TOBIN
CONSULTING ENGINEERS
BUILT ON KNOWLEDGE

Baldonnell 110KV Substation

Appropriate Assessment Screening Report

June 2023

Baldonnell 110kV Substation

Appropriate Assessment Screening Report

Document Control Sheet	
Document Reference	AA Screening Report_A01
Report Status	Planning Issue
Report Date	June 2023
Current Revision	A01
Client:	Greener Ideas Limited
Client Address:	C/O Bord Gáis Energy Ltd 1 Warrington Place Dublin 2 D02 HH27
Project Number	11069

Galway Office	Dublin Office	Castlebar Office	Limerick Office
Fairgreen House, Fairgreen Road, Galway, H91 AXK8, Ireland. Tel: +353 (0)91 565 211	Block 10-4, Blanchardstown Corporate Park, Dublin 15, D15 X98N, Ireland. Tel: +353 (0)1 803 0406	Market Square, Castlebar, Mayo, F23 Y427, Ireland. Tel: +353 (0)94 902 1401	Ducart Suite, Castletroy Commercial Campus, Limerick V94 Y6FD Ireland Tel: +353 (0)61 574 413

Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
D01	Draft for Internal Review	ÁS	20/02/2023	SOR	24/05/2023		
D02	Client review		26/05/23	SH			
A01	Final Version	ÁS	29/05/2023	LB	29/05/23	CN	29/05/2023

TOBIN Consulting Engineers

Table of Contents

Table of Figures

Table of Tables

Table of Photos

1.0 INTRODUCTION

Greener Ideas Limited is proposing to develop a 110kV electrical substation (hereafter referred to as the Baldonnell substation) and associated grid connection to provide a connection from the adjacent gas fired plant to the existing electricity transmission system, at a site located in Profile Park, Dublin 22, Co. Dublin. Electrical power will be exported from the gas fired plant's main transformers through the proposed 110kV substation and then transferred to the existing Barnakyle 110kV substation, which is operated by EirGrid and owned by Electricity Supply Board (ESB). The associated grid connection works will consist of underground cabling. Further details on the proposed development are provided in Section 4.0 of this report.

TOBIN Consulting Engineers (hereafter referred to as TOBIN) has prepared this Screening for Appropriate Assessment (AA) report on behalf of Greener Ideas Limited in support of a planning application to An Bord Pleanála for the proposed development.

The purpose of this report is to inform the AA process, which is carried out by the competent authority (in this case An Bord Pleanála). Appropriate Assessment is an assessment of whether a plan or project, alone and/or in-combination with other plans or projects, may have likely significant effects on a European site, collectively known as the Natura 2000 network, in view of the site's conservation objectives.

This report provides information to assist the competent authority in undertaking a Screening Assessment of the proposed development and was informed by a desktop study and an ecological field survey. The report was written by TOBIN Senior Ecologist, Áine Sands (B.Sc.) and was senior reviewed by Senior Ecologist, Sinead O' Reilly (B.Sc. M.Res).

2.0 THE APPROPRIATE ASSESSMENT PROCESS

The AA process is an assessment of the potential for likely significant effects of a plan or project, alone and/or in-combination with other plans or projects, on the conservation objectives of a European site(s). The Natura 2000 network is made up of European sites including Special Protection Areas (SPAs), established under the EU Birds Directive (2009/147/EC) (more generally referred to as the 'Birds Directive') and Special Areas of Conservation (SACs), established under the EU Habitats Directive (92/43/EEC) (more generally referred to as the 'Habitats Directive'). The Natura 2000 network helps provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

The Screening Stage of the AA process identifies any likely significant effects upon European sites from the proposed development alone or in-combination with other projects or plans. In accordance with Article 6, paragraph (3) and (4), a series of questions are asked during the Screening Stage of the AA process to determine:

- whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European site; and
- whether the project or plan will have a potentially significant effect on a European site, either alone or in-combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.

2.1 LEGISLATIVE CONTEXT

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the 'Habitats Directive', provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000 network.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for AA:

> '*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'*

Article 6(4) states:

> *'If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.'*

The provision for an AA is transposed into Irish law by Part XAB of the Planning and Development Act 2010 (as amended). Section 177U (4) of the said Acts provides for screening for Appropriate Assessment as follows:

> *'The competent authority shall determine that an appropriate assessment of [...] a proposed development [...] is required if it cannot be excluded, 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.'*

Section 177U (5) provides as follows:

> *'The competent authority shall determine that an appropriate assessment of a [...] proposed development, [...], is not required if it can be excluded, 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.'*

An AA should be based on best scientific knowledge and the competent authority should ensure that expertise such as ecological, geological, and hydrological are utilised, where relevant.

The Court of Justice of the European Union (CJEU) has made several rulings in relation to AA, regarding when it is required, its purpose, and the standards it should meet. Consideration has been given to the evolution in interpretation and application of directives and national

legislation arising from jurisprudence of the European and Irish courts, in respect of Article 6 of the Habitats Directive.

2.2 STAGES INVOLVED IN THE APPROPRIATE ASSESSMENT PROCESS

There are potentially four stages in the AA process; the result of each stage determines the requirement for assessment under the next.

Stage 1: Screening / Test of Significance

This process identifies the likely significant effects upon a European site from a proposed project or plan. Its purpose is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project which is not directly connected with or necessary to the management of the site as a European site, individually or in-combination with other plans or projects is likely to have a significant effect upon the European site, in view of its conservation objectives. A project may be 'screened-in' if there is a possibility or uncertainty of possible effects upon the European site, requiring a Stage Two AA. If there is no evidence to suggest significant effects due to the proposed plan or development the project is 'screened-out' from further assessment.

Stage 2: Appropriate Assessment

Consideration is given if potential impact(s) of a project or plan could cause likely significantly effects to the integrity of surrounding European sites, either alone or in-combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where likely significant effects have been identified, an assessment of the potential mitigation to avoid/reduce such impacts is required. A NIS is often produced at this stage to inform the AA which is undertaken by the competent authority. This stage is required where uncertainty of effect arises, or a potential effect has been defined which requires further procedures/mitigation to remove uncertainty of a defined impact.

Stage 3: Assessment of Alternatives

This stage of the potential process arises where adverse effects on the integrity of a European site cannot be excluded and examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site. However, in circumstances where there will not be any adverse effects on any European site, the developer places no reliance upon this third stage of the process in the context of this application for planning permission for the proposed development.

Stage 4: Assessment Where Adverse Effects Remain

This is the derogation process of Article 6(4), which examines whether there are imperative reasons of overriding public interest [IROPI] for allowing a project to proceed where adverse effects on the integrity of a European site have been predicted. Compensatory measures must be proposed and assessed as part of this stage and the EU Commission must be informed of the compensatory measures. Again, the developer places no reliance upon this stage of the process in the context of the application for planning permission for the proposed development.

3.0 METHODOLOGY

3.1 LEGISLATION AND GUIDANCE

This report has been prepared having regard to the following guidance:

- Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg (European Commission [EC] 2000).
- 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, Office for Official Publications of the European Communities, Luxembourg (EC, 2001).
- Nature and Biodiversity Cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg (EC, 2006).
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg (EC, 2007).
- Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government (DoEHLG, 2010).
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013).
- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission (European Commission (EC, 2018).
- Assessment of Plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2021a);
- Guidance document on the Strict Protection of Animal Species of Community interest under the Habitats Directive (European Commission, 2021b).
- Appropriate Assessment Screening for Development Management. Office of the Planning Regulator (OPR) Practice Note PN01 (OPR, 2021).
- Planning and Development Act 2000, as amended including Part XAB.

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. A review of *Article 6 of the Habitats Directive, Rulings of the European Court Justice* (Sundseth & Roth, 2014) and other relevant rulings was undertaken[1].

