Appropriate Assessment Screening Report

for proposed

Brine Saturation Plant
in
Palmerstown Salt Depot

in accordance with the requirements of
Article 6(3) of the EU Habitats Directive

by

CAAS Ltd

for

South Dublin County Council

November 2023

CAAS Ltd, 2nd Floor, the Courtyard, 25 Great Strand Street, Dublin 1

Table of Contents

List of Figures

List of Tables

List of Appendices

Document Control

	Author/Reviewer	Date
Prepared by	Callum O'Regan	Various dates to 06 October 2023
Reviewed by	Karen Dylan Shevlin	02 November 2023
	Paul Fingleton	31 October 2023
Status of this version	Final	

1. Introduction

1.1. Background

CAAS has been appointed by South Dublin County Council (the competent authority) to prepare this Appropriate Assessment Screening Report (AASR) for a proposed Brine Saturation Plant in Palmerstown Salt Depot , Conty Dublin (the proposed development). AA is a procedure carried out in accordance with the requirements of Article 6(3) of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive"). This has been prepared to assist the competent authority in assessing whether or not a Natura Impact Statement (NIS) (known as a *Stage Two* Appropriate Assessment) is required for the proposed development.

1.2. Report structure

This report sets out the legislative context for the assessment process with reference to relevant guidelines and highlight the experience and qualifications of the author (See Appendix IV for author qualifications). It then details the proposed development and the works associated with this which are then interrogated to identify any possible effects which may be ecologically relevant for European sites. Following this, the metrics for the assessment of 'significance' of these effects are explained and applied to each of the European sites with ecological connectivity to the proposed development area. This assessment is undertaken in view of the conservation objectives and known sensitivities of the qualifying interests and special conservation interests for each European site. Other plans and projects are then considered to identify any likely in-combination effects which may result in the likelihood of potential significant effects on European sites.

1.3. Legislative context

The Habitats Directive provides legal protection for habitats and species of European importance. The overall aim of the Habitats Directive is to maintain or restore the "favourable conservation status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Habitats Directive as above and Directive 2009/147/EC on the conservation of wild birds) with Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated to afford protection to the most vulnerable among them. These two designations are collectively known and referred to as European sites. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect such sites. Article 6(3) establishes the requirement for AA. These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning and Development Act 2000 (as amended).

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'.

The AA process relates to the protection of species listed in Annex I and Annex II of the Habitats Directive which form the Natura 2000 network (Article 3(1)). Species breeding and resting places of species listed in Annex IV of the Habitats Directive are nationally protected in Ireland as per Articles 15 and 16 of the Habitats Directive. The actual species listed in Annex IV do not form part of the Natura 2000 network as they are not mentioned in Article 3(1) of the Directive which defines the Natura 2000 network.

Article 3(1) of the Habitats Directive States:

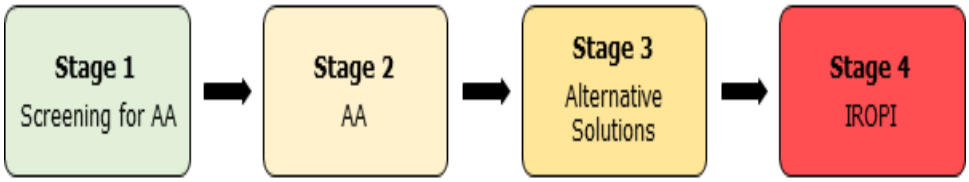
> *'A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range'.*

AA is an assessment of the likely potential significant effects arising from a plan or project, either individually or in combination with other plans or projects, to assess if the plan or project will have potential for significant effect on any European site concerned, and implications in view of the European site's conservation objectives. These sites consist of SACs and SPAs and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats. Where a formal consent process applies, the AA process is concluded by the relevant competent authority making a determination in accordance with article 6(3) of the Habitats Directive.

1.4. Overview of the Habitats Directive and Appropriate Assessment process

The Habitats Directive itself promotes a hierarchy of avoidance, mitigation and compensatory measures. This approach aims to avoid any effects on European sites by identifying possible effects early in the plan or project making process and avoiding such effects. Second, the approach involves the application of mitigation measures, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If potential significant effects on European sites remain, and no further practicable mitigation is possible, the approach requires the consideration of alternative solutions. If no alternative solutions are identified and the plan or project is required for imperative reasons of overriding public interest, then compensation measures are required for any remaining adverse effects.

There are four main stages in the AA process:



Stage one: Appropriate Assessment Screening

The process that identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans and considers whether these

impacts are likely to be significant. An Appropriate Assessment Screening Report (AASR) can be compiled to inform the competent authority on conduction Screening for AA.

Stage two: Appropriate Assessment (AA)
The consideration of the impact on the integrity of the European site of the project or plan, 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 there are adverse effects mitigation measures are required to avoid or minimise potential effects. The details of these mitigation measures are then assessed in the context of the ecological integrity of the plan/project characteristics to ensure no significant adverse effects on European sites. If this assessment process shows there are no residual significant effects, then the process may end at this stage, stage two, of the AA process which are formalised in Natura Impact Statements (NIS) reports which support the overall AA process. However, if the likelihood of significant impacts remains, then the process must proceed to Stage Three.

Stage three: Assessment of Alternative Solutions
The process that examines alternative ways of achieving the objectives of the project or plan that avoids adverse impacts on the integrity of the European site.

Stage four: Imperative Reasons of Overriding Public Interest (IROPI)
An assessment of compensatory measures, where no alternative solutions exist and where adverse impacts remain, but in the light of an assessment of IROPI, it is deemed that the project or plan should proceed.

1.5. Approach

This AA screening report is based on best scientific knowledge and has utilised ecological expertise, and is supported by desktop research on national databases including the National Biodiversity Data Centre[1]; the NPWS[2] (including mapping and available reports for relevant sites, and in particular the qualifying interests/special conservation interests described and their conservation objectives); the EPA[3] mapping websites; data collected for the most recent Article 12 and 17 conservation status reporting cycle, 2019; and, *The Status of Protected EU Habitats and Species in Ireland* report (NPWS, 2019).

The ecological desktop study that has been completed for the AA screening of the proposed development, comprised the following elements:

- Identification of European sites within 15 km[4] of the subject lands;
- Identification of European sites pathways for effects from the site have been identified (if relevant[5]) greater than 15 km from the subject lands;
- Review of the NPWS site synopses and conservation objectives for European sites within 15 km and for which potential pathways from the proposed development area have been

[1] Available at: https://maps.biodiversityireland.ie/
[2] Available at: https://www.npws.ie/protected-sites and https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba
[3] Available at: https://gis.epa.ie/EPAMaps/
[4] While the actual zone of influence is likely to be much smaller, the default 15km zone extent has been applied on a precautionary basis further detail on this is identified in section 3.2
[5] This is particularly relevant for all sites with hydrological connectivity or other significant ecological pathways

identified; and
- Examination of available information on protected species.

Source-pathway receptor model

Ecological impact assessment of potential effects on European sites is conducted following a standard source-pathway-receptor model, where, in order for an effect to be established, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) – e.g., pollutant run-off from proposed development;
- Pathway(s) – e.g., groundwater connecting to nearby qualifying wetland habitats; and,
- Receptor(s) – qualifying aquatic habitats and species of European sites.

In the context of this report, a receptor is an ecological feature that is known to be utilised by the qualifying interests or special conservation interests of a European site. A source is any identifiable element of the proposed development that is known to interact with ecological processes. A pathway is any connection or link between the source and the receptor[6].

This report provides information on whether direct, indirect and cumulative potential significant effects could arise from the proposed development.

Guidance

The AA screening has been prepared taking into account the relevant legislation (ref s1.3) and guidance, including:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2009;*
- *Commission Notice: Managing Natura 2000 sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", European Commission 2018;*
- *Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Notice, Journal of the European Union, 2021;*
- *Practice Note PN01: Appropriate Assessment Screening for Development Management, Office of the Planning Regulator, 2021*

[6] qualifying interest or special conservation interests of the European site in question and the known sensitivities of these key ecological receptors

2. Description of proposed development

2.1. Receiving environment overview

The proposed development is located in West Palmerstown, County Dublin, east of the Deadman's Inn Pub and north of the N4 (Figure 2.1). The development is located within a site which is currently utilised by the Council as a salt storage depot, and will continue to be operated as such. The site is composed mainly of bare ground, buildings and artificial surfaces, with a thin band of vegetation surrounding the central area of the site, that is composed mostly of immature to mature trees, small areas of scrub and recolonising bare ground.

In the wider context, the proposed site lies within a highly developed sub-urban area of Dublin City. The N4 dual carriageway lies directly south, followed by several large residential and industrial developments. To the north of the site, there are large areas of amenity grassland and mature woodland, the River Liffey (approximately 492 m from the proposed development at the closet point) and several golf courses (Figure 2.1). In consulting satellite imagery and the EPA databases on water courses[7], there are no surface water courses directly connected with or adjacent to the proposed development site; the closest water course lies approximately 210 m to the north east of the proposed development (Figure 2.2)[7].

2.2. The proposed development

The proposed development comprises:

Construction of a concrete plinth and the installation of the following equipment;

- 50,000 l rainwater harvesting tank with back up mains feed (diameter: 3.5 m, height: 5 m)
- 40,000 l brine storage tank (diameter: 3 m, Height: 6 m)
- 40 t salt silo (diameter: 3 m, height: 10 m)
- brine saturator (width: 3 m, depth: 3 m, height: 2.5 m)

The total proposed site area is approximately 0.03 ha. The proposed development boundary is shown in Figure 2.1, and the plan of the proposed development is shown in Figure 2.3 and Figure 2.4.

The proposed brine saturation plant will consist of a sealed unit with dry salt delivered and blown into the silo. The dry salt will be fed into the saturator and mixed with water to create the brine and then pumped into the brine tank. Within the brine tank, brine will be a 23% salt, 77% water solution. The brine tanks and saturators will be situated on a raised concrete slab and the system will be fitted with anti-siphon valves and leak detection alerts. The brine solution will be pumped from the storage tank to tanks on the side of an awaiting truck, which will then depart and spread the brine solution along roadways in winter weather to reduce ice as a traffic safety measure.

The proposed development will not change the existing condition of use of the proposed development site, but rather provides for the installation of equipment within the existing salt depot site in order to increase the effectiveness of the use of salt as a treatment for roadways in winter conditions, and reduce its environmental impact. Higher than normal concentrations of salt in

[7] Accessed at: https://gis.epa.ie/EPAMaps/ 5th October 2023

freshwater and marine environments can cause significant damage to natural systems and species. Installing a brine saturation plant and utilising a solution of brine and rainwater (in place of the traditionally used pure crystalline salt on roadways) where possible, uses significantly less quantities of crystalline salt. This is due in part to the large dilution factor, and also because brine is a wet coating which remains on the roadways longer - rather than a dusting of crystals which can be blown off the roadway.

This significantly lower use of crystalline salt on roadways in turn, ensures that a much lower concentration of salt is deposited directly and indirectly into waterways and drainage systems as a result of treating roadways when brine is used. This lower concentration has been shown to have reductions in all negative environmental effects associated with salt spreading salt on roadways[8].

[8] Michael Fitch, G., Smith, J.A. and Clarens, A.F., 2013. Environmental life-cycle assessment of winter maintenance treatments for roadways. *Journal of Transportation Engineering*, *139*(2), pp.138-146.

