation measures there will be no adverse effects upon the integrity of any of the European Sites concerned.

There is a proposed Strategic Housing Development at North Wall Quay. The site was previously used as warehousing/industrial use. The project will comprise 1,005 no. residential units arranged in 3 blocks and ranging in height from 8 – 45 storeys over a triple level basement. The NIS found that following the full implementation of mitigation measures there would be no risk of adverse effects on QI habitats or species or SCI species, or the attainment of conservation objectives, alone or in combination with other plans and projects. There would be no adverse effects on European Site integrity.

5.8 Potential for Adverse Effects on site Integrity

In the absence of mitigation to minimise sedimentation/ pollution release to local water courses (Liffey Estuary) associated with the construction phase of the project, there is uncertainty regarding maintaining the integrity of the following European sites:

- South Dublin Bay and River Tolka Estuary SPA
- North Bull Island SPA
- North Dublin Bay SAC
- South Dublin Bay SAC

¹⁶ RPS (2019) MP2 Project Environmental Impact Assessment Report Main Document (Part 1)

Potential pollution effects from the proposed development, alone and in-combination with other projects may measurably affect these sites, noting any (albeit) minor release of contaminated material, may be considered an “additional” pressure to existing pollution loads in the Liffey Estuary, and hence be in conflict with the general objectives for European sites to “maintain at favourable conservation status”.

5.9 Mitigation

Mitigation is outlined below to remove uncertainty regarding risk of possible additional water pollution runoff from the construction phase of the development, on the Liffey estuary (water quality) and associated hydrologically linked European sites.

5.9.1 Construction Phase

Environmental Clerk of Works

The Contractor’s Environmental Clerk of Works (EnCoW) will have suitable environmental qualifications and the necessary experience and knowledge appropriate to the role. The EnCoW will be delegated sufficient powers under the construction contract to instruct the Contractor to stop works and to direct the carrying out of emergency mitigation / clean-up operations. The EnCoW will also manage consultation with key stakeholders as appropriate. The EnCoW will be responsible for carrying out regular monitoring of the Contractors CEMP and will report monitoring findings in writing to ESB on a regular basis (at least weekly, but immediately in the case of incidents or accidents).

Pollution Control

Good site practice as per the *CIRIA C741 Environmental good practice on site guide (fourth edition)* will be implemented during the construction phase at all times.

All construction works will be carried out in accordance with the Construction Environmental Management Plan (CEMP) which will define measures to ensure that any contaminants resulting from the removal, dismantling, excavation, or construction will not enter the surface water or groundwater.

All pollution control measures will be designed, installed, and maintained in accordance with CIRIA guidance for ‘*Environmental Good Practice on Site*’ (C741) and ‘*Control of water pollution from construction sites. Guidance for Consultants and Contractors*’ (C532).

Excavated material will be stored away from drains within the site and silt control measures put in place. Excavated material will be removed off site as soon as practicable in accordance with the requirements of waste legislation.

The Main Contractor will also be responsible for the construction of the equipment foundations, including the excavation and appropriate disposal of excavated material as well as the construction of the main equipment raft foundations and any piled foundations needed. The Main Contractor will be responsible for the management of excavated material and the safe disposal of this material to a suitably licenced waste disposal facility. In-situ concrete casting will be fully controlled to ensure that cement bound materials do not present any pollution risk.

Trucks, mixers, and concrete pumps that have contained concrete will be washed out in a designated impermeable area to prevent pollution. Washout water will be stored and disposed of in line with the existing industrial emissions licence. No on-site batching will be permitted at the proposed works areas. Concrete will instead be transported to the site within a concrete truck. It will be ensured that covers are available for freshly poured concrete to avoid wash off in the event of rain. Waste concrete slurry will be allowed to dry and taken to a licensed waste

depot for disposal. Concrete works will be scheduled during dry weather conditions to reduce the elevated risk of runoff.

Where mobile equipment is required e.g. generators, these will be housed in a suitably sized bund / plant nappy such that any leaks / spills are intercepted. All waste fuels, oils, and other hazardous wastes will be disposed of in accordance with the requirements of waste legislation.

Spill-kits and hydrocarbon absorbent packs will be stored in the cabin of each vehicle and operators will be fully trained during induction to site by the EnCoW in the use of this equipment. Should use of a spill-kit be required it shall be immediately re-stocked.

Section 3 of this document describes the description of the development and below is a summary of the pertinent environmental mitigations that are foreseen for works over the contamination plume:

Foundations for the gas turbine generators will be adjacent and, in some cases, above the existing oil plume on site. Foundations will be constructed above the water table to avoid impacts on groundwater. A number of existing ground water monitoring wells will need to be relocated. New locations will be agreed with the EPA prior to construction but are expected to be located down gradient of the existing plume.