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with '*Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*' (EC, 2018):

- Favourable conservation status (FCS) can only be defined and achieved at the level of the natural range of a species or a habitat type. A broad conservation objective aiming at achieving FCS can therefore only be considered at an appropriate level, such as for example the national, biogeographical or European level. The conservation measures have to correspond to the ecological requirements of the natural habitat types in Annex I and of the species in Annex II present on the site. The ecological requirements of those natural habitat types and species involve all the ecological needs which are deemed

[1] Irish Legal Information Imitative: https://irlii.org/leading-cases-environmental/

necessary to ensure the conservation of the habitat types and species. They can only be defined on a case-by-case basis and using scientific knowledge.

- The integrity of a European site is defined as the coherent sum of the site's ecological structure, function, and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated.
- Significant effect should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives and ecological characteristics.

3.2 CONSULTATIONS

Consultation with various state agencies and environmental Non-Governmental Organisations (NGOs) were undertaken in December 2022 to inform this screening assessment. Ecologically associated state agencies and NGO's, relevant to the proposed development, were contacted in order to obtain any additional information and data, which may be useful in informing this assessment. The following organisations were contacted:

- Environmental Protection Agency (EPA);
- Development Application Unit (DAU);
- An Taisce – The National Trust for Ireland; and
- Inland Fisheries Ireland (IFI).

At the time of writing this report, no response was received from the abovementioned state agencies. Despite the lack of responses, it is considered that a robust assessment was undertaken using publicly available data and final conclusions were not impeded.

3.3 DESKTOP STUDY AND INFORMATION SOURCES

A desktop study was undertaken to inform this screening assessment. The desktop study comprised a review of the following key datasets and information sources:

- Identification of European sites within the Zone of Influence (ZoI) of the proposed development area through the identification of potential pathways/links from the proposed development area and European sites and/or supporting habitats.
- Review of the National Parks and Wildlife Service (NPWS) site synopsis, Natura 2000 data forms and Conservation Objectives for European sites identified through potential pathways from the proposed development (Accessed [January 2023] via https://www.npws.ie/protected-sites).
- NPWS datasets on Annex I habitats and Annex II species (Accessed [April 2023] via https://www.npws.ie/protected-sites).
- Review of available literature and web data. This included a detailed review of the NPWS and National Biodiversity Data Centre (NBDC) websites including mapping and available reports for relevant sites and in particular Qualifying Interests and Special Conservation Interests described and their Conservation Objectives.
- Review of Inland Fisheries Ireland (IFI) research data.
- Water Framework Directive (WFD) website: (Accessed [January 2023] via https://www.catchments.ie/guide-water-framework-directive/).
- GSI Online mapping: (Accessed [January 2023] via http://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228).
- Environmental Protection Agency (EPA) Mapping database: (Accessed [January 2023] via https://gis.epa.ie/EPAMaps/AAGeoTool).

- A review of aerial photography (Google Maps, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance.
- Review of previous ecological assessments undertaken within the area.

The following Plans and their objectives and polices were also reviewed to inform this assessment:

- South Dublin County Development Plan 2022-2028[2];
- National Biodiversity Action Plan 2017-2021[3];
- All Ireland Pollinator Plan 2021-2025[4];
- Draft Biodiversity Action Plan for South Dublin County 2020-2026[5];
- Climate Action Plan 2023 (CAP23)[6].

3.4 FIELD SURVEYS

A multi-disciplinary ecological survey of the proposed development site was undertaken by a qualified and experienced TOBIN ecologist on the 5th January 2023. The proposed development site was surveyed for protected flora and fauna and any evidence of Annex I habitats or Annex II species listed on the EU Habitats Directive (92/43/EEC) and Annex I bird species listed on the EU Birds Direct (2009/147/EC). Further details on the surveys which were undertaken are provided hereunder:

- A habitat and botanical survey were undertaken within the proposed development site following methods outlined within Smith *et al.* (2011) guidance: *'Guidance for Habitat Survey and Mapping'*. Habitats were classified according to Fossitt (2000) with reference made to the '*Interpretation Manual of European Union Habitats'* (EC, 2013) as appropriate. The proposed development site was also searched for evidence of invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477/2011 – European Communities (Birds and Natural Habitats) Regulations 2011.
- A terrestrial mammal survey was carried out in line with guidance outlined in the NRA (2008): '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes'*. Target surveys for specific protected species were also undertaken as follows:
    - Otter surveys were undertaken along waterbodies (which included rivers, ponds and drainage ditches) within the proposed development site plus a 150m buffer, following methodologies outlined within the NRA (2006a) guidelines, and Chanin (2003) '*Monitoring the Otter Lutra Lutra'*. Any evidence of otter such as tracks, spraints, couches, slides, feeding remains or holts, were recorded.
    - Badger surveys were undertaken within the proposed development site plus a 150m buffer of the site. The survey followed methodologies outlined in '*Surveying Badgers'* (Harris *et al.,* 1989) and guidance outlined in the NRA guidance (NRA, 2005). Any evidence of badger activity such as setts, trails, latrines and feeding signs were recorded.
    - A bat roost assessment of all trees and structures within the proposed development site was carried out in accordance with the NRA (2006b) guidelines '*Best practice guidance for the Conservation of Bats in the Planning of National Road Schemes*' and Collins (2016) '*Bat surveys for Professional Ecologists: Good*

[2] https://www.sdcc.ie/en/services/planning/development-plan/plan-2022-2028/
[3] https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20P
[4] https://pollinators.ie/wp-content/uploads/2021/03/All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf
[5] https://consult.sdublincoco.ie/en/system/files/materials/4437/Connecting%20with%20Nature%20-%20Draft%20Biodiversity%20Action%20Plan%20for%20South%20Dublin%20County_0.pdf
[6] https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023/

Practice Guidelines'. The daytime ground level visual assessment was carried out in order to determine potential roost features in trees.

- Observations of ornithological activity within the study area were recorded with regards to the Countryside Bird Survey guidelines CBS Manual, '*Guidelines for Countryside Bird Survey Participants*' (CBS, 2012).
- An aquatic habitat assessment was carried out along the stretch of the Baldonnell Stream located within the proposed development site and in the receiving environment directly downstream, using the methodology provided in the Scottish Environment Protection Agency '*River Habitat Survey in Britain and Ireland Field Survey Guidance Manual: 2003 Version*' (Environment Agency, 2003).

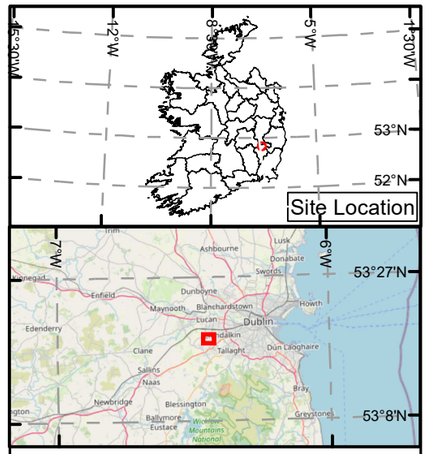
3.4.1 Survey Limitation

The habitat and botanical surveys were undertaken in January, which lies outside the optimal survey period (Smith *et al.*, 2011). There is therefore potential that protected or invasive plant species may not have been present at the time of the survey. The habitat and botanical survey was therefore supported with a robust desktop assessment which included reviews of previous habitat surveys undertaken within the area and also the careful identification of all plant species recorded. Following the above methodology, as well as consideration of the location of the proposed development site (within a commercial business park) it was considered that no protected or invasive plant species were missed and a sufficient survey was undertaken to inform this screening assessment.

4.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

4.1 SITE LOCATION

The proposed development site is located in Profile Park Industrial Estate in Grange Castle, Profile Park, in County Dublin. The proposed development site, which includes the temporary construction compound is approximately 2.6 hectares (ha) in size, is located approximately 12km south-west of Dublin City Centre and is immediately adjacent to the existing Digital Realty Data Centre. The location of the proposed development site is indicated on Figure 4-1 below.