Figure 2.1. Location of the proposed development site

Figure 2.2. Location of EPA rivers relative to the proposed development site

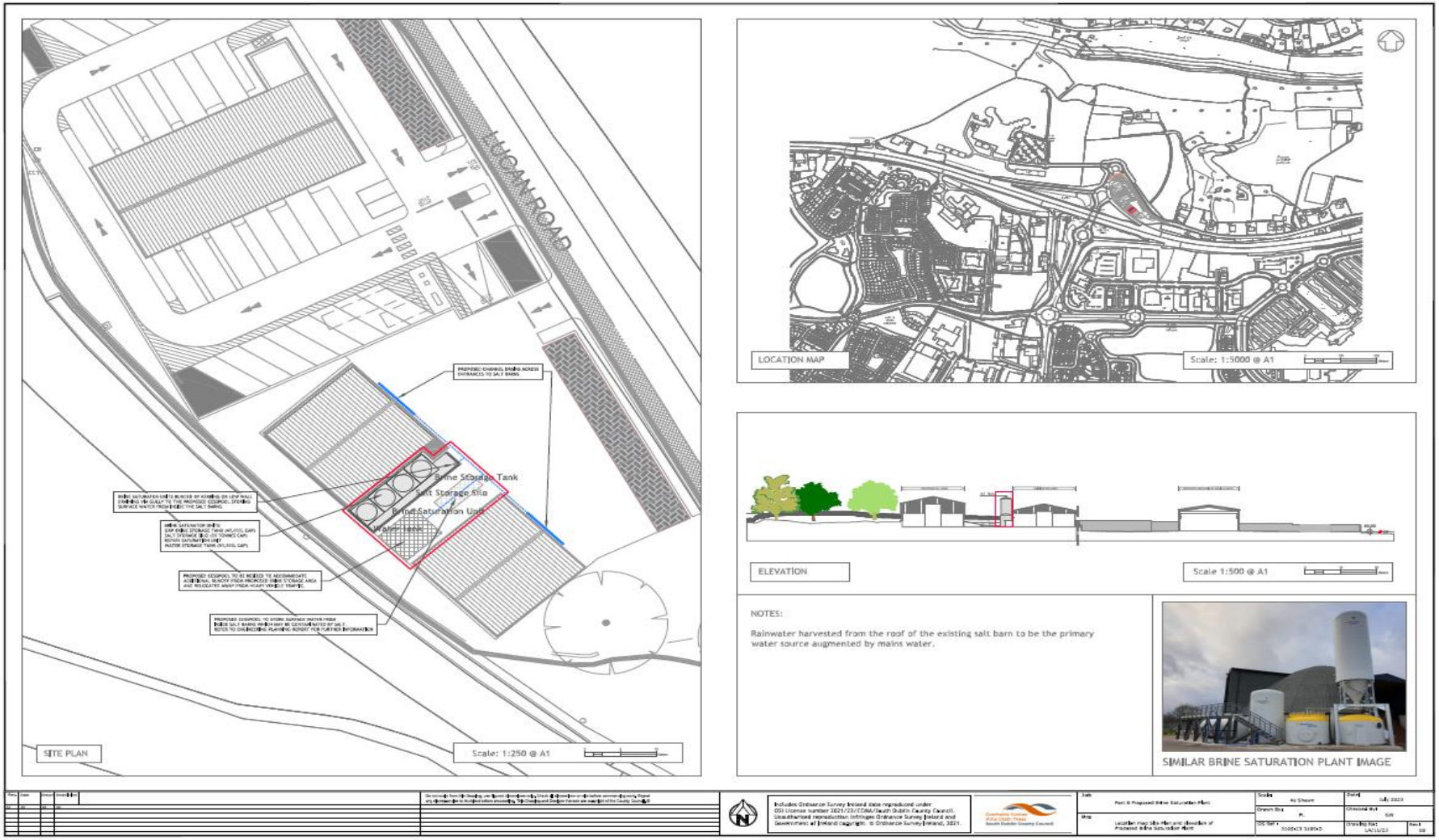


Figure 2.3. Plan of the proposed development (1 of 2)[9]

[9] Source: South Dublin County Council (See accompanying drawing set for full resolution versions of all drawing)

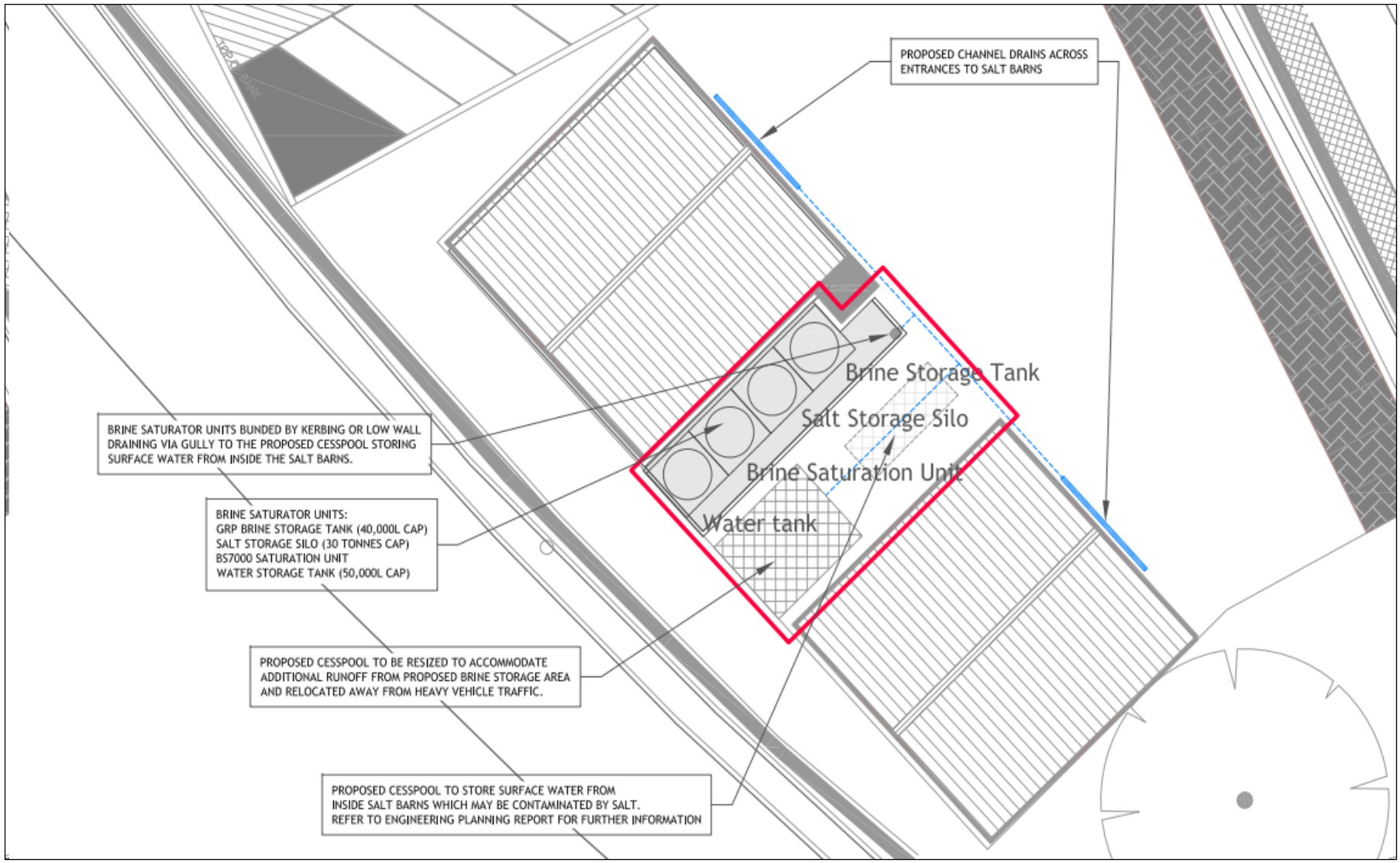


Figure 2.4 Plan of the proposed development (2 of 2)[9]

3. Screening for Appropriate Assessment

3.1. Introduction

This stage of the process identifies any likely significant effects on European sites arising from the project, either alone or in combination with other projects or plans. A series of questions are asked in order 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.
- Whether the project 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.

An important element of the AA process is the identification of the "'Conservation Objectives", "Qualifying Interests" (Qis) and/or "Special Conservation Interests" (SCIs) of European sites requiring assessment. Qis are the habitat features and species listed in Annexes I and II of the Habitats Directive for which each Special Area of Conservation (SAC) has been designated and afforded protection under the Habitats Directive. SCIs are bird species listed within Annexes I and II of the Birds Directive for which each Special Protection Area (SPA) has been designated and afforded protection under the Habitats Directive. Under the requirements of the Habitats Directive, the threats and pressures on the ecological / environmental conditions that are required to support QIs and SCIs, with specific regard to the Conservation Objectives of each site, are considered as part of the assessment.

Site-Specific Conservation Objectives (SSCOs) have been designed to define favourable conservation status for a particular habitat or species at that site. According to the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC', paragraph 4.6(3):

> *"The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."*

Favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing;
- 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.

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;
- 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.

3.2. Identification of relevant European sites

The Zone of Influence (ZoI) is defined in the relevant guidance[10,11] as the geographical area, relative to the proposed development, over which the proposed development could have effects on the ecological receiving environment in a way that could result in potential significant effects on the Qualifying Interests or Special Conservation Interests of a given European site.

The Department of Environment, Heritage and Local Government (2009) Guidance on Appropriate Assessment (AA) recommends that a search zone of up to 15 km be considered for AA for Plans, and also acknowledges that this search zone could be much less for the AA of certain projects. As an initial search zone, this 15 km zone was applied for this assessment (Figure 3.1).

Within the initial 15 km search zone, the ZOI is then established based on the nature of the proposed development and connectivity to European sites, their sensitivities, and Qualifying Interests (species and habitats designated for SACs) and Special Conservation Interests (species designated for SPAs).

Beyond 15 km, potential effects arising from the proposed development across terrestrial pathways (i.e., non-hydrological) at this scale are not identified to have any potential to cause significant effects due to the scale of the proposed development and the distances involved. However, further considerations were given to hydrological pathways (i.e., surface and/or groundwater) connecting the proposed development to European sites, as these may extend beyond the 15 km search zone. As mentioned in s2, there is no direct surface hydrological connection between the proposed development site and any European site. A small stream called the Quarryvale, which connects to the River Liffey and eventually to Dublin Bay and its European sites, lies approximately 210 m northeast of the proposed development boundary (Figure 2.2).

European sites that are designated for SCI species that are known to utilise (i.e., forage and or roost) isolated / ex-situ resources across the landscape, i.e., outside of the designated SPA boundary, could intersect with the zone of influence for the proposed development, and the proposed development is also considered in this context during the assessment report.

The European sites that occur within the 15 km initial search zone, or that have been identified to have ecological connectivity pathways (e.g., hydrological) with the proposed development, or have been identified as having designated species which may utilise resources contained within the proposed development area, are listed and analysed in Table 3.1.

In order to determine the potential effects of the proposal, information on the qualifying features, known vulnerabilities and threats pertaining to any potentially affected European sites has been reviewed. Background information on threats to individual sites and vulnerability of habitats and species that was used during this assessment included the following:

- Ireland's Article 17 Report to the European Commission *"Status of EU Protected Habitats and Species in Ireland"* (NPWS, 2019);
- Ireland's Article 12 Report to the European Commission *"Bird species' status and trends*

[10] *Practice Note PN01: Appropriate Assessment Screening for Development Management, Office of the Planning Regulator, 2021.*
[11] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.

reporting format for the period 2008-2012-" (NPWS, 2012)

- Site Synopses[12]; and
- NATURA 2000 Standard Data Forms[12].