The minimum recorded depth below the surface to the plume contamination in the affected part of the site is approximately 1.57m, although it has been recorded at depths to 2.3m. As the source of the contamination (gas oil) has lower density than water, it forms a narrow layer on the top of the groundwater.

To avoid interaction with the plume during construction the excavation depth over the plume will be minimised to avoid encountering groundwater and contaminated material.

The following measures will also be implemented:

- The majority of the civil works are planned to take place in summer months. Where heavy rainfall is forecast during the civil works, or if the civil works extend into the Winter season, the following measures will be put in place to restrict rainwater seepage into the ground over the plume:
 - Minimise extent and duration of exposed excavation surfaces.
 - Cover/protect excavations with use of water-tight membranes together with use of pump sumps or equivalent where required.
 - Excavations to be blinded with concrete immediately following excavation together with use of pump sumps or equivalent.
 - Surface water runoff will be treated in accordance with *Ciria C750 Groundwater Control – Design and Practice*.
- The requirements for excavation over the plume will be minimised. Site services (fuel gas, water supply, electrical cables, control and instrumentation cables) will be positioned above ground level on pipe and cable racks. Plant infrastructure will be positioned away from the location of the plume.
- The main foundations supporting plant and equipment will be designed so as to not extend below the ground water level on the site. The level of the top of the foundations will extend above the current level of the existing site to minimise the depth of excavation required.
- A raft type / floating design of the main equipment foundations will avoid requirements for piling through the plume. This will limit excavation to 800mm. Surface water drainage network work will be designed to be above the ground water level.
- Piling will be avoided in the area of the plume.

- Where piling is required outside the area of the oil plume, it will be undertaken in accordance with the parameters assessed in this NIS and in the EIAR and in the CEMP. A Source-Pathway-Receptor hazard risk assessment will be undertaken in consideration of the extensive monitoring regime present on site. The pile type will be selected and installed by a specialist contractor and be considerate of current guidance such as *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention* published by the National Groundwater and Contaminated Land Centre Report No. NC/99/73. The following will be incorporated into the detailed design:
 - Low vibration piling techniques.
 - Piling techniques which avoid the creation of preferential pathways.
 - Piling techniques which avoid pushing contaminated soil into uncontaminated soil.
- On completion of construction, the site will comprise of paved surfaces of similar area to existing, laid to falls above the ground water plume. Surface rainwater will be collected at low points by a series of gulleys or equivalent and be conveyed by a network of underground drainage pipes laid to shallow falls in accordance with TII Series 500, connecting into the existing site main drainage infrastructure, discussed in Section 3.2.7 *Wastewater Drainage*.

All works will be carried out within the parameters assessed in the NIS and EIAR and documentation supporting the application and the measures detailed in the Construction and Environmental Management Plan (CEMP), refer to Section 3.3.6.

The Contractor will comply with the *Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites* and with the conditions detailed in the existing IE licence.

Excavated soil, and piling arisings if any, will be tested on site prior to disposal off site or reuse on site.

Excavation in the area over the contamination plume will be supervised by a qualified and experienced hydrogeologist/soil contamination expert and the Environmental Clerk of Works (EnCoW) throughout the period of such works, refer to Section 3.3.7.

Existing ground water monitoring/treatment wells that may be affected by the works will be identified and amendments to the monitoring well network will be agreed with the EPA prior to commencement of works.

5.9.2 Operational Phase

The facility will operate in accordance with the limits for wastewater discharge determined by the EPA under the IEL.

The existing water quality monitoring programme will continue for surface water run-off. The parameters, thresholds and frequency are set by the EPA under the Industrial Emissions licensing regime and will be revised.

5.10 In combination effects

Following the full implementation of mitigation measures, there will be no residual effects on European Sites as a result of this proposed development. Therefore, there is no potential for in combination effects with the plans and projects detailed in Section 4.3.

5.11 Conclusion

The mitigation measures detailed in Section 5.9 of this NIS will ensure no adverse effects on the integrity of any European sites in light of the site's conservation objectives.

Based on the assessment of the Proposed Development alone and in combination with other projects and plans, including the implementation of mitigation measures, it can be concluded that no adverse effects on the integrity of any European sites will arise, in view of the site's conservation objectives.

As such, the Board is enabled to conclude that the Proposed Development shall not adversely affect the integrity of a European site, either alone and in combination with other plans and projects.

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