Legend

- Planning Application Boundary
- Ownership Boundary

0 100 200 300 400
Meters

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	23/05/2023	Final issue	S.P	C.N

Client: Greener Ideas

Project:
Profile Park power plant - Substation Application

Title:
Figure 4-1
Site Location Plan

Scale @ A3: 1:8,000

Prepared by:	Checked by:	Date:
S.Pezzetta	C.Naughton	May 2023

TOBIN
CONSULTING ENGINEERS
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

Map Ref: 11069-002-S.BO-AE-TOB-A

Draft: A

4.2 PROPOSED DEVELOPMENT

4.2.1 Operational Overview

The proposed 110kV electrical substation (hereafter referred to as the "Baldonnell Substation") and associated grid connection are being developed to provide a connection from the adjacent peaking power plant to the existing electricity transmission system.

Electrical power will be exported from the power plant's main transformers through the proposed Baldonnell 110kV substation to the existing Barnakyle 110kV substation, which is operated by EirGrid and owned by ESB. The associated grid connection works will consist of underground cabling.

The gas fired peaking power plant will operate when electricity demand is higher than average, typically during morning and evening peak usage times. The need for peaking plants on the Irish electricity grid has grown, as renewable forms of power generation increase their penetration onto the system. The variability of renewable generators increases EirGrid's challenge to operate an efficient, safe, and secure electricity system. The modular design of the Profile Park peaker plant, and its fast response capability, means it can react quickly to vary its output, mirroring the peaks and troughs of electricity generation, from renewable generators.

The development of the gas fired peaking plant with its associated substation and grid connection, are in line with policies set out in the National Development Plan and the Climate Action Plan 2021.The development is also consistent with Ireland's strategy to achieve its binding 2030 emission targets.

The proposed development will comprise of:

- EirGrid/ ESBN Control Room building
- Associated Internal 15kV and 110kV Underground Cabling
- Installation of a 15/110kV Transformer (TRAFO) with associated equipment including:
    - Cable Sealing End
    - Surge Arrestor
    - Earth Disconnect
    - Current /Voltage Transformer
    - Circuit Breaker
- 110kV underground cable to Barnakyle 110kV substation 3 No Power Ducts and 2 No Telecoms Ducts.
- Diesel Generator
- Security Fencing, Security Cameras and Poles
- Lights/Lamp Poles
- Lightning Masts
- Temporary Construction Compound
- And all other associated site development plant and equipment and other works including surface water and foul wastewater drainage, within an overall redline boundary measuring approximately 2.6 ha.

The Site Layout Master Plan is Included in Appendix 1 of this report.

4.2.2 Description of Proposed Development

4.2.2.1 Substation

The proposed Baldonnell 110kV substation site measures approximately 87.78m long x 22.25m wide and will be bounded by a 2.6m high palisade fence.

The compound will house a 126m² EirGrid 110kV substation control building which will measure 14m long x 9m wide x 7.7m high and will be finished externally with scud render & float in sand, white cement plaster, nap finish. The roof of the building will consist of standard Selected Blue/Black slate finish.

Associated outdoor electrical equipment will include:

- 1 no. 110kV transformer.
- 110kV Switchgear.
- an associated internal 15kV underground cable.
- an internal access track.
- a diesel generator.
- Lightning masts* measuring 18m in height.
- Approximately 15 Light Poles** measuring 3.5m in height.
- 2 no. security cameras and poles will be installed.

The site has been designed to meet EirGrid's specifications.

Access to the substation compound will be provided via the adjacent Peaker Power Plant site, with 2 no. 4.9m wide access gates proposed along the eastern boundary of the proposed substation site.

*Lightning Mast Design will be subject to a lightning survey and confirmed during the detailed design stage of the project.

**Lamp poles will be the subject of a light survey and the exact number to be provided will be confirmed during the detailed design stage of the project.

4.2.2.2 Grid Connection

The proposed grid connection will consist of underground cabling (UGC).

The underground cable route exits the proposed Baldonnell 110kV Substation from the northside fence and heads in a westerly direction. The route follows the public road (Falcon Avenue) west for approximately 250m until it reaches the entrance to Barnakyle 110kV Substation. The cable then turns south to enter the existing Barnakyle Substation through existing ducts. This section of the route is almost entirely within the road except for the crossover into the substation.

A site layout of the proposed Baldonnell 110kV Substation and associated grid connection is provided in Appendix 1 of this report.

The UGC works will consist of the installation of 6 No. ducts in an excavated trench to accommodate 3 No. power cables, 2 No. fibre communications cable to allow communications between the Baldonnell and ESB Barnakyle 110kV Substation and one earth continuity conductor (ECC).

4.3 GAS FIRED POWER PLANT

For the purpose of cumulative assessment, the section of the report provides a description of the adjacent gas fired peaking power plant infrastructure. The power plant will comprise the following main components:

- Site Entrance;
- Engine Hall comprising up to 5 no. gas engines and 2 no. exhaust stack clusters;
- Electrical Annex Building;
- Workshop Building;
- Security Hut;
- Radiator Coolers;
- 110 kV Electrical Transformer(s);
- Gas Above Ground Installation (AGI);
- Tank Farm comprising;
  - 2 No. Diesel Oil Storage Tanks, 2 No. Lube Oil Storage Tank. 1 No. Urea Storage Tank
- Fencing;
- Car Parking; and
- Landscape planting around perimeter of site.

A site layout of the gas fired power plant is provided Appendix 2 of this report

4.4 CONSTRUCTION PHASE ACTIVITIES

4.4.1 Construction Phase Description and Duration

It is expected that construction will commence in 2023 with design, construction, and commissioning activities lasting for approximately 12 months. The proposed Baldonnell 100kV substation is expected to become fully operational, along with the Peaker Power Plant, which is currently expected to be operational in 2024/25, subject to timely receipt of the necessary statutory consents.

The total number of construction staff on-site will vary during the construction phase of the works but are expected to peak at approximately 20 persons per day.

Standard working hours for construction will be 8.00am to 8.00pm Monday to Friday and 8.00am to 6.00pm on Saturday (if required), with no works on Sundays or Bank Holidays except in exceptional circumstances or in the event of an emergency. All site personnel will be required to wear project notification labelling on high visibility vests and head protection so that they can be easily identified by all workers on-site.

4.4.2 Temporary Construction Compound

A temporary construction compound will be located approximately 185m south-east of the proposed development site, the location of which is indicated in Figure 4.2.

The compound will comprise of temporary site offices (portacabins), staff welfare facilities, car parking, material and equipment storage and laydown areas. Water, foul and electrical connections will be provided to accommodate the above. Following the completion of the works, the construction compound site will be fully reinstated.

Legend

- Planning Application Boundary
- Proposed Temporary Construction Compound

0 25 50 75 100
Meters

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	25/05/2023	Final issue	S.P	C.N

Client: Greener Ideas

Project:
Profile Park power plant - Substation Application

Title:
Figure 4-2
Proposed Temporary Construction Compound

Scale @ A3:	1:2,500	
Prepared by:	Checked by:	Date:
S.Pezzetta	C.Naughton	May 2023

TOBIN
CONSULTING ENGINEERS
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

Map Ref:
11069-010-C.C-AE-TOB-A

Draft:
A

4.4.3 Pre-Construction

The pre-construction phase of development includes preparatory works (i.e., post planning surveys and reporting) and consultation with statutory bodies and the public.

It will be required to carry out Preliminary site investigations along the cable route prior to construction in order to confirm design assumptions. The following items may be carried out for the grid connection cable route:

- Slit trenches at locations of service crossings (full road/track width); and
- Trial holes along the route to ascertain ground conditions and thermal resistivity of the soil.

Following this process, site clearance activities will commence. Typical activities will include preparation of the construction working area and topsoil stripping. Prior to the commencement of construction activities, the area for development will be fenced off.