Considering the nature of the proposed development, the small size of the proposed site and the minor nature of the proposed work (as described in s2), in the context of the current site use and the surrounding area (Figure 2.1 and Figure 2.2); any potential effects arising from the proposed development are likely to be contained within a ZOI of 200 m for the proposed development.

The analysis in Table 3.1 considers the SSCOs of each of the sites within the 15 km initial search zone, and the 200 m ZOI, and any additionally connected sites. Since the conservation objectives for the European sites focus on maintaining the favourable conservation condition of the QIs/SCIs of each site, the screening process has concentrated on assessing the potential effects of the proposed development against the QIs/SCIs of each site and their conservation objectives.

[12] NPWS (2019); NPWS Database of protected site data and associated documents for each European site; available at https://www.npws.ie/protected-sites: last accessed 26th October 2022

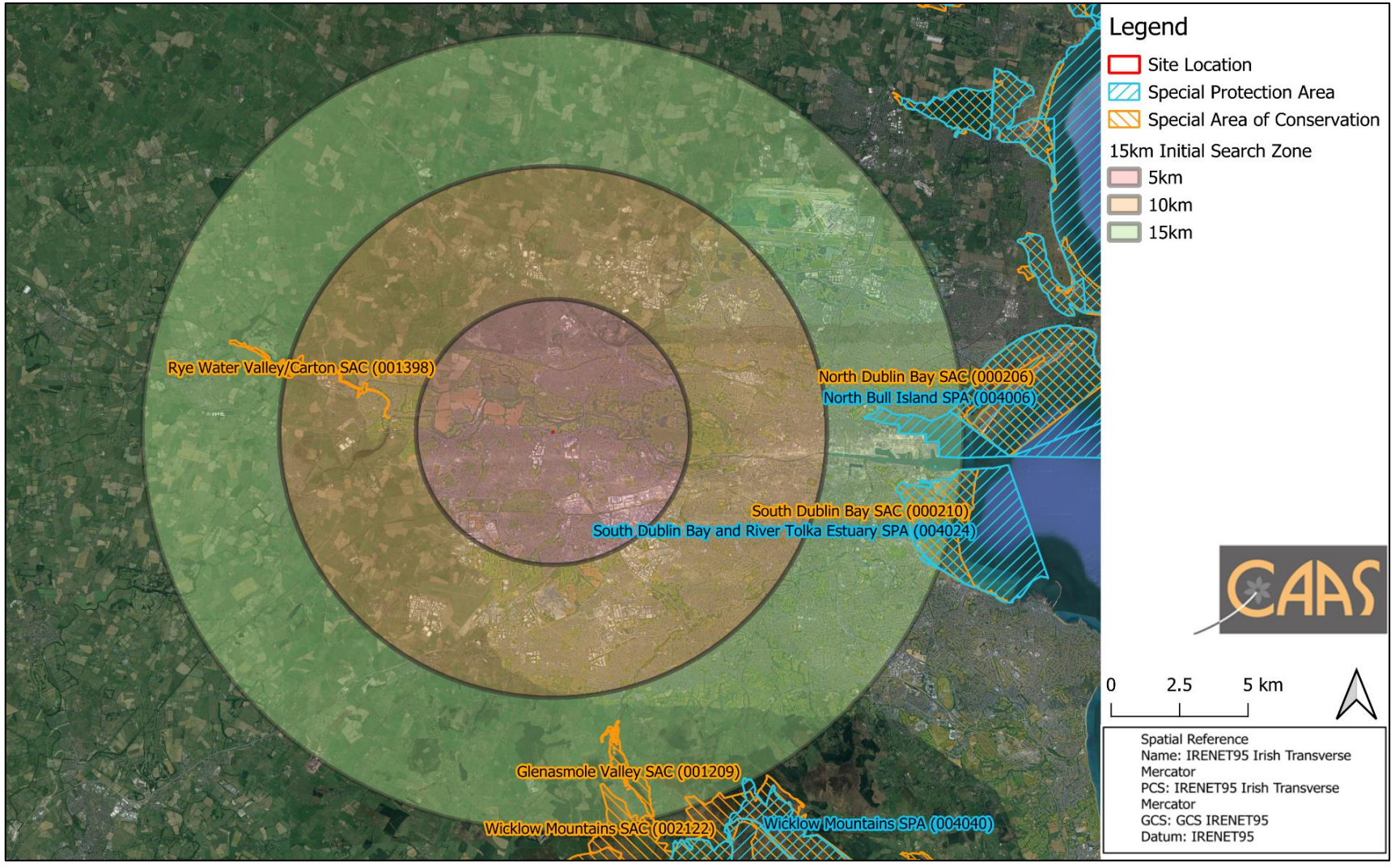


Figure 3.1. European sites within 15 km of the proposed development boundary[13]

[13] Source: NPWS (datasets downloaded 5th October 2023)

3.3. Assessment criteria

3.3.1. Is the development necessary to the management of European sites?

Under the Habitats Directive, projects that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the project, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of the proposed development is not the nature conservation management of the site, but to construct a Brine Saturation Plant in Palmerstown Salt Depot , and all associated site works. Therefore, in the context of the Habitats Directive, the proposed development would not be considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

3.4. Characterising potential significant effects

This section details the parameters utilised by this AASR when assessing potential effects[14].

- **Direct and Indirect Impacts** - An impact can be caused either as a direct or as an indirect consequence of a Plan/Project.
- **Magnitude** - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.
- **Extent** - The area over that the impact occurs – this should be predicted in a quantified manner.
- **Duration** - The time that the effect is expected to last prior to recovery or replacement of the resource or feature.
  - Temporary: Up to 1 Year;
  - Short Term: The effects would take 1-7 years to be mitigated;
  - Medium Term: The effects would take 7-15 years to be mitigated;
  - Long Term: The effects would take 15-60 years to be mitigated; and
  - Permanent: The effects would take 60 or more years to be mitigated.
- **Likelihood** – The probability of the effect occurring taking into account all available information.
  - Certain/Near Certain: >95% chance of occurring as predicted;
  - Probable: 50-95% chance as occurring as predicted;
  - Unlikely: 5-50% chance as occurring as predicted; and
  - Extremely Unlikely: <5% chance as occurring as predicted.

The Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for ecological impact assessment (2016) define: an ecologically significant impact as an impact (negative or

[14] Parameters used have been adapted from the following guidance documents on the conduction Appropriate Assessments and Ecological Impact Assessments:

- Department of the Environment, Heritage and Local Government (2009) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester; and,

positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area; and the integrity of a site as the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

SSCOs have been prepared for a number of European sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

> **Favourable conservation status** of a **species** can be described as being achieved when: '*population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or 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.*'
>
> **Favourable conservation status** of a **habitat** can be described as being achieved when: '*its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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*'.

First Order Site-specific Conservation Objectives are designated by the NPWS for a number of European sites that SSCOs have yet to be prepared for.

A First Order Site-specific Conservation Objective for a SAC is provided below:

- To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

A First Order Site-specific Conservation Objective for a SPA is provided below:

- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA.

3.5. Identification of potential significant effects of the proposed development

This part of the screening assessment process identifies whether the changes brought about by the proposed development may introduce sources with pathways for introducing direct, indirect or secondary potential effects (either alone or in combination with other plans or projects) on the European sites considered in this report, in the absence of any controls, conditions, or mitigation measures (as required for an AASR). A number of factors have been taken into account including the sites' conservation objectives and known threats. Certain standardised metrics are utilised in this

AASR to describe and assess the likely significant effects, thus standardising the assessment process across all plans and projects. These metrics are described, alongside the guidelines used in compiling them, in section 3.4 above.

The overall aim of the AASR is to predict the potential effects that can be reasonably foreseen to have a likelihood of causing potential significant effects on European sites as a result of the implementation of the proposed development.

The construction and operational phase elements of the proposed development with potential to introduce sources for effects to ecological processes are identified below. These will be discussed and considered for a likelihood of potential significant effects in view of the Special Conservation Interests, and Qualifying Interests of the European sites, and their sensitivities, and Qualifying Interests. Subsequently the potential effects with sources and pathways identified to have a likelihood for potential significant effects on European sites (if any) will be summarised.

3.5.1. Construction phase potential effects

The construction phase will be localised, small-scale and temporary. There will be no change in hard surface area or drainage for the construction phase, relative to the existing site, as a result of the proposed development. Therefore, the proposed development does not present a source for potential effects via changes in hard surface area/surface water drainage in the construction phase. Sources for potential effects from the construction phase of the proposed development are have been identified as:

- Disturbance effects through noise;
- Surface run-off; and,
- Dust.

Disturbance effects through noise

SCI species are sensitive to disturbance effects; in general distances beyond 2 km are seen to be sufficient to preclude such effects[15,16]. These distances can vary due to factors such as species and/or time of year[17,18]. Considering the distance from European sites, the construction phase of the proposed development has potential for effects for disturbance through noise to ex-situ foraging SCI species only. However, noise disturbance during the construction phase of the proposed development will be temporary (i.e., less than one year), small in scale, and localised, and will occur within an area that has consistent levels of disturbance common to sub-urban environments. Therefore, a degree of habituation to noise can be assumed for a project in this environment with a small scale, temporary construction phase. Therefore, it is deemed there are no sources that have pathways for likely significant effects via noise disturbance during the construction phase of the proposed development.

[15] Rudock, M. and Whitfield, D.P., 2007. A review of disturbance distances in selected bird species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage, 181.

[16] Bright, J.A., Langston, R. and Anthony, S., 2009. Mapped and written guidance in relation to birds and onshore wind energy development in England. Sandy: RSPB.

[17] Bötsch, Y., Tablado, Z. and Jenni, L., 2017. Experimental evidence of human recreational disturbance effects on bird-territory establishment. Proceedings of the Royal Society B: Biological Sciences, 284(1858), p.20170846.

[18] Goss-Custard, J.D., Hoppe, C.H., Hood, M.J. and Stillman, R.A., 2020. Disturbance does not have a significant impact on waders in an estuary close to conurbations: importance of overlap between birds and people in time and space. Ibis, 162(3), pp.845-862.

Surface run-off

The majority of the proposed development involves the installation of equipment (see s 2.2 for a project description). However, a concrete plinth will be installed as part of the proposed development. This could present a source for surface run off as the concrete is being prepared on site, via underground urban drainage. However, considering the size of the proposed development (0.03 ha – of the which the plinth will be a small part) and the distance to European sites (Figure 3.1), this does not present a source for likely significant effects on European sites

Dust

There will be an increase in dust emissions during the construction phase of the proposed development. However, given the distances between the proposed development site and the closest European sites of 5.98 km; the small scale of the proposed development; and, the temporary nature of the construction phase it is deemed that there are no sources with pathways for likely significant effects via construction related dust as a result of the proposed development.

3.5.2. Operational phase potential effects

The operational phase effects will be localised, small-scale and permanent. There will be no loss of habitat that neither supports, nor is ecologically connected to, any European sites in the operational phase as a result of the proposed development. There is no direct hydrological connection between the proposed site any European site. There will also be no change in hard surface area for the operational phase, relative to the existing site, as a result of the proposed development, and no surface water drainage or sewerage infrastructure alterations or additions will occur as a result of the proposed development. There is indirect hydrological connectivity via underground urban drainage/surface water runoff. However, the proposed development provides for the installation of equipment to convert the existing salt on site to a brine solution, in order to reduce the concentration of salt used for treating roadways and reduce potential environment impact. Therefore, the proposed development does not present any sources for potential significant effect via surface water drainage beyond the existing, permitted, functions of the Palmerstown Salt Depot site. Therefore, the proposed development does not present any sources for potential significant effects via surface water drainage or wastewater drainage in the operational phase.