The site will be levelled to 74.6 AOD. Soil management proposals include:

- The intended soil stripping depth;
- Options for separating and keeping different soils apart;
- Methods for handling soil;
- The location and height of soil storage mounds and how long they will be present; and
- Proposals for reinstating or disposing of soils.

Site mobilisation will see the establishment of temporary facilities to accommodate competent construction staff, their plant, equipment, and materials. During mobilisation the site staff will establish safe systems of work, to ensure construction can proceed without endangering the environment, the public or themselves. Training in health and safety will be provided for all staff during the mobilisation period, and all staff will be required to hold SAFEPASS or equivalent certification.

4.4.4 Civil and Construction Works

Concrete pouring and filling 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.

A Construction Traffic Management Plan (CTMP) will be prepared in advance of the construction phase of development in order to ensure safe movements and interactions between vehicles and pedestrians, both on and adjacent to the site. The CTMP will cover all expected work activities, delivery and storage areas, and shall be expanded and / or amended to cover new or altered activities as they arise. The main components of the CTMP will be:

- Description and scope;
- Staging of the works;
- Traffic control during construction;
- Trucks movements to the site;
- Road signs for full and partial road closure;
- Parking for workers and subcontractors;
- Pedestrian safety;
- Site traffic management supervisor; and

- Abnormal load (i.e., for substation transformer) and associated permit applications applied for and secured from/by South Dublin County Council in advance of abnormal load delivery to site.

The CTMP will also provide for the requirement that entrances and roads are kept clean and clear of obstructions to prevent the spillage or deposit of clay, rubble, or other debris on the entrance and other roads throughout the contract period.

4.5 OPERATIONAL PHASE ACTIVITIES

4.5.1 Hours of Operation

The proposed Baldonnell 110kV substation will operate in parallel with the adjacent gas fired power plant. Its actual operating hours will be determined by EirGrid, who are the Transmission System Operator (TSO). They will issue dispatch instructions to the plant from the National Control Centre using an Electronic Dispatch Instruction Logger system (EDIL).

The environmental modelling undertaken as part of this EIA Report has predicted no significant environmental effects based on a worst-case operating scenario (i.e., operating 24 hours a day, 365 days per year unless otherwise stated).

4.5.2 Operational Staff

The proposed Baldonnell 110kV substation will be unmanned.

4.5.3 Utilities and Services

Surface Water Drainage

It is proposed to discharge surface water generated on the site into a Soakaway located beneath the proposed ca parking area. Due to the poor infiltration rate of the site, it is proposed to provide an overflow pipe within the soakaway to discharge surface water into the new infrastructure on the neighbouring power plant site. Surface water discharge rate will be maintained by a flow control device, limiting discharge rate from the site to 2l/s.

The surface water drainage network has been designed and simulated for a range of storm events (including 1 in 5, 1 in 30 and 1 in 100-year storm events) using the Source Control module of MicroDrainage. Refer to Appendix A for details of the proposed site drainage.

As part of the surface water drainage design strategy, the following items have been included in order to effectively manage surface water at the site:

- Petrol Interceptor – Full retention petrol interceptors have been included in the surface water collection system on a precautionary basis. The full retention petrol interceptors will be fitted with visual and audible alarms to ensure containment facilities are adequately maintained. In addition, this alarm will be linked to telemetry facilities such that relevant staff will be alerted if oil is detected at trigger levels;
- Hydrobrake - The rate of discharge from the proposed development will be controlled using a Hydrobrake. The total rate of discharged was determined using the QBAR greenfield run off method. The total rate of discharge was calculated at 2.00l/s;
- Soakaway - It is proposed to install a soakaway beneath the parking area. The water, once discharged to the soakaway, will be allowed to infiltrate into the groundwater.

Groundwater in the area was recorded at approximately 71.8mOD from the standpipe results. When the rate of water being collected by the underground pipes exceeds the infiltration rate into the ground, the collected water will be directed to an overflow pipe. The overflow pipe will discharge the excess water into the surface water infrastructure in the neighbouring Power Plant Site;

- Down Pipes/Gullies – It is proposed that surface water will be collected from roofed buildings via standard rainwater down pipes while runoff from un-roofed structures will drain to the access roads where it will enter the drainage network via road gullies. It is also proposed that gullies and drain entry points will incorporate silt traps to remove any grit or silt which may be washed into the drainage system.
- Flow Control Device – It is proposed to limit the surface water runoff from the site to be similar to the Greenfield runoff as per the requirements of the Great Dublin Strategic Drainage Study. It is proposed to install a Hydrobrake downstream of an attenuation tank to limit the flow from the site to 4.1l/s, which will be located on the adjacent power plant site.

Surface water drainage calculations informing the drainage design are provided in Appendix 3 of this report.

Foul Wastewater Drainage

Although the proposed substation will be unmanned, any wastewater generated at the proposed development site will arise from a welfare facility, consisting of a sink and toilet for operatives use when on site.

It is proposed to discharge wastewater generated on the site into the permitted new infrastructure on the neighbouring Power Plant site, reducing the number of connections required into the existing network within the Profile Park Campus Falcon Avenue access road. The wastewater layout has been designed in accordance with Irish Water's latest standard details and code of practice.

Lighting

Approximately 15 no. lights are proposed as part of the proposed development.

4.5.1 Seveso

No substances will be stored on the proposed Baldonnell 110kV substation site and as such, the project is not subject to any of the requirements contained in the Chemical Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015.

4.5.2 Chemical Storage

Batteries will be on site within the EirGrid compound building as part of normal operation. The transformer will be oil filled but there is no requirement for additional oil to be stored on site. The diesel generator will require diesel onsite for power outage situations only. It is not expected to have diesel stored on site. Otherwise, no chemicals will be stored on site.

4.5.3 Firefighting Systems and Controls

A dedicated private fire ring main and hydrants, will be installed as part of the adjacent power station, that will serve the proposed substation. They will comply with IS 391:2020 Fire mains for buildings - Installation, commissioning, maintenance, and testing. A minimum of seven hydrants are being provided on the site, three of which are within close proximity of the proposed substation and on a route accessible by fire appliances. The hydrants will comply with the requirements of BS 750:2012 Specification for underground fire hydrants and surface box frames and covers. All hydrants will be conspicuously marked in accordance with BS 3251:1976 Specification of indicator plates for fire hydrants and emergency water supplies. The hydrants will be located such that they are not less than 6m or more than 46m from a building, and the distance from a hydrant to a vehicle access roadway or hard standing for fire appliances is not more than 30m.

A water storage tank will be provided on the power station site to ensure the security of the water supply for operational and firefighting needs. The tank shall serve both the ring main and hydrants. The latest calculations as provided to Irish Water, indicate that the water tank shall have a dedicated firefighting water storage capacity of circa 545m^3, which will provide water at a rate of 75L/minute for 90 minutes.

4.6 DECOMMISSIONING

The proposed Baldonnell 110kV substation is expected to be operational in accordance with the adjacent gas fired power plant. The power plant is expected to be operational for at least 25 years. On cessation of activities, the plant will either be redeveloped as a power related facility or the site will be redeveloped in an alternative form.

In the event that the substation is decommissioned, the following programme will be implemented:

- All plant equipment and machinery will be emptied, dismantled, and stored under appropriate conditions until it can be sold. If a buyer cannot be found, the material will be recycled or disposed of through licensed waste contractors and hauliers. If plant and machinery is required to be cleaned on site prior to removal, all necessary measures will be implemented to prevent the release of contaminants.
- All waste will be removed from the facility; and
- The site and all associated buildings will be secured.
- Waste will be recycled wherever possible. All waste movement, recycling, and disposal operations will be controlled by licensed waste contractors.

Details of provisions to decommission and render safe or remove all materials, waste, ground, plant, or equipment contained on or in the site that may result in environmental pollution will be agreed with the Environmental Protection Agency as part of the Industrial Emissions Licensing process.

5.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

A description of the receiving environment is provided hereunder.

5.1 HABITAT AND FLORA

During field surveys, all habitats within the proposed development site were classified according to Fossitt (2000). The habitats identified within the proposed development footprint are described herein.

The proposed development site has recently been disturbed by nearby construction works, which has resulted in the clearing of habitat and the stock piling of sediment and spoil. This has resulted in the site currently comprising of a mosaic of spoil and bare ground (ED2) in areas that have been cleared, and wet grassland (GS4) in areas which have not been disturbed (refer to Photo 1). Plant species recorded within the areas of wet grassland included soft rush (*Juncus effusus*), dandelion (*Taraxacum vulgaria*), Yorkshire-fog (*Holcus lanatus*), ribwort plantain (*Plantago lanceolata*), silverweed (*Potentilla anserina*) and meadowsweet (*Filipendula ulmaria*).

The UGC will be located within the road (Falcon Avenue) located immediately north of the proposed development site. The road comprises tarmacadam and concrete verges (BL3).

The proposed construction compound and laydown area currently comprises dry meadow grassland (GS2). Plant species recorded within the grassland include Yorkshire-fog, cock's foot (*Dactylis glomerata*), white clover (Trifolium *spp.*), nettle (*Urtica dioica*) and ribwort plantain.

The Baldonnell Stream (Liffey_170, [waterbody code: IE_EA_09L012100]) is located approximately 125m east of the proposed development site. This watercourse flows in a north-westerly direction before discharging into the Grifeen River (Liffey_170) located approximately 2km downstream of the proposed development site. Within the study area, the stream is approximately 1m wide with steep banks ranging between 4-5m in height. Rock gabion baskets are present along the lower section of the stream bank. The stream has been heavily modified and is culverted in sections both to the south and north of the proposed development site. The watercourse has a slow flow and is heavily overgrown with instream vegetation of water-cress *(Nasturtium officinale),* brooklime *(Veronica beccabunga)* and soft rush (*Juncus effusus*). The stream substrate consists of fine sediment (70%) with some gravels (30%) present in areas. The stream at this location was assessed as having low fisheries value due to the heavily modified nature of the watercourse, the presence of large culverts and the high level of sedimentation with limited spawning potential.

Photo 1: Mosaic of Wet Grassland and Bare Ground Within the Proposed Development

5.2 FAUNA

Results of the survey in relation to protected fauna is described hereunder.

An otter survey was undertaken along the Baldonnell Stream, 150m upstream and downstream of the proposed development site. No evidence of otter or their resting or breeding sites were recorded during the survey. Otter are unlikely to commute and forage along the section of the Baldonnell Stream located adjacent to the proposed development site due to the highly modified nature of the watercourse and the large sections of culverts present both upstream and downstream of the proposed development site.

In addition, no suitable nesting habitat to support kingfisher (*Alcedi atthis*) was identified along the stream within the proposed development study area.

No other protected fauna was recorded during the survey.

5.3 HYDROLOGY AND HYDROGEOLOGY

The proposed development is located within the Liffey and Dublin Bay catchment (catchment_ID: 09). As noted, the closest surface water feature is the Baldonnell Stream (Liffey_170) which is located approximately 125m east of the proposed development site. The watercourse flows in a north-westerly direction, before discharge into the River Liffey. The River Liffey flows in a easterly direction and ultimately discharges into Dublin Bay approximately 30km downstream. Table 5-1 lists the hydrological pathway from the proposed development site to Dublin Bay and their corresponding WFD water quality.

Table 5-1: Hydrological Pathway from the Proposed Development

WFD Name	European Code	WFD Water Quality Status (2016-2021)
Liffey_170	IE_EA_09L012100	Poor
Liffey_180	IE_EA_09L012350	Poor
Liffey_190	IE_EA_09L012360	Poor
Liffey Estuary Upper	IE_EA_090_0400	Good
Liffey Estuary Lower	IE_EA_090_0300	Moderate
Dublin Bay	IE_EA_090_0000	Good

The proposed development is located within the Dublin Groundwater Body (European Code: IE_EA_G_008) which is assigned 'Good' WFD status (2016-2021).

5.4 EUROPEAN SITES

There are no European sites located within or adjacent to the proposed development site. The closest European site is the Rye Water Valley/Carton SAC (001398), located approximately 6km north-west of the proposed development.

The proposed development site is hydrologically connected to four European sites, namely; North Dublin Bay SAC (000206), South Dublin Bay SAC (000210) North Bull Island SPA (004006) and South Dublin Bay and River Tolka Estuary SPA (004024), via the Baldonnell Stream (Liffey_170), Griffeen River (Liffey_170) and the River Liffey (Liffey_180) (hydrological route ca. 30km). Further details on European sites within ZoI of the proposed development are outlined in Section 6.5 and illustrated on Figure 6-1.

6.0 OVERVIEW OF POTENTIAL IMPACTS

An overview of potential impacts from the construction, operational and decommissioning phases of the proposed development, on the receiving environment is discussed hereunder. There are several elements associated with the proposed development that may give rise to direct and indirect impacts on the receiving environment that have the potential to result in likely significant effects on European sites within the zone of influence of the proposed development.

6.1 CONSTRUCTION PHASE IMPACTS

Potential construction phase impacts associated with the proposed development are discussed hereunder.

6.1.1 Loss of Habitat

Habitat within the proposed development site, which will be lost, includes a mosaic of wet grassland and disturbed ground (bare ground and spoil), dry meadow grassland and artificial surfaces. All habitats were identified as being of local importance. No Annex I habitats protected

under the Habitat Directive, were identified within the footprint of the proposed development site.

6.1.2 Habitat Degradation due to Water Quality Impacts

Site clearance, excavation activities, and the stockpiling of material have the potential to result in sediment laden runoff if not appropriately managed. Such runoff could result in the sedimentation of nearby watercourses. Increased silt loading in watercourses can stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions.

The pouring of concrete will be required to facilitate the foundation works associated with the development. Surface water runoff can be contaminated by leaks and spills of fuel, oil or other construction material from construction vehicles/machinery if not properly managed. The runoff of contaminated surface water can result in the degradation of water quality and impacts to aquatic fauna and flora, particularly if concrete is present.

The Baldonnell Stream is located approximately 125m east of the proposed development site. Although set back a distance, the risk of sediment laden runoff and/or construction pollution depositing within the watercourse cannot be ruled out and potentially could result in localised water quality impacts.

6.1.3 Habitat Degradation due to Air Quality Impacts (Dust)

Construction activities, such as excavation works, moving of material and trackout[7], can result in the generation of dust. The deposition of dust on flora or habitats can inhibit effective photosynthesis and transpiration (Farmer, 1993). The Institute of Air Quality Management provide guidelines; *'Guidance on the Assessment of Dust from Demolition and Construction'* (Holman et al., 2014), which prescribes potential dust emission risk classes to ecological receptors (i.e., habitats that might be sensitive to dust). Following the guidance characterisation, considering the size of the proposed development, the scale of the earthworks were considered 'Small' (total site area <2,500m^2), with less than five earth moving vehicles at one time. The guidelines also indicate that an assessment will be required where there is an ecological receptor within 50m of the boundary of a site; or 50m of the route(s) used by construction vehicles'. The ZoI of dust impacts was therefore established as 50m from the proposed development site boundary.

6.1.4 Habitat Degradation due to the Introduction of Invasive Species

No invasive plant species were recorded within the proposed development site during the ecological surveys. There is potential, however, that the movement of construction vehicles and material to and from the site may result in the introduction of invasive species if not appropriately managed. The establishment of invasive species can inhibit growth and crowd out native plant species.