3.5.3. Summary of likely significant effects

Therefore, in summary, for the purposes of this assessment report of the proposed development, and considering the precautionary principle[19], the proposed development is identified as having no sources with pathways for likely significant effects from the construction or operational phases of the proposed development.

The identified potential effects above are also considered and discussed in section 3.6 and Table 3.1 below, in the context of each of the European sites identified by this assessment report, in view of each of their site sensitivities, Qualifying Interests, Special Conservation Interests, and Conservation Objectives.

[19] Case law: (C127/02 Waddenzee).

3.5.4. Other types of potential effects

EC guidance[20] outlines the types of effects that may affect European sites. These include effects from the following activities:

- Land take
- Resource requirements (drinking water abstraction etc.)
- Emissions (disposal to land, water or air)
- Excavation requirements (removal of soil and vegetation)
- Transportation requirements
- Duration of construction, operation, decommissioning

The 2001 European Commission AA guidance outlines the following potential changes that may occur at a designated site, which may result in effects on the Conservation Objectives of that site:

- Reduction of habitat area
- Disturbance to key species
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value (water quality etc.)
- Climate change

The elements detailed above were considered within the context of the European sites identified in this AASR (Table 3.1 and Figure 3.1) below.

Loss/reduction of habitat area

There are no European sites present within the proposed development boundary (the closest European site to the proposed development site is, Rye Water Valley/Carton SAC (001398) at 5.98 km from the proposed development site). No Annex I habitats or supporting habitat for Annex II species were identified within the proposed development boundary[21]. There are also no sources for potential significant effects on European sites via direct hydrological connectivity via surface water courses as a result of the proposed development due to lack of hydrological connectivity (S2.1 and Figure 2.2). Therefore, there are no sources with a likelihood for potential significant effects posed to European sites in this regard.

Habitat or species fragmentation

The proposed development site itself is composed of a majority of existing artificial surfaces, with small patches of trees and scrub and recolonising bare ground (Figure 2.1). The proposed development site therefore holds no potential habitat for foraging SCI species. Therefore, the proposed development site itself has no ecological value for foraging SCI species due to the lack of any suitable habitat within the proposed site for ex-situ foraging. Therefore, there are no sources with a likelihood for potential significant effects posed to European sites in this regard.

Disturbance to key species

There will be a minor, short-term increase in noise and dust levels during the construction phase,

[20] 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, European Commission Environment DG, 2001

[21] Consulting current data sets for the proposed development location supplied by the NPWS (https://www.npws.ie/maps-and-data) and the NBDC (https://maps.biodiversityireland.ie/)

but these will be negligible in terms of potential significant effects to European sites due to the small-scale and temporary duration of the construction phase, and the distance to European sites (the closest being 5.98 km in distance). The site is over 2 km from the nearest SPA which is a sufficient distance to ensure there is no likelihood of significant disturbance effects through noise in the construction phase. The operational phase of the proposed development will not result in any significant increase in noise levels for the location and surrounding area due to the small-scale nature of the proposed development, and the disturbed nature of the surrounding urban environment of the proposed development site.

There are no sources for indirect disturbance to SCI species from surrounding SPAs in terms of ex-situ foraging, as the proposed development area contains no habitat of ecological value to SCI species. The grassland habitat surrounding the proposed development site could provide habitat for ex-situ foraging SCI species, however, noise disturbance during the construction phase of the proposed development will be temporary (i.e., less than one year), small in scale, and localised, and will occur within an area that has consistent levels of disturbance common to sub-urban environments. Therefore, a degree of habituation to noise can be assumed in this environment for a project with a small scale, temporary construction phase. The proposed development also has no direct surface hydrological connective to European sites (Figure 2.2) and also lacks any sources for potential effect via surface water drainage via underground urban drainage due to the size and nature of the proposed development, and the distances to European sites. Therefore, there are no sources with a likelihood for potential significant effects posed to European sites in this regard also.

Reduction in species density

The construction phase effects will also be small scale and temporary, and the operational phase effects will be in keeping with the current site use and conditions. There will be no permanent loss of connecting or contributing habitat for European sites as a result of the proposed development as no Annex I habitats or supporting habitat for Annex II species were identified within the proposed development boundary[22]. There will also be no direct loss of SAC or SPA habitat as a result of the proposed development as the closest European site to the proposed development site is, Rye Water Valley/Carton SAC (001398) at 5.98 km from the proposed development site and there is no direct surface hydrological connection between the proposed development site and any European site. The receiving environment of the proposed development site also has an overall no ecological value for ex-situ foraging SCI species due to the lack of suitable foraging habitat for ex-situ SCI species.

Regarding hydrological connectivity, the closest water course[23] is located approximately 210 m to the north east of the proposed development, and has no direct surface connectivity to the proposed development site. Therefore, there is no direct surface hydrological connection between the proposed development and this, or any, surface water course. There will be no change in hard surface area during the construction or operational phases. Therefore, there will be no increase of surface water run-off as a result of the proposed development. In addition, no drainage system alterations are to occur as a result of the proposed development. Therefore, there are no sources with a likelihood for potential significant effects posed to European sites with regard to reduction in species density.

[22] Consulting current data sets for the proposed development location supplied by the NPWS (https://www.npws.ie/maps-and-data) and the NBDC (https://maps.biodiversityireland.ie/)

[23] Accessed at: https://gis.epa.ie/EPAMaps/ 27th September 2023

Changes of indicators of conservation value

Water quality is an important indicator for the Conservation Objectives of many European sites. There is no direct surface hydrological connection between the proposed development and any surface water courses. There is indirect connectivity to the surrounding landscape via surface water drainage; however, there will be no change to surface water run-off as a result of the proposed development. The construction phase effects will also be small in scale and temporary in duration. Therefore, there are no sources with pathways for likely significant effects that may affect conservation indicators of European sites, such as water quality.

Climate change

The proposed development will result in a slight increase in greenhouse gas emissions during the construction phase, which will be localised and temporary. There will be no increase in emissions from the operational phase of the proposed development due to the nature of the proposed development in keeping with the site's use and functions (see s 2.2). Given the small scale and temporary timeline of the proposed development's construction phase, the emissions from the construction phase are determined to be of such a minor scale that they will not affect changes projected to arise from climate change to the degree that it would affect the QIs or SCIs of the European sites considered.

3.6. Screening of European sites

This section of the report concerns the final stage of the screening process. Information has been collected and is presented on the sensitivity of each relevant European site (ref 3.2), and potential effects on each European site resulting from the proposed development have been identified (in s3.5 which assumed the absence of any controls, conditions, or mitigation measures, as required in AA screening). In determining the likelihood for significant effects on European sites as a result of the proposed development, a number of factors have been taken into account. First the sensitivity and reported threats to European sites and second, the individual elements of the proposed development and the potential significant effects they may cause on the sites, were considered. These factors are analysed per European site considered, in view of each of their sensitivities (i.e., threats and pressures), and their Conservation Objectives, and presented in Table 3.1.

Sites are screened out based on one or a combination of the following criteria:

- where it can be shown that there are no significant pathways such as hydrological links between activities of the proposed development and a site;
- where a site is located at such a distance from proposed development area that effects are not foreseen; and
- where known threats or vulnerabilities of a site cannot be linked to potential impacts that may arise from the proposed development.

Table 3.1 Screening assessment of the potential effects arising from the proposed development

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
001398	Rye Water Valley / Carton SAC	5.98	Narrow-mouthed whorl snail *(Vertigo angustior)* [1014], Petrifying springs with tufa formation *(Cratoneurion)* [7220], Desmoulin`s whorl snail *(Vertigo moulinsiana)* [1016]	Considering the Qualifying Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SAC is sensitive to hydrological interactions, land use management activities and groundwater interactions. The site is 5.98 km from the proposed development. There are no sources for effect for direct land use management to the SAC as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. In addition, due to the nature and size of the proposed development, and the significant dilution factor involved, there are no sources with pathways identified for likely significant effect via groundwater interactions with this European site. Considering the QIs of this SAC, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.	No	No
001209	Glenasmole Valley SAC	11.11	Petrifying springs with tufa formation *(Cratoneurion)* [7220], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* * important orchid sites [6210]	Considering the Qualifying Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SAC is sensitive to direct land use management activities, groundwater and hydrological interactions. The site is 11.11 km from the proposed development. There are no sources for effect for direct land use management to the SAC as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. In addition, due to	No	No

[24] See also section 3.7 below "Other plans and projects"

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
				the nature and size of the proposed development, and the significant dilution factor involved, there are no sources with pathways identified for likely significant effect via groundwater interactions with this European site. Considering the QIs of this SAC, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.		
004024	South Dublin Bay and River Tolka Estuary SPA	11.38	Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Arctic tern *(Sterna paradisaea)* [A194], Wetland and Waterbirds [A999], Bar-tailed Godwit *(Limosa lapponica)* [A157], Redshank *(Tringa totanus)* [A162], Ringed Plover *(Charadrius hiaticula)* [A137], Roseate Tern *(Sterna dougallii)* [A192], Oystercatcher *(Haematopus ostralegus)* [A130], Grey Plover *(Pluvialis squatarola)* [A141], Knot *(Calidris canutus)* [A143], Common tern *(Sterna hirundo)* [A193], Sanderling *(Calidris alba)* [A144], Light-bellied Brent Goose *(Branta bernicla hrota)* [A674], Dunlin *(Calidris alpina)* [A149]	Considering the Special Conservation Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SPA is sensitive to hydrological interactions, direct land use management and disturbance effects. The site is 11.38km from the proposed development. There are no sources for effect for direct land use management to the SPA as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. SCI species are sensitive to noise disturbance effects; in general distances beyond 2km are seen to be sufficient to preclude such effects[25,26]. These distances can vary due to factors such as species and/or time of year[27,28]. Given the distance between the proposed development area and the SPA there are no pathways for disturbance effects identified in this regard. These SCI species are highly vagile and therefore may utilise ex-situ ecological resources which may have interactions with the proposed development. However, considering the nature of the proposed development site, the nature and scale of the proposed development, and the temporary construction phase, the local scale interactions with ex-situ resources are not likely to have significant effects on the SPA	No	No

[25] Ruddock, M. and Whitfield, D.P., 2007. A review of disturbance distances in selected bird species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage, 181.

[26] Bright, J.A., Langston, R. and Anthony, S., 2009. Mapped and written guidance in relation to birds and onshore wind energy development in England. Sandy: RSPB.

[27] Bötsch, Y., Tablado, Z. and Jenni, L., 2017. Experimental evidence of human recreational disturbance effects on bird-territory establishment. Proceedings of the Royal Society B: Biological Sciences, 284(1858), p.20170846.