6.1.5 Disturbance (Noise and Lighting)

The proposed construction works will result in an increase in noise levels during the construction phase, as well as an increase in personnel and traffic movement to and from the site. It should be noted that no rock breaking or blasting will be required during the construction works. It is likely that temporary construction lighting will be required during the construction

[7] Trackout – the transport of dust and dirt from the construction site onto the public road network.

works. Fugitive lighting could deter movement of species in the area. A temporary increase in noise levels, disturbance and lighting within the proposed development site may result in disturbance to wildlife within the immediate vicinity of the site.

6.2 OPERATIONAL PHASE IMPACTS

Potential operational phase impacts associated with the proposed development are discussed hereunder.

6.2.1 Disturbance (Noise and Lighting)

The proposed substation will be operated remotely with occasional site and maintenance visits. As such there will be minimal increase in vehicular movements to the site and no associated increase in noise, dust or emissions.

During the operational phase, there are no predicted direct noise impacts from the redeveloped substation. As such, the only operational phase noise produced from the proposed substation redevelopment will be comprised of vehicle noise associated with maintenance visits to the site.

Permanent lighting is proposed within the proposed development with an activation switch. Lighting will only be switched on when maintenance staff are present on site.

6.2.2 Habitat Degradation due to Surface Water Impacts

Surface Water

Surface water runoff will be generated from all surfaces within the facility that are exposed to rainwater or to which water is applied in order to clean. All surface water will be collected and will discharge to the proposed soakaway. When the rate of water being collected by the underground pipes exceeds the infiltration rate into the ground, the collected water will then be directed to an overflow pipe which will discharge the excess water into the surface water infrastructure in the neighbouring Gas Fired Plant. Considering the above there is no potential for the stormwater to negatively impact surface water quality in the receiving environment.

Foul Water

Domestic type wastewater effluent will be generated on site. An approximate volume of $1m^3$/day of domestic type wastewater was identified as the maximum domestic wastewater flow which may be generated on site. Wastewater will be pumped to an existing holding tank which will be maintained, monitored and emptied to a licensed facility. Thus, there is no potential for water quality impacts from foul water on the receiving environment.

Process Wastewater

There will be no process wastewater generated from the proposed development. Thus, there is no potential for water quality impacts from foul water on the receiving environment.

Maintenance Works

Operational access will be required to the proposed development site for testing, maintenance and deliveries. There will be occasional site visits to the substation site which may lead to occasional accidental emissions, in the form of oil, petrol or diesel leaks, which could cause localised contamination of site drainage/ surface water features, i.e., Baldonnell Stream.

6.3 DECOMMISSIONING PHASE IMPACTS

The proposed Baldonnell 110kV substation is expected to be operational in accordance with the adjacent gas fired plant. The power plant is expected to be operational for at least 25 years.

Impacts during the decommissioning phase are expected to be of similar type and magnitude to those anticipated during the construction phase, but generally of a shorter duration.

6.4 DETERMINING THE LIKELY ZONE OF INFLUENCE

As an initial approach, all European sites within a 15km radius of the proposed development were examined. Additionally, the source-pathway-receptor model (OPR, 2021) was used to identify viable pathways between the proposed development and European sites which may result in likely significant effects on their qualifying interests or special conservation interest. This conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this model must be in place. The absence or removal of one of the elements of the model means there is no likelihood for the effect to occur. In the context of the proposed development, the model comprises:

- Source (s) – potential impacts from the proposed development, e.g. loss of habitat, direct emissions (water, air, noise and light);
- Pathway (s) – hydrological, physical or ecological connectivity between the proposed development and the European site; (e.g. water bodies and proximity); and
- Receptor (s) – qualifying interests and/or special conservation interests of the European sites.

In order to inform the source-pathway-receptor model, the ZoI needs to be established. The Chartered Institute of Ecology and Environmental Management (CIEEM) defines the ZoI of a project as the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities (CIEEM, 2018).

In order to establish the ZoI of the proposed development works, the likely key biophysical changes associated with the works were determined having regard to the project characteristics set out in Section 4.0 of this report. The ZoI of the proposed development is described hereunder.

Impacts associated with the loss of habitats will be confined to within the proposed development site boundary. The ZoI for this type of effects is defined as all lands within the proposed development site boundary.

With regards potential habitat degradation effects associated with the release of sediment and other pollutants to surface water, the ZoI of the proposed development is considered to include receiving waterbodies adjacent to or downstream of the proposed development site during the construction phase. The distance downstream is associated with the current biological condition of the accepting waterbody and its capacity to accept and assimilate sediment and other pollutants.

As noted in Section 6.1.3, the spatial limit of dust impacts was established as 50m from the site entrance. The ZoI for dust impacts was therefore established as 50m from the proposed development site boundary.

Noise from the construction activity has the potential to cause disturbance to resting, foraging and commuting qualifying and special conservation interest species. Individual species will elicit

differing behavioural responses to disturbance at different distances from the source of disturbance. Below is a summary of the documented zones of influence for varying species.

- Transport Infrastructure Ireland (formally the National Roads Authority) has produced a series of best practice planning and construction guidelines (NRA, 2008) for the treatment of certain protected mammal species (e.g. otter), which indicate that disturbance to terrestrial mammals would not extend beyond 150m.
- Cutts *et al.* (2013) notes that different types of disturbance stimuli are characterised by different avifaunal reactions, however as a general rule of thumb, a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl.

Notwithstanding, disturbance to bird species will be considered individually where required.

6.5 IDENTIFICATION OF RELEVANT EUROPEAN SITES

A total of nine European sites (six SAC's and three SPA's) where identified either within a 15km radius, or with a viable pathway to the proposed development. These sites are listed in Table 6-1 and illustrated on Figure 6-1 below. The source-pathway-receptor model was then used to identify functional pathway for effects, the findings are discussed in Table 6-1.

6°42'0"W 6°36'0"W 6°30'0"W 6°24'0"W 6°18'0"W 6°12'0"W

53°24'0"N 53°18'0"N 53°12'0"N

744000 736000 728000 720000

688000 696000 704000 712000 720000

N

Royal Canal Main Line (Liffey and Dublin Bay)

Rye Water Valley/Carton SAC

North Dublin Bay SAC

North Bull Island SPA

South Dublin Bay and River Tolka Estuary SPA

South Dublin Bay SAC

Site Location

Glenasmole Valley SAC

Wicklow Mountains SAC

Wicklow Mountains SPA

Knocksink Wood SAC

Red Bog, Kildare SAC

Poulaphouca Reservoir SPA

LIFFEY_160

LIFFEY_170

LIFFEY_180

LIFFEY_190

Kilcloon

Malahide

Kilcock

Maynooth

Hartstown

Clonsilla

Blanchardstown

Ballymun

Dublin 13

Beaumont

Lucan

Ballydowd Manor

Dublin 22

Griffeen Valley

Celbridge

Phibsborough

Smithfield

Dublin

Dublin 8

Sandymount

Crumlin

Clondalkin

Walkinstown

Terenure

Kingswood Cross

Arclough

Clane

Tallaght

Jobstown

Kiltipper

Ballinteer

Sandyford Industrial Estate

Stillorgan

Kill

Naas

Glencullen

Manor Kilbride

Oldcourt (Blessington)

Ballysmuttan

COUNTY MEATH

COUNTY KILDARE

COUNTY DUBLIN

Legend

- Planning Application Boundary
- 15km Buffer from Substation boundary
- WFD - River Water Bodies - Hydrological Route
- Special Protection Area
- Special Area of Conservation

0 1 2 3 4
Kilometers

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	23/05/2023	Final issue	S.P	C.N