[28] Goss-Custard, J.D., Hoppe, C.H., Hood, M.J. and Stillman, R.A., 2020. Disturbance does not have a significant impact on waders in an estuary close to conurbations: importance of overlap between birds and people in time and space. Ibis, 162(3), pp.845

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
				in the regard. Considering the SCIs of this SPA, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.		
000210	South Dublin Bay SAC	12.66	Annual vegetation of drift lines [1210], Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Embryonic shifting dunes [2110]	Considering the Qualifying Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SAC is sensitive to hydrological interactions and direct land use management. The site is 12.66 km from the proposed development. There are no sources for effect for direct land use management to the SAC as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. Considering the QIs of this SAC, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.	No	No
	Wicklow Mountains SAC	13.35	Natural dystrophic lakes and ponds [3160], Northern Atlantic wet heaths with Erica tetralix [4010], Alpine and Boreal heaths [4060], Blanket bogs * if active bog [7130], Calaminarian grasslands of the Violetalia calaminariae [6130], Calcareous rocky slopes with chasmophytic vegetation [8210], European dry heaths [4030], Otter *(Lutra lutra)* [1355], Siliceous rocky slopes with	Considering the Qualifying Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SAC is sensitive to, direct land use management activities, hydrological interactions and groundwater interactions. The site is 13.35km from the proposed development. There are no sources for effect for direct land use management to the SAC as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development and the absence of both direct and indirect hydrological pathways, there is no likelihood for potential significant effects via hydrological interactions. In addition, due to the nature and size of the proposed development, and the significant dilution factor involved, there are no sources for likely significant effect via groundwater interactions with this European	No	No

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
			chasmophytic vegetation [8220], Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0], Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* [3110], Siliceous scree of the montane to snow levels *(Androsacetalia alpinae and Galeopsietalia ladani)* [8110], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230]	site. Considering the QIs of this SAC, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.		
	North Bull Island SPA	14.51	Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Oystercatcher *(Haematopus ostralegus)* [A130], Curlew *(Numenius arquata)* [A160], Bar-tailed Godwit *(Limosa lapponica)* [A157], Black-tailed Godwit *(Limosa limosa)* [A156], Shelduck *(Tadorna tadorna)* [A048], Dunlin *(Calidris alpina)* [A149], Redshank *(Tringa totanus)* [A162], Golden Plover *(Pluvialis*	Considering the Special Conservation Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SPA is sensitive to disturbance effects and direct land use management activities. The site is 14.51km from the proposed development. There are no sources for effect for direct land use management to the SPA as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. SCI species are sensitive to noise disturbance effects; in general distances beyond 2km are seen to be sufficient to preclude such effects[29,30]. These distances can vary	No	No

[29] Ruddock, M. and Whitfield, D.P., 2007. A review of disturbance distances in selected bird species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage, 181.

[30] Bright, J.A., Langston, R. and Anthony, S., 2009. Mapped and written guidance in relation to birds and onshore wind energy development in England. Sandy: RSPB.

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
			apricaria) [A140], Shoveler *(Anas clypeata)* [A056], Pintail *(Anas acuta)* [A054], Turnstone *(Arenaria interpres)* [A169], Light-bellied Brent Goose *(Branta bernicla hrota)* [A674], Sanderling *(Calidris alba)* [A144], Teal *(Anas crecca)* [A052], Knot *(Calidris canutus)* [A143], Wetland and Waterbirds [A999], Grey Plover *(Pluvialis squatarola)* [A141]	due to factors such as species and/or time of year[31,32]. Given the distance between the proposed development area and the SPA there are no pathways for disturbance effects identified in this regard. These SCI species are highly vagile and therefore may utilise ex-situ ecological resources which may have interactions with the proposed development. However, considering the current nature of the proposed development site, the nature and scale of the proposed development, and the temporary construction phase, the local scale interactions with ex-situ resources are not likely to have significant effects on the SPA in the regard. Considering the SCIs of this SPA, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.		
000206	North Dublin Bay SAC	14.52	Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* [1330], Annual vegetation of drift lines [1210], Humid dune slacks [2190], Embryonic shifting dunes [2110], Mudflats and sandflats not covered by seawater at low tide [1140], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Salicornia and other annuals colonising mud and sand [1310],	Considering the Qualifying Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SAC is sensitive to direct land use management activities, hydrological interactions and groundwater interactions. The site is 14.52km from the proposed development. There are no sources for effect for direct land use management to the SAC as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development, the absence of any direct surface hydrological pathways, and the lack of any sources for potential significant effects via indirect hydrological pathways (i.e., urban drainage), there are no sources for effects via direct or indirect surface hydrological interactions. In addition, due to the nature and size of the proposed development, and the significant dilution factor involved, there are no sources with pathways identified for likely significant effect via groundwater interactions with this European site. Considering the QIs of this SAC, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential	No	No

[31] Bötsch, Y., Tablado, Z. and Jenni, L., 2017. Experimental evidence of human recreational disturbance effects on bird-territory establishment. Proceedings of the Royal Society B: Biological Sciences, 284(1858), p.20170846.

[32] Goss-Custard, J.D., Hoppe, C.H., Hood, M.J. and Stillman, R.A., 2020. Disturbance does not have a significant impact on waders in an estuary close to conurbations: importance of overlap between birds and people in time and space. Ibis, 162(3), pp.845

Site code	Site name	Distance (km)	Qualifying feature	Analysis of potential effects	Likelihood of significant effects	Likelihood of potential in-combination effects[24]
			Mediterranean salt meadows *(Juncetalia maritimi)* [1410], Petalwort *(Petalophyllum ralfsii)* [1395]	significant effects, and no further assessment is required.		
004040	Wicklow Mountains SPA	14.77	Merlin *(Falco columbarius)* [A098], Peregrine falcon *(Falco peregrinus)* [A103]	Considering the Special Conservation Interests and known sensitivities of this European site (detailed in Appendix I of this AASR) in the context of the potential effects identified in S3.5, this SPA is sensitive to disturbance effects and direct land use management activities. The site is 14.77km from the proposed development. There are no sources for effect for direct land use management to the SPA as this site is outside of the proposed development boundary. Given the nature and scale of the proposed development and the absence of both direct and indirect hydrological pathways, there is no likelihood for potential significant effects via hydrological interactions. SCI species are sensitive to noise disturbance effects; in general distances beyond 2km are seen to be sufficient to preclude such effects[33,34]. These distances can vary due to factors such as species and/or time of year[35,36]. Given the distance between the proposed development area and the SPA there are no pathways for disturbance effects identified in this regard. These SCI species are highly vagile and therefore may utilise ex-situ ecological resources which may have interactions with the proposed development. However, considering the current nature of the proposed development site, the local scale interactions with ex-situ resources are not likely to have significant effects on the SPA in the regard. Considering the SCIs of this SPA, and given the nature of the proposed development and the distances involved; there are no sources with a likelihood for potential significant effects, and no further assessment is required.	No	No

[33] Ruddock, M. and Whitfield, D.P., 2007. A review of disturbance distances in selected bird species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage, 181.

[34] Bright, J.A., Langston, R. and Anthony, S., 2009. Mapped and written guidance in relation to birds and onshore wind energy development in England. Sandy: RSPB.

[35] Bötsch, Y., Tablado, Z. and Jenni, L., 2017. Experimental evidence of human recreational disturbance effects on bird-territory establishment. Proceedings of the Royal Society B: Biological Sciences, 284(1858), p.20170846.

[36] Goss-Custard, J.D., Hoppe, C.H., Hood, M.J. and Stillman, R.A., 2020. Disturbance does not have a significant impact on waders in an estuary close to conurbations: importance of overlap between birds and people in time and space. Ibis, 162(3), pp.845

3.7. Other plans and projects

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or projects that might, in combination with the plan or project, have potential for significant effects European sites.

Section 3.2 - receiving environment overview - identifies the overall characteristics of the area with respect to existing condition and general land use. For considerations of in combination with respect to emerging or recent developments a search of the Dept of Housing, Local Government and Heritage planning database was undertaken to identify relevant plans and programmes which relate to the proposed development. All developments from the receiving area were considered; the area considered is defined by the authoring ecologist using criteria which depend on the characteristics of the proposed development and the associated sources (identified above); these criteria include:

- Having direct or indirect connectivity to a European site;
- Being in close proximity to a European site;
- Being of a substantial scale relative to the conditions and/or current works taking place in the surrounding landscape;
- Having disperse emissions or far-reaching sources for effects;
- Having sources for effects to ecological connectivity.

These factors are considered in the context of characteristics of the proposed development and on this basis a search radius of 200 m was selected to be used to search for projects within the receiving environment. The sources for effects from the proposed development are considered in combination with the potential sources for effects from the receiving environment for potential additive or interactive effects to the receiving environment.

Plans of relevance within the receiving environment or in-combination with effects arising from the proposed development:

- South Dublin County Development Plan 2022-2028

Considering the land use zoning of the above plan, and that the proposed development has a small-scale, temporary construction phase and the operational phase is consistent with the current site use, it is not foreseen that proposed development will have any likely significant in-combination effects with the above plans.

Projects considered for possible in-combination effects from the proposed development:
Further to section 3.2 – which details the existing land uses and general characteristics of the area – a focus was placed on current and future development applications. To identify projects for consideration for the in-combination effects section, the Dept of Housing, Local Government and Heritage planning database was used[37]. A review of all planning applications within the identified zone was conducted focusing on all application within the past 5 years[38].

[37] Accessed at: https://data-housinggovie.opendata.arcgis.com/datasets/planning-application-sites-2010-onwards; 23rd October 2023
[38] Planning applications have a standard lifespan of 5 years as per Section 40 (3)(b) of the Planning & Development Act 2000, as amended; therefore, these are viewed to be the 'live' applications, all other projects are considered as part of the site other than refused and

There are a number of other proposed developments in the vicinity of the proposed development including works which are at planning stage or underway on various sites. The database search found that these projects within the area are relating to the construction and alteration of commercial structures, all of which undergo Appropriate Assessment where required. Table 3.2 provides a list of the proposed developments within 200 m of the proposed development.

Due to the scale and nature of the proposed development, there are no sources with a likelihood for significant effects identified as a result of the implementation of the proposed development. On this basis, the assessment guidance given in CIEEM, 2018 indicates that there is no need to consider cumulative effects. However, in taking a precautionary approach, relevant plans and projects have nonetheless been reviewed and assessed in-combination with the proposed development.

The proposed development is localised, with a small scale, temporary construction phase, and an operational phase that is consistent with current site use and environment. The project listed in Table 3.2 below in the local area is small in scale with Appropriate Assessment and/or EIA screening carried out if required. Therefore, given the nature and scale of the proposed development, and the lack of any sources with a likelihood for potential significant effects, there are no likely in-combination likely significant effects with the below projects or above plans, on any European site considered in this report.

withdrawn applications, as these would not have any in-combination effects

Table 3.2 Local planning applications[39] within the receiving environment of the proposed development[40]

Project details	Decision	Description	Distance from proposed development (m)	Status	Characteristics of the potential interactions between the projects; sources and pathways	Likelihood of potential significant in-combination effects
Project Code: SD12A/0014/EP Grant Date: NA Project Area (sq m): 46989.30	Grant extension of duration of permission	Development consisting of 2 phases (1A and 1B): Phase 1A comprises the construction of (i) a retail anchor of c. 7935sq.m. gross floor area (c. 3500sq.m. convenience net sales area and c.1728sq.m. comparison net sales area) including a licensed alcohol sales area, ancillary offices, staff facilities, bulk store and cage marshalling area at first floor level; (ii) a cafe (235sq.m.) and retail services unit (180sq.m.) on the first floor level; (iii) circulation space to include an atrium at ground and first floor levels; (iv) signage; (v) service yard at first floor level; (vi) 551 car parking spaces to be provided at grade, part under first floor retail; (vii) CHP plant, ESB substation and all ancillary landscaping, site works and services; (viii) road upgrades to the following junctions - (1) St. Lomans Road-Fonthill-Bothar an Life/Shancastle Avenue roundabout junction, (2) Fonthill Road/Coldcut Road junction, (3) Bothar an Life/Ascaill an Life roundabout junctions (west and south), (4) N4/Fonthill Road off-ramp junction. Phase 1B comprises 5 ground floor retail services units (c.1041sq.m. total gross) and an additional 36 car parking spaces at grade (to bring the total to 587 spcaes) to be provided on completion of the east-west boulevard all on c.2.39ha site located to the southeast of the	115.63	Extension of duration of permission	This is a small-scale project with a temporary construction phase and the operational phase will have localised effects that will be in keeping with the context and character of the surrounding environment. Considering the above, in combination with the lack of any potential for effects on European sites arising from the proposed development, it is not considered that there is any potential for significant in-combination effects to any European sites. The consent process for this project was subject to applicable EIA and AA requirements.	No

[39] The majority of surrounding developments are minor projects with no risk of in-combination effects. Therefore, a summary list is provided here of the four largest proposed schemes within the below stated parameters

[40] Parameters used: planning application from within the last 5 years, within a radius of 200m around the proposed scheme boundary

Project details	Decision	Description	Distance from proposed development (m)	Status	Characteristics of the potential interactions between the projects; sources and pathways	Likelihood of potential significant in-combination effects
		Liffey Valley Shopping Centre and north of the B & Q Unit off the Coldcut Road. (An Environmental Impact Statement wass submitted with the application).				
Project Code: SD18A/0062 Grant Date: 2018-06-05 Project Area (sq m): 14799.40	Grant permission	Material change of use of previously permitted ground floor retail space, (Ref. Ref. SD06A/0957), to include the internal subdivision of existing retail space to create an administration office ancillary to the operations of the existing adjoining hotel. Associated minor alterations to the ground floor external elevations to include the relocation of the existing east facing entrance door and the installation of opening sections to existing south facing windows	117.01	Permission	This is a small-scale project with a temporary construction phase and the operational phase will have localised effects that will be in keeping with the context and character of the surrounding environment. Considering the above, in combination with the lack of any potential for effects on European sites arising from the proposed development, it is not considered that there is any potential for significant in-combination effects to any European sites. The consent process for this project was subject to applicable EIA and AA requirements.	No
Project Code: SD21A/0184 Grant Date: 2022-05-17 Project Area (sq m): 14134.90	Grant permission	Extension to the existing motor sales outlet with servicing area and associated development consisting of the construction of a single storey (double height) extension (c.568sq.m) to the existing motor sales outlet with servicing area which will comprise of a car body shop and valet area; single storey remote sales office (c.20sq.m); a covered bike shelter; ancillary petrol fill area; alterations to vehicle storage area; alterations and relocation of the exiting vehicle display provision (resulting in total of 79 defined display spaces (59 additional) together with indicative display areas with capacity for c.72 vehicles); a reduction in service spaces (resulting in total of 23 service spaces (3 less)) and relocation and	115.83	Permission	This is a small-scale project with a temporary construction phase and the operational phase will have localised effects that will be in keeping with the context and character of the surrounding environment. Considering the above, in combination with the lack of any potential for effects on European sites arising from the proposed development, it is not considered that there is any potential for significant in-combination effects to any European sites. The consent process for this project was subject to applicable EIA and AA requirements.	No

Project details	Decision	Description	Distance from proposed development (m)	Status	Characteristics of the potential interactions between the projects; sources and pathways	Likelihood of potential significant in-combination effects
		additions to the existing staff car parking provision (resulting in total of 25 staff spaces (5 additional)); provision of a new pedestrian site entrance; signage (3 signs (4.45sq.m; 2.71sq.m; 0.58sq.m); alterations and additions to the soft and hard landscaping, including the removal of existing fence; new boundary treatment and internal vehicle access gate; pedestrian paths and access; paving; tarmac and planting; relocation of vehicle sliding gate; an additional vehicle display podium; additional electric charging bays; new lighting; elevational changes to the existing building to facilitate the extension; an additional attenuation tank; all piped infrastructure and ducting; plant; all associated site development and excavation works above and below ground.				
Project Code: SD18A/0182 Grant Date: 2018-08-27 Project Area (sq m): 1315.30	Grant permission for retention	Retention permission for the installation of Klargester Biodisc treatment plant plus change of use of store to daycare rooms at first floor of existing two storey childcare facility.	117.94	Retention	This is a small-scale project with a temporary construction phase and the operational phase will have localised effects that will be in keeping with the context and character of the surrounding environment. Considering the above, in combination with the lack of any potential for effects on European sites arising from the proposed development, it is not considered that there is any potential for significant in-combination effects to any European sites. The consent process for this project was subject to applicable EIA and AA requirements.	No
Project Code: SD22A/0083	Grant permission	New enclosure to existing fire escape stairs and new exit to existing two storey childcare facility.	117.94	Permission	This is a small-scale project with a temporary construction phase and the operational phase will have localised effects that will be in keeping with the	No

Project details	Decision	Description	Distance from proposed development (m)	Status	Characteristics of the potential interactions between the projects; sources and pathways	Likelihood of potential significant in-combination effects
Grant Date: 2022-06-21 Project Area (sq m): 1314.70					context and character of the surrounding environment. Considering the above, in combination with the lack of any potential for effects on European sites arising from the proposed development, it is not considered that there is any potential for significant in-combination effects to any European sites. The consent process for this project was subject to applicable EIA and AA requirements.	

4. Conclusion

This Appropriate Assessment Screening Report has considered potential effects which may arise during the construction and operational phases as a result of the implementation of the proposed Brine Saturation Plant in Palmerstown Salt Depot . Through an assessment of the potential sources and potential pathways for significant effects; an evaluation of the project characteristics; taking account of the processes involved and the distance of separation from European sites, it has been evaluated by this report, which intends to inform the competent authority on the Appropriate Assessment process, that there is no likelihood of potential significant effects occurring to the Qualifying Interests, Special Conservation Interests or The Conservation Objectives of any designated European site as a result of the implementation of the proposed development.

Given its small scale, temporary timeline, and its nature in the context of the local environment setting, and the nature and context of the other plans and projects identified in this report; the proposed development is not foreseen to have any likelihood for potential significant in-combination effects arising from any other plans or projects.

It is concluded by this AA Screening Report that the proposed development is not foreseen to have any likelihood of significant effects on any European sites, alone or in combination with other plans or projects – and therefore any potential for significant effects on any European site as a result of the proposed development can be ruled out. This conclusion is made in view of the Conservation Objectives of the habitats or species for which these sites have been designated. Consequently, this report informs the competent authority undertaking the Appropriate Assessment process that the proposed development does not need to be subject to Stage Two Appropriate Assessment and a Natura Impact Statement is not required.

Appendix I Background information on European sites[41]

Site code	Site name	Qualifying feature	Pressure codes	Known threats and pressures
000206	North Dublin Bay SAC	Petalwort *(Petalophyllum ralfsii)* [1395], Mediterranean salt meadows *(Juncetalia maritimi)* [1410], Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* [1330], Embryonic shifting dunes [2110], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Humid dune slacks [2190], Salicornia and other annuals colonising mud and sand [1310], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120]	A04, G01.02, F02.03, G01.01, E03, I01, E01, E02, K03.06, G05.05, H01.03, J01.01, G02.01, F02.03.01, H01.09	Grazing, walking, horse-riding and non-motorised vehicles, leisure fishing, nautical sports, discharges, invasive non-native species, urbanised areas, human habitation, industrial or commercial areas, antagonism with domestic animals, intensive maintenance of public parcs or cleaning of beaches, other point source pollution to surface water, burning down, golf course, bait digging or collection, diffuse pollution to surface waters due to other sources not listed
000210	South Dublin Bay SAC	Salicornia and other annuals colonising mud and sand [1310], Embryonic shifting dunes [2110], Annual vegetation of drift lines [1210], Mudflats and sandflats not covered by seawater at low tide [1140]	E01, K02, H03, G01.01, K02.02, D01.01, G01.01.02, G01.02, E03, D01.02, J02.01.02, E02, F02.03.01, M01	Urbanised areas, human habitation, biocenotic evolution, succession, marine water pollution, nautical sports, accumulation of organic material, paths, tracks, cycling tracks, non-motorized nautical sports, walking, horse-riding and non-motorised vehicles, discharges, roads, motorways, reclamation of land from sea, estuary or marsh, industrial or commercial areas, bait digging or collection, changes in abiotic conditions
001209	Glenasmole Valley SAC	Petrifying springs with tufa formation *(Cratoneurion)* [7220], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* * important orchid sites [6210]	A03, A03.03, F02.03, A08, D01, H02.07, A04, I01, B01.01, B01.02, A04.02.01, A04.02.02, A04.02.03, H01.08, D01.03, B02.01.02, C01.03, J02, E01.02, B02.02, H01.05	Mowing or cutting of grassland, abandonment or lack of mowing , leisure fishing, fertilisation, roads, paths and railroads, diffuse groundwater pollution due to non-sewered population, grazing, invasive non-native species, forest planting on open ground (native trees), artificial planting on open ground (non-native trees), non-intensive cattle grazing, non-intensive sheep grazing, non-intensive horse grazing, diffuse pollution to surface waters due to household sewage and waste waters, car parcs and parking areas, forest replanting (non-native trees), peat extraction, human induced changes in hydraulic conditions, discontinuous urbanisation, forestry clearance, diffuse pollution to surface waters due to

[41] That have functional connectivity (ecological pathways) to the proposed development area including their Qualifying Interests, known threats and pressures

Site code	Site name	Qualifying feature	Pressure codes	Known threats and pressures
				agricultural and forestry activities
001398	Rye Water Valley/Carton SAC	Desmoulin`s whorl snail *(Vertigo moulinsiana)* [1016], Narrow-mouthed whorl snail *(Vertigo angustior)* [1014], Petrifying springs with tufa formation *(Cratoneurion)* [7220]	E01.01, A04, E01.03, B, A08, D01.02, J02.05.02, A10.01	Continuous urbanisation, grazing, dispersed habitation, sylviculture, forestry, fertilisation, roads, motorways, modifying structures of inland water courses, removal of hedges and copses or scrub
002122	Wicklow Mountains SAC	Blanket bogs * if active bog [7130], Calaminarian grasslands of the Violetalia calaminariae [6130], Otter *(Lutra lutra)* [1355], Siliceous rocky slopes with chasmophytic vegetation [8220], Calcareous rocky slopes with chasmophytic vegetation [8210], European dry heaths [4030], Siliceous scree of the montane to snow levels *(Androsacetalia alpinae and Galeopsietalia ladani)* [8110], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0], Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* [3110], Alpine and Boreal heaths [4060], Natural dystrophic lakes and ponds [3160], Northern Atlantic wet heaths with Erica tetralix [4010]	G01.02, A05.02, G02.09, G05.04, E03.01, G01, G05.09, B06, G04.01, K01.01, F03, B02.05, G05.06, D01.01, C01.03, I01, F03.02.02, F04.02, J01.01, G01.03.02, G01.04, L05, K04.05, E01, A04, G05.01, G05.07	Walking, horse-riding and non-motorised vehicles, stock feeding, wildlife watching, vandalism, disposal of household or recreational facility waste, outdoor sports and leisure activities, recreational activities, fences, fencing, grazing in forests or woodland, military manoeuvres, erosion, hunting and collection of wild animals (terrestrial), non- intensive timber production (leaving dead wood or old trees untouched), tree surgery, felling for public safety, removal of roadside trees, paths, tracks, cycling tracks, peat extraction, invasive non-native species, taking from nest (e.g., falcons), collection (fungi, lichen, berries etc.), burning down, off-road motorized driving, mountaineering, rock climbing, speleology, collapse of terrain, landslide, damage by herbivores (including game species), urbanised areas, human habitation, grazing, trampling, overuse, missing or wrongly directed conservation measures
004006	North Bull Island SPA	Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Oystercatcher *(Haematopus ostralegus)* [A130], Black-tailed Godwit *(Limosa limosa)* [A156], Shelduck *(Tadorna tadorna)* [A048], Curlew *(Numenius arquata)* [A160], Bar-tailed Godwit *(Limosa lapponica)* [A157], Light-bellied Brent Goose *(Branta bernicla hrota)* [A674], Sanderling *(Calidris alba)* [A144], Teal *(Anas crecca)* [A052], Knot *(Calidris canutus)* [A143], Wetland and Waterbirds [A999], Grey Plover *(Pluvialis squatarola)* [A141], Shoveler *(Anas clypeata)* [A056], Dunlin *(Calidris alpina)* [A149], Redshank *(Tringa totanus)* [A162], Golden Plover *(Pluvialis apricaria)* [A140], Pintail *(Anas acuta)* [A054], Turnstone *(Arenaria interpres)* [A169]	G02.01, E01.04, D03.02, F02.03.01, G01.01, D01.05, G01.02, E03, D01.02, G03, E01.01, E02	Golf course, other patterns of habitation, shipping lanes, bait digging or collection, nautical sports, bridge, viaduct, walking, horse-riding and non-motorised vehicles, discharges, roads, motorways, interpretative centres, continuous urbanisation, industrial or commercial areas