Client: Greener Ideas

Project: Profile Park power plant - Substation Application

Title: Figure 6-1: European sites

Scale @ A3: 1:111,166

Prepared by:	Checked by:	Date:
S.Pezzetta	C.Naughton	May 2023

TOBIN CONSULTING ENGINEERS
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

Map Ref: 11069-005-EU.S-BUFF15-TOB-A

Draft: A

Table 6-1: European Sites and the Identification of Viable Pathways for Effect

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
Rye Water Valley/Carton SAC (001398) Distance: ca. 6km north-west (straight line measurement)	• Petrifying springs with tufa formation (Cratoneurion) [7220] • Narrow-mouthed Whorl Snail *(Vertigo angustior)* [1014] • Desmoulin's Whorl Snail *(Vertigo moulinsiana)* [1016]	The SAC is located approximately 6km from the proposed development site, and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance, there is no potential for the introduction of invasive plant species within the SAC. There is no surface water hydrological connectivity between the proposed development site and the SAC as they occur within separate sub catchments. The SAC is designated for a groundwater dependant habitat and species. Both the SAC and the proposed development site are located within the Dublin Groundwater Body (European Code: IE_EA_G_008). However a review of the GSI website[8] indicates that the groundwater flow is towards the coast to the east. The proposed development therefore occurs downstream of the SAC. There is therefore no hydrogeological connectivity between the SAC and the proposed development. No source-pathway-receptor link exists between the proposed development site and the SAC. There is therefore no potential for likely significant effects.
Glenasmole Valley SAC (001209) Distance: ca. 8km south-east	• Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* (* important orchid sites) [6210] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410]	The SAC is located approximately 8km from the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance there is no potential for the introduction of invasive plant species within the SAC.

[8] Accessed [January 2023] via: https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
(straight line measurement)	• Petrifying springs with tufa formation (Cratoneurion) [7220]	There is no hydrological connectivity between the proposed development and the SAC as they occur within separate sub catchments. The SAC is designated for a groundwater dependant habitat. The SAC is situated within the Kilcullen Groundwater Body (European Code: IE_EA_G_003) while the proposed development site is situated within the Dublin Groundwater Body (European Code: IE_EA_G_008). There is therefore no hydrogeological connectivity between the SAC and the proposed development. No source-pathway-receptor link exists between the proposed development site and the SAC. There is no potential for likely significant effects.
Wicklow Mountain SAC (002122) Distance: ca. 9.5km south-east (straight line measurement)	• Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* [3110] • Natural dystrophic lakes and ponds [3160] • Northern Atlantic wet heaths with *Erica tetralix* [4010] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • Calaminarian grasslands of the *Violetalia calaminariae* [6130] • Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] • Blanket bogs (* if active bog) [7130] • Siliceous scree of the montane to snow levels *(Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110]	The SAC is located approximately 9.5km from the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance there is no potential for the introduction of invasive plant species within the SAC. There is no hydrological connectivity between the proposed development site and the SAC as they occur within separate sub catchments. The SAC is designated for otter. Considering the distance between the proposed development site and the SAC (ca. 9.5km) and lack of hydrological connectivity, there is no potential for disturbance impacts to otter. No source-pathway-receptor link exists between the proposed development site and the SAC. There is no potential for likely significant effects.

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
	• Calcareous rocky slopes with chasmophytic vegetation [8210] • Siliceous rocky slopes with chasmophytic vegetation [8220] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Otter *(Lutra lutra)* [1355]	
Wicklow Mountain SPA (004040) Distance: ca. 13km south-east (straight line measurement)	• Merlin *(Falco columbarius)* [A098] • Peregrine *(Falco peregrinus)* [A103]	The SPA is located approximately 13km from the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance there is no potential for the introduction of invasive plant species within the SPA. There is no hydrological connectivity between the proposed development site and the SPA as they occur within separate sub catchments. Considering the distance between the proposed development site and the SPA (ca. 13km), there is no potential for the disturbance of the SCI species. Similarly, the proposed development occurs outside the core foraging range for both merlin (5km) and peregrine (2km) (SNH, 2016). No source-pathway-receptor link exists between the proposed development site and the SPA. There is no potential for likely significant effects.
Red Bog, Kildare SAC (000397) Distance: ca 15km south	• Transition mires and quaking bogs [7140]	The SAC is located approximately 15km from the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance there is no potential for the introduction of invasive plant species within the SAC.

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
(straight line measurement)		There is no hydrological connectivity between the proposed development site and the SAC as they occur within separate sub catchments. Transition mires are associated with groundwater (NPWS, 2019). The SAC is located within the Red Bog of Kildare Groundwater Body (European Code: IE_EA_G_085), while the proposed development site is located the Dublin Groundwater Body (European Code: IE_EA_G_008). There is therefore no hydrogeological connectivity between the SAC and the proposed development. No source-pathway-receptor link exists between the proposed development site and the SAC. There is no potential for likely significant effects.
South Dublin Bay SAC (000206) Distance: ca. 15.5km east (straight line measurement)	• Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]	The SAC is located approximately 15.5km of the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance, and lack of instream works, there is no potential for the introduction of invasive plant species within the SAC. The SAC is hydrologically connected to the proposed development via the Baldonnell Stream (Liffey_170) and the River Liffey (Liffey_180) (hydrological route ca. 30km). A pathway via hydrological connectivity therefore occurs between the proposed development site and the SAC.
South Dublin and River Tolka Estuary SPA (004024)	• Light-bellied Brent Goose *(Branta bernicla hrota)* [A046] • Oystercatcher *(Haematopus ostralegus)* [A130]	The SPA is located approximately 15km east of the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects.

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
Distance: 15km east (straight line measurement)	• Ringed Plover *(Charadrius hiaticula)* [A137] • Grey Plover *(Pluvialis squatarola)* [A141] • Knot *(Calidris canutus)* [A143] • Sanderling *(Calidris alba)* [A144] • Dunlin *(Calidris alpina)* [A149] • Bar-tailed Godwit *(Limosa lapponica)* [A157] • Redshank *(Tringa totanus)* [A162] • Black-headed Gull *(Chroicocephalus ridibundus)* [A179] • Roseate Tern *(Sterna dougallii)* [A192] • Common Tern *(Sterna hirundo)* [A193] • Arctic Tern *(Sterna paradisaea)* [A194] • Wetland and Waterbirds [A999]	Considering the distance between the SPA and the proposed development site there is no potential for the disturbance of the designated SCIs. In addition, there is no suitable habitat within the proposed development site to support the designated species. Similarly, due to the distance, and lack of instream works, there is no potential for the introduction of invasive plant species within the SPA. The SPA is hydrologically connected to the proposed development via the Baldonnell Stream (Liffey_170) and the River Liffey (Liffey_180) (hydrological route ca. 30km). A pathway via hydrological connectivity therefore occurs between the proposed development site and the SPA.
North Dublin Bay SAC (000206) Distance: 15km east (straight line measurement)	• Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonizing mud and sand [1310] • Atlantic salt meadows *(Glauco-Puccinellietalis maritimae)* [1330] • Mediterranean salt meadows (*Juncetalia maritimi)* [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalwort *(Petalophyllum ralfii)* [1395]	The SAC is located approximately 15km from the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance and lack of instream works there is no potential for the introduction of invasive plant species within the SAC The SPA is hydrologically connected to the proposed development via the Baldonnell Stream (Liffey_170) and the River Liffey (Liffey_180) (hydrological route ca. 30km). A pathway via hydrological connectivity therefore occurs between the proposed development site and the SAC.

European Site	Qualifying Interests / Special Conservation Interests	Source-Pathway-Receptor Link
North Bull Island SPA (004006) Distance: 15km east (straight line measurement)	• Curlew *(Numenius arquata)* [A160] • Dunlin *(Calidris alpina)* [A149] • Bar-tailed Godwit *(Limosa lapponica)* [A157] • Redshank (*Tringa tetanus)* [AA162] • Black-headed Gull *(Chroicocephalus ridibundus)* [A179] • Sanderling *(Calidris alba)* [A144] • Black-tailed Godwit (*Limosa limosa)* [A156] • Knot (*Calidris canutus)* [A143] • Turnstone *(Arenaria interpres)* [A169 • Pintail *(Anas acutal)* [A054] • Light-bellied Brent Goose (*Branta bernicla hrota)* [A046] • Shelduck *(Tadorna tadorna)* [A048] • Teal *(Anas crecca)* [A052] • Grey Plover *(Pluvialis squatarola)* [A141] • Shoveler *(Anas clypeata)* [A056] • Oystercatcher (*Haematopis ostralegus)* [A130] • Golden Plover *(Pluvialis apricaria)* [A140] • Wetland and Waterbirds [A999]	The SPA is located approximately 15km east of the proposed development site and thus occurs outside the ZoI of direct habitat impacts and dusts effects. Similarly, due to the distance, and lack of instream works, there is no potential for the introduction of invasive plant species within the SPA. Considering the distance between the SPA and the proposed development site there is no potential for the disturbance of the designated SCIs. In addition, there is no suitable habitat within the proposed development site to support the designated species. The SPA is hydrologically connected to the proposed development via the Baldonnell Stream (Liffey_170) and the River Liffey (Liffey_180) (hydrological route ca. 30km). A pathway via hydrological connectivity therefore occurs between the proposed development site and the SPA.

7.0 ASSESSMENT OF SIGNIFICANCE

The significance of an impact is assessed relative to the existing condition/conservation status of European sites. Impacts are assessed as significant where the conservation objectives of a European sites is undermined.

As described in Table 6-1, a potential hydrological pathway was identified between the proposed development site and four European sites, namely; South Dublin Bay SAC, South Dublin and River Tolka Estuary SPA, North Dublin Bay SAC and North Bull Island SPA. Despite the hydrological link, it is evaluated, that no significant effects on the qualifying interests/special conservation interests of the four European sites are likely to occur as a result of the proposed development considering the following:

- The small scale and short-term nature of the proposed works. The duration of the construction works are anticipated to last 18 months and there will be no significant earthworks, movement of material our pouring concrete undertaken. Only small volumes of surface water runoff are therefore anticipated.
- Lack of instream[9] works within the Baldonnell Stream during the construction phase of the proposed development.
- The separation distance (ca. 125m) between the proposed development and Baldonnell Stream. The potential for any contaminated runoff or sediment reaching the watercourse is considered unlikely.
- The significant downstream distance between the European sites and the proposed development site (ca. 30km), the total volume of receiving waters and the depositional nature of the Liffey Nature.

Considering the above, there is no potential for likely significant effects on South Dublin Bay SAC, South Dublin and River Tolka Estuary SPA, North Dublin Bay SAC and North Bull Island SPA from the proposed development.

8.0 POTENTIAL FOR 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."

It is therefore required that the potential impacts of the proposed development are considered in-combination with any other relevant plans or projects.

8.1 PROJECTS

A search of the South Dublin planning portal[10] and the EIA Portal[11] was undertaken.

[9] Within a watercourse
[10] Accessed [December 2022] via https://www.sdcc.ie/en/services/planning/planning-applications/search-and-view/
[11] Accessed [December 2022] via: https://www.gov.ie/en/publication/9f9e7-eia-portal/

Profile Park Power Plant (Planning Ref: SD21A/0167)

Green Ideas Limited have been granted planning for the development of a 125 MW dual fuel gas fired power plant (Peaker Plant) located immediately east of the proposed substation site. An AA Screening was undertaken of the proposed Peaker Plant by TOBIN in 2021 (TOBIN, 2021). The screening assessment concluded that there is no potential that the construction and operation of the proposed Peaker Plant would result in likely significant effects on the qualifying interests/special conservation interests of any European sites within the ZoI of the proposed development, in view of their conservation objectives. There is therefore no potential for the in-combination of effects with the proposed development under appraisal in this report.

Kilcarbery Substation (Planning Ref: 312793)

Vantage Data Centers are seeking permission for the development of the Kilcarbery Substation and transmission line located immediately west of the proposed substation site. An AA Screening was undertaken of the proposed substation development which was undertaken by Neo Environmental Ltd (Neo Environmental Ltd, 2021). The screening assessment identified a hydrological pathway between the proposed substation site and the South Dublin Bay SAC, South Dublin Bay and River Tolka SPA, North Dublin Bay SAC and North Bull Island SPA. The screening assessment concluded that due to the drainage measures in place, and likely dispersion, it was considered that potential effects were negligible, and that potential impacts from the Kilcarbery Substation will not be significant or have a detrimental effect on the qualifying features of any Natura 2000 designated sites with a hydrological connection.

Considering the above, there is no potential for the proposed development under appraisal in this report to result in an in-combination of effects with the proposed Kilcarbery substation development.

8.2 PLANS

The South Dublin Development Plan 2022-2028[12] indicates that the proposed development site is located within Enterprise and Employment zoned lands. The development plan indicates that Enterprise and Employment zoned lands will accommodate low to medium intensity enterprise employment uses.

The County Development Plan also indicates policies and objectives associated with the protection European sites (Policy NCBH3 [Objectives 1, 2 & 3] etc.). All new plans and projects proposed within the local administrative area must adhere to the above-mentioned objectives. Adherence to the Council's policies and objectives will therefore ensure that all plans and projects proposed within the area are subjected to the tests of Appropriate Assessment which will assess the potential for likely significant effects to European Sites, and where deemed necessary, the potential for an adverse effect on European Site integrity, either alone or in-combination with other plans and projects.

9.0 SCREENING ASSESSMENT CONCLUSION

It was determined, using best scientific knowledge, that potential impacts associated with the proposed development will not result in likely significant effects on the qualifying interests/special conservation interests of any European sites within the ZoI of the proposed

[12] https://www.sdcc.ie/en/services/planning/development-plan/plan-2022-2028/

development, in view of their conservation objectives. A Stage 2 Appropriate Assessment is therefore not required.

10.0 REFERENCES

Charted Institute of Ecology and Environmental Management (CIEEM) (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine.

Cutts, N., Hemingway, K., Spencer, J., (2013). Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning and Construction Projects.

Department of the Environment, Heritage and Local Government (DEHLG) (2010). Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities.

European Commission [EC] (2000). Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg.

European Commission [EC] (2001). 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, Office for Official Publications of the European Communities, Luxembourg.

European Commission [EC] (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg.

European Commission [EC] (2007). Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg.

European Commission [EC] (2013). Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.

European Commission [EC] (2018). Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission.

European Commission [EC] (2021a). Assessment of Plans and Projects in relation to Natura 2000 sites – Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

European Commission [EC] (2021b). Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Publications Office of the European Union, Luxembourg.

Farmer A. (1993). The effects of dust on vegetation--a review. Environ Pollut. 1993;79(1):63-75. doi: 10.1016/0269-7491(93)90179-r. PMID: 15091915.

Holman, C., Barrowcliffe, R., Birkenshaw, D., Dalton, H., Gray, G., Harker, G. & Vining, L. (2014). IAQM Guidance on the Assessment of Dust from Demolition and Construction. Institute of Air Quality Management, London.

Neo Environmental Limited (2021). Appropriate Assessment Screening, Kilcarbery Substation and Transmission Lines. (Unpublished Report).

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report.

Office of the Planning Regulator (OPR) (2021). Appropriate Assessment Screening for Development Management. OPR Practice Note PN01.

Scottish Natural Heritage (SNH) (2016). Assessing Connectivity with Special Connectivity with Special Protection Areas (SPAs) Guidance. Version 3 – June 2016.

Smith, G. F., O'Donoghue, P., O'Hora, K., & Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. Ireland's Heritage Council: Kilkenny, Ireland

Sundseth, K., Roth, P. (2014). Article 6 of the Habitats Directive - Rulings of the European Court of Justice. Final Draft.

TOBIN Consulting Engineers (2021). Appropriate Assessment Screening Report – Greener Ideas Limited, Profile Park Power Plant. (Unpublished Report).

APPENDIX 1

APPENDIX 2

APPENDIX 3