Site code	Site name	Qualifying feature	Pressure codes	Known threats and pressures
004024	South Dublin Bay and Tolka Estuary SPA	Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Oystercatcher *(Haematopus ostralegus)* [A130], Grey Plover *(Pluvialis squatarola)* [A141], Knot *(Calidris canutus)* [A143], Common tern *(Sterna hirundo)* [A193], Sanderling *(Calidris alba)* [A144], Light-bellied Brent Goose *(Branta bernicla hrota)* [A674], Dunlin *(Calidris alpina)* [A149], Arctic tern *(Sterna paradisaea)* [A194], Wetland and Waterbirds [A999], Bar-tailed Godwit *(Limosa lapponica)* [A157], Redshank *(Tringa totanus)* [A162], Ringed Plover *(Charadrius hiaticula)* [A137], Roseate Tern *(Sterna dougallii)* [A192]	F02.03, E03, E02, G01.01, D01.02, F02.03.01, K02.03, E01, J02.01.02, G01.02	Leisure fishing, discharges, industrial or commercial areas, nautical sports, roads, motorways, bait digging or collection, eutrophication (natural), urbanised areas, human habitation, reclamation of land from sea, estuary or marsh, walking, horse-riding and non-motorised vehicles
004040	Wicklow Mountains SPA	Merlin *(Falco columbarius)* [A098], Peregrine falcon *(Falco peregrinus)* [A103]	C01.03, G01.02, D01.01, B, A04, G03	Peat extraction, walking, horse-riding and non-motorised vehicles, paths, tracks, cycling tracks, sylviculture, forestry, grazing, interpretative centres

Appendix II Qualifying Interests of SACs that have undergone assessment[42]

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
[1014]	Narrow-mouthed Whorl Snail (*Vertigo angustior)*	Pressures facing this species are associated with land abandonment, under-grazing and the creation of tourism and leisure infrastructure such as caravan sites and golf courses.	A06, A10, F05, F07	Abandonment of grassland management (e.g., cessation of grazing or of mowing), extensive grazing or under grazing by livestock, creation or development of sports, tourism and leisure infrastructure (outside the urban or recreational areas), sports, tourism and leisure activities	Changes to ground vegetation condition, groundwater dependent and is highly sensitive to hydrological changes.
[1016]	Desmoulin's Whorl Snail (*Vertigo moulinsiana)*	The main pressures are associated with natural succession resulting in species composition change and drying out of the habitat.	A07, A10, L01, L02	Abandonment of management/use of other agricultural and agroforestry systems (all except grassland), extensive grazing or under grazing by livestock, abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization), natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Changes to ground vegetation condition, groundwater dependent and is highly sensitive to hydrological changes.
[1140]	Mudflats and sandflats not covered by seawater at low tide	Pressures on mudflats and sandflats are partly caused by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (*Magallana gigas*).	A28, F20, G16	Agricultural activities generating marine pollution, residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution, marine aquaculture generating marine pollution	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development.
[1210]	Annual vegetation of drift lines	Most of the pressures on drift lines are associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics.	C01, F01, F06, F07, F08	Extraction of minerals (e.g., rock, metal ores, gravel, sand, shell), conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, sports, tourism and leisure activities, modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and	Overgrazing and erosion. Changes in management.

[42] Including known treats and pressures and sensitivities of qualifying interests

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
				areas (including sea defence or coast protection works and infrastructures)	
[1310]	Salicornia and other annuals colonising mud and sand	Pressures on Salicornia mud are caused by alien species and overgrazing by livestock	A09, I02	Intensive grazing or overgrazing by livestock, other invasive alien species (other than species of union concern)	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
[1330]	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae)*	The main pressures on Atlantic salt meadows are from agriculture, including ecologically unstable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (*Spartina anglica*).	A09, A33, A36, F07, F08, I02	Intensive grazing or overgrazing by livestock, modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams), agriculture activities not referred to above, sports, tourism and leisure activities, modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), other invasive alien species (other than species of union concern)	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion.
[1355]	Otter (*Lutra lutra)*	There are no pressures facing this species	Xxp, Xxt	No pressures, no threats	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution.
[1395]	Petalwort *(Petalophyllum ralfsii)*	There are no pressures facing this species.	Xxp, Xxt	No pressures, no threats	None identified.
[1410]	Mediterranean salt meadows (*Juncetalia maritimi)*	Most of the pressures on Mediterranean salt meadows are associated with agriculture, including overgrazing, under-grazing and land reclamation.	A09, A10, A33, A36	Intensive grazing or overgrazing by livestock, extensive grazing or under grazing by livestock, modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams), agriculture activities not referred to above	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Coastal

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
					development and reclamation.
[2110]	Embryonic shifting dunes *(Embryonic shifting dunes)*	The majority of pressures on this habitat are associated with recreation and coastal defences, which can interfere with sediment dynamics.	C01, E03, F01, F06, F07, F08, L01, L02	Extraction of minerals (e.g., rock, metal ores, gravel, sand, shell), shipping lanes, ferry lanes and anchorage infrastructure (e.g., canalisation, dredging), conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, sports, tourism and leisure activities, modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization), natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Overgrazing, and erosion. Changes in management.
[2120]	Shifting dunes along the shoreline with white dunes *(Ammophila arenaria)*	Most of the pressures on marram dunes are caused by the interference on sediment dynamics due to recreation and coastal defences.	E01, E03, F01, F06, F07, F08, I02, L01	Roads, paths, railroads and related infrastructure (e.g., bridges, viaducts, tunnels), shipping lanes, ferry lanes and anchorage infrastructure (e.g., canalisation, dredging), conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, sports, tourism and leisure activities, modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), other invasive alien species (other	Overgrazing, and erosion. Changes in management.

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
				than species of union concern), abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization)	
[2130]	Fixed coastal dunes with herbaceous vegetation *(grey dunes)*	Pressures on fixed dunes are associated with recreation and ecologically unsuitable grazing practices.	A02, A09, A10, F07, F08, I02, L02	Conversion from one type of agricultural land use to another (excluding drainage and burning), intensive grazing or overgrazing by livestock, extensive grazing or under grazing by livestock, sports, tourism and leisure activities, modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), other invasive alien species (other than species of union concern), natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Overgrazing, and erosion. Changes in management.
[2190]	Humid dune slacks *(Humid dune slacks)*	Pressures on the habitat come from a number of sources. Including agricultural fertilisers, sports and leisure activities (e.g., walking, off-road driving and golf courses) and drainage. Succession to scrub is also a problem, particularly where it is linked to desiccation of the slack.	A19, A31, F07, I02, L02	Application of natural fertilisers on agricultural land, drainage for use as agricultural land, sports, tourism and leisure activities, other invasive alien species (other than species of union concern), natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Overgrazing, and erosion. Changes in management. Sensitive to hydrological change.
[3110]	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae)*	This habitat is under significant pressure from eutrophication, and from drainage and other damage to peatland. Damage to peatland can result in hydrological changes in lakes, increased organic matter, water colour and turbidity, changes in sediment characteristics, acidification and enrichment.	A26, A31, B23, B27, C05, F12	Agricultural activities generating diffuse pollution to surface or ground waters, drainage for use as agricultural land, forestry activities generating pollution to surface or ground waters, modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams), peat extraction, discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water	Surface dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
[3160]	Natural dystrophic lakes and ponds	The pressures on this habitat are associated with pollution from agricultural and forestry activities and also from drainage.	A26, A31, B23, B27, C05, D08	Agricultural activities generating diffuse pollution to surface or ground waters, drainage for use as agricultural land, forestry activities generating pollution to surface or ground waters, modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams), peat extraction, energy production and transmission activities generating pollution to surface or ground waters	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
[4010]	Northern Atlantic wet heaths with Erica tetralix	Overgrazing, burning, wind farm development and erosion are the main pressures associated with this habitat, along with nitrogen deposition from agricultural activities that generate air pollution.	A09, A11, A27, B01, D01, L01, N01, N02	Intensive grazing or overgrazing by livestock, burning for agriculture, agricultural activities generating air pollution, conversion to forest from other land uses, or afforestation (excluding drainage), wind, wave and tidal power, including infrastructure, abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization), temperature changes (e.g., rise of temperature & extremes) due to climate change	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
[4030]	European dry heaths	A number of significant pressures were recorded for this habitat in the current reporting period, particularly overgrazing by sheep and burning for agriculture with afforestation and wind farms also being recognised as pressures.	A09, A11, B01, D01, N01, N02	Intensive grazing or overgrazing by livestock, burning for agriculture, conversion to forest from other land uses, or afforestation (excluding drainage), wind, wave and tidal power, including infrastructure, temperature changes (e.g., rise of temperature & extremes) due to climate change	Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
[4060]	Alpine and Boreal heaths	Overgrazing by livestock, tourism (hill walking) and agricultural activities that cause air pollution are considered significant pressures for this habitat.	A09, A27, F07, N01, N02	Intensive grazing or overgrazing by livestock, agricultural activities generating air pollution, sports, tourism and leisure activities, temperature changes (e.g., rise of temperature & extremes) due to climate change	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change.
[6130]	Calaminarian grasslands of the Murawy galmanowa *(Violetalia calaminariae)*	Pressures on this habitat are associated with abiotic natural processes (leaching of metals) and succession, as well as impacts from recreational activities (walking/hiking).	F07, L01, L02	Sports, tourism and leisure activities, abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization), natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
					alien species.
[6210]	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia)* * important orchid sites)	The significant pressures related to this habitat are mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub.	A02, A09, A10, C01, I02, I04	Conversion from one type of agricultural land use to another (excluding drainage and burning), intensive grazing or overgrazing by livestock, extensive grazing or under grazing by livestock, extraction of minerals (e.g., rock, metal ores, gravel, sand, shell), other invasive alien species (other than species of union concern), problematic native species	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
[6230]	Species-rich Nardus grasslands, on siliceous substrates in mountain areas *(and submountain areas, in Continental Europe)*	The main pressures on this habitat are due to bracken encroachment and succession.	I04, L02	Problematic native species, natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
[6410]	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae)*	The main pressures on the habitat are associated with agricultural intensification (e.g., land drainage, fertiliser application), under-grazing and forestry.	A02, A06, A10, A14, A31, B01	Conversion from one type of agricultural land use to another (excluding drainage and burning), abandonment of grassland management (e.g., cessation of grazing or of mowing), extensive grazing or under grazing by livestock, livestock farming (without grazing), drainage for use as agricultural land, conversion to forest from other land uses, or afforestation (excluding drainage)	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
[7130]	Blanket bogs *(* if active bog)*	The main pressures on blanket bogs are overgrazing, burning, afforestation, peat extraction, and agricultural activities causing nitrogen deposition. Erosion, drainage and wind farm construction are also pressures relating to this habitat.	A09, A11, A27, B01, C05, D01, K02, L01, N01, N02	Intensive grazing or overgrazing by livestock, burning for agriculture, agricultural activities generating air pollution, conversion to forest from other land uses, or afforestation (excluding drainage), peat extraction, wind, wave and tidal power, including infrastructure, drainage, abiotic natural processes (e.g., erosion, silting up, drying out, submersion, salinization), temperature changes (e.g., rise of temperature & extremes) due to climate change	Surface water interactions. Drainage and land use management are the key things.
[7220]	Petrifying springs with tufa formation	Pressures related to this habitat are associated with drainage, pollution to	A06, A10, E01, F07,	Abandonment of grassland management (e.g., cessation of grazing or of mowing), extensive grazing or under	Surface and groundwater dependant. Highly sensitive

EU code	Qualifying interests	Article 17 report summary - threats and pressures	Threats and pressures codes	Known threats and pressures	Sensitivity of qualifying interests
	(Cratoneurion) (Cratoneurion)	ground and surface waters, recreational activities, infrastructure, overgrazing and abandonment of grassland management.	H08, J01, K02, K04, L02	grazing by livestock, roads, paths, railroads and related infrastructure (e.g., bridges, viaducts, tunnels), sports, tourism and leisure activities, other human intrusions and disturbance not mentioned above (dumping, accidental and deliberate disturbance of bat roosts (e.g., caving)), mixed source pollution to surface and ground waters (limnic and terrestrial), drainage, modification of hydrological flow, natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	to hydrological changes. Highly sensitive to pollution.
[8110]	Siliceous scree of the montane to snow levels (*Androsacetalia alpinae and Galeopsietalia ladani)*	The main pressures on siliceous scree come from overgrazing, under-grazing and succession.	A09, A10, L02	Intensive grazing or overgrazing by livestock, extensive grazing or under grazing by livestock, natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Erosion, overgrazing and recreation.
[8210]	Calcareous rocky slopes with chasmophytic vegetation	The majority of pressures related to this habitat are associated with overgrazing and the non-native invasive species New Zealand willowherb *(Epilobium brunnescens)*.	A09, A27, I02	Intensive grazing or overgrazing by livestock, agricultural activities generating air pollution, other invasive alien species (other than species of union concern)	Erosion, overgrazing and recreation.
[8220]	Siliceous rocky slopes with chasmophytic vegetation	Pressure on this habitat is associated with the non-native invasive species New Zealand willowherb *(Epilobium brunnescens)*.	I02	Other invasive alien species (other than species of union concern)	Erosion, overgrazing and recreation.
[91A0]	Old sessile oak woods with Ilex and Blechnum in the British Isles	The significant pressure facing this habitat are associated with invasive non-native species such as *Rhododendron ponticum*, cherry laurel *(Prunus laurocerasus)* and beech *(Fagus sylvatica)* and overgrazing by deer.	A09, B09, I02, I04, M07	Intensive grazing or overgrazing by livestock, clear-cutting, removal of all trees, other invasive alien species (other than species of union concern), problematic native species, storm, cyclone	Changes in management. Changes in nutrient or base status. Introduction of alien species.

Appendix III Special Conservation Interests of SPAs that have undergone assessment[43]

Species code	Common name	Scientific name	Threats and pressures codes	Known threats and pressures
A048	Common Shelduck	*Tadorna tadorna*	F01, F02, G01, H03, M01	Marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, changes in abiotic conditions
A054	Northern Pintail	*Anas acuta*	C03, F01, F03, G01, H01, H03, H07, J02	Renewable abiotic energy use, marine and freshwater aquaculture, hunting and collection of wild animals (terrestrial), outdoor sports and leisure activities, recreational activities, pollution to surface waters (limnic & terrestrial, marine & brackish), marine water pollution, other forms of pollution, human induced changes in hydraulic conditions
A056	Northern Shoveler	*Anas clypeata*	C03, F03, G01, H01, H03, H07	Renewable abiotic energy use, hunting and collection of wild animals (terrestrial), outdoor sports and leisure activities, recreational activities, pollution to surface waters (limnic & terrestrial, marine & brackish), marine water pollution, other forms of pollution
A098	Merlin	*Falco columbarius*	A02, B01, B02, C03, M02	Modification of cultivation practices, forest planting on open ground, forest and plantation management & use, renewable abiotic energy use, changes in biotic conditions
A130	Eurasian Oystercatcher	*Haematopus ostralegus*	C03, F01, F02, G01, H03, J02	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions
A137	Common Ringed Plover	*Charadrius hiaticula*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions, other ecosystem modifications, changes in abiotic conditions
A140	European Golden Plover	*Pluvialis apricaria*	A02, A04, B01, C01, C03, F01, G01, H03, J01, K03, M02	Modification of cultivation practices, grazing, forest planting on open ground, mining and quarrying, renewable abiotic energy use, marine and freshwater aquaculture, outdoor sports and leisure activities, recreational activities, marine water pollution, fire and fire suppression, interspecific faunal relations, changes in biotic conditions
A141	Grey Plover	*Pluvialis squatarola*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions, other ecosystem modifications, changes in abiotic conditions
A143	Red Knot	*Calidris canutus*	C03, F01, F02, G01,	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic

[43] Including known treats and pressures of SCIs

Species code	Common name	Scientific name	Threats and pressures codes	Known threats and pressures
			H03, J02, J03, M01	conditions, other ecosystem modifications, changes in abiotic conditions
A144	Sanderling	*Calidris alba*	C03, F01, G01, H03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, outdoor sports and leisure activities, recreational activities, marine water pollution, changes in abiotic conditions
A149	Dunlin	*Calidris alpina*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions, other ecosystem modifications, changes in abiotic conditions
A157	Bar-Tailed Godwit	*Limosa lapponica*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions, other ecosystem modifications, changes in abiotic conditions
A162	Common Redhank	*Tringa totanus*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, fishing and harvesting aquatic resources, outdoor sports and leisure activities, recreational activities, marine water pollution, human induced changes in hydraulic conditions, other ecosystem modifications, changes in abiotic conditions
A169	Ruddy Turnstone	*Arenaria interpres*	C03, F01, G01, H03, J03, M01	Renewable abiotic energy use, marine and freshwater aquaculture, outdoor sports and leisure activities, recreational activities, marine water pollution, other ecosystem modifications, changes in abiotic conditions
A179	Black-Headed Gull	*Larus ridibundus*	A04, C03, F02, H03, J03, M01	Grazing, renewable abiotic energy use, fishing and harvesting aquatic resources, marine water pollution, other ecosystem modifications, changes in abiotic conditions
A192	Roseate Tern	*Sterna dougallii dougallii*	C03, D01, G01, I01	Renewable abiotic energy use, roads, paths and railroads, outdoor sports and leisure activities, recreational activities, invasive non-native species
A193	Common Tern	*Sterna hirundo*	C03, D01, D03, G01, I01	Renewable abiotic energy use, roads, paths and railroads, shipping lanes, ports, marine constructions, outdoor sports and leisure activities, recreational activities, invasive non-native species
A194	Arctic Tern	*Sterna paradisaea*	C03, D01, G01, I01, M01	Renewable abiotic energy use, roads, paths and railroads, outdoor sports and leisure activities, recreational activities, invasive non-native species, changes in abiotic conditions
A674	Light-Bellied Brent Goose	*Branta bernicla hrota*	A02, A11, C03, D02, F01, G01, G05, H03, H07, I01, J03	Modification of cultivation practices, agriculture activities not referred to above, renewable abiotic energy use, utility and service lines, marine and freshwater aquaculture, outdoor sports and leisure activities, recreational activities, other human intrusions and disturbances, marine water pollution, other forms of pollution, invasive non-native species, other ecosystem modifications

Appendix IV Conservation objectives[44]

NPWS (2013) Conservation objectives for North Dublin Bay SAC [IE0000206] version 1.
NPWS (2013) Conservation objectives for South Dublin Bay SAC [IE0000210] version 1.
NPWS (2021) Conservation objectives for Glenasmole Valley SAC [IE0001209] version 1.
NPWS (2021) Conservation objectives for Rye Water Valley/Carton SAC [IE0001398] version 1.
NPWS (2017) Conservation objectives for Wicklow Mountains SAC [IE0002122] version 1.
NPWS (2015) Conservation objectives for North Bull Island SPA [IE0004006] version 1.
NPWS (2015) Conservation objectives for South Dublin Bay and River Tolka Estuary SPA [IE0004024] version 1.
NPWS (2022) First order site-specific conservation objectives for Wicklow Mountains SPA [IE0004040] version 1.

[44] NPWS/Department of Culture, Heritage and the Gaeltacht

Appendix V Contributor details

Author - Callum O'Regan is an ecologist who holds a B.Sc. degree in Zoology from University College Cork and obtained a Master's degree in Conservation Behaviour from Galway-Mayo Institute of Technology in 2021. Callum has skills in data management and analysis, report writing and mapping. Callum has also worked on the fieldwork for and preparation of a number of reports including Ecological Impact Assessments (EcIAs) and Appropriate Assessment Screenings for private and public projects of various sizes and complexities.

Supervisor - Karen Dylan Shevlin is an ecologist with over 9 years' experience working in multiple capacities in ecology in Irish and international research institutions and organisations, and holds a MSc degree in Biodiversity and Conservation from Trinity College Dublin (2013). Karen has significant skills in leading ecological surveys of bats, birds, insects, habitats and mammals and data analysis, mapping and compiling reports. Karen has worked on producing AA screenings, NISs, and EIARs for a range of public and private projects ranging from smaller facilities upgrades projects to major wind turbine sites. Karen is also a specialist in ecological theory and the impacts/effects that altering natural dynamics may have on the surrounding environment. This combination of skills and knowledge provides the backbone of the assessment process, and ensure that all of the baseline and detailed data gathered in the field is interpreted in a manner that is grounded in best scientific knowledge.

Reviewer - Paul Fingleton has an MSc in Rural and Regional Resources Planning (with specialisation in EIA) from the University of Aberdeen. Paul is a member of the International Association for Impact Assessment as well as the Institute of Environmental Management and Assessment. He has over twenty-five years' experience working in the area of Environmental Assessment. Over this period, he has been involved in a diverse range of projects including contributions to, and co-ordination of, numerous complex EIARs and EIA screening reports. He has also contributed to and supervised the preparation of numerous AAs and AA screenings.

Paul is the lead author of the current EPA Guidelines and accompanying Advice Notes on EIARs. He has been involved in all previous editions of these statutory guidelines. He also provides a range of other EIA related consultancy services to the EPA. Paul is regularly engaged by various planning authorities and other consent authorities to provide specialised EIA advice.