NATURA IMPACT STATEMENT

HERBATA DATA CENTRE, NAAS

NI2615 Herbata Data Centre
Natura Impact Statement
June 2025
F02

Approval for issue

JMC 13 June 2025

Prepared by:	Prepared for:
RPS	**Herbata Ltd.**

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1 INTRODUCTION

This Natura Impact Statement (NIS) has been prepared by RPS, on behalf of Herbata Limited, in respect of the proposed Herbata Data Centre Campus, which is subject of both a full planning application to Kildare County Council (KCC) and a Strategic Infrastructure Development (SID) application to An Bord Pleanála; as more particularly described in section 3 below (namely, the **"Project"** as defined in section 3.1).

This NIS has been prepared in accordance with the provisions of Part XAB of the Planning and Development Act 2000, as amended (**"the 2000 Act"**), the requirements of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as amended) (**"the Habitats Directive"**) and up-to-date European Commission guidelines on the assessment of plans and projects in relation to Natura 2000 sites.

The Habitats Directive introduced the obligation to establish the Natura 2000 network, comprising a network of areas of highest biodiversity importance for rare and threatened habitats and species across the European Union (EU).

The Natura 2000 network of sites comprises Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including candidate SPAs). SACs are designated for the conservation of habitats listed in Annex I to the Habitats Directive (including priority types which are in danger of disappearance) and species listed in Annex II to the Habitats Directive(other than birds). SPAs are designated pursuant to the provisions of Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (as amended) (the **"Birds Directive"**) for the conservation of birds listed in Annex I to the Birds Directive and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is designated correspond to the qualifying interests of the sites; and from these the conservation objectives of the site are derived.

SACs and SPAs make up the pan-European network of Natura 2000 sites. 'European sites' are defined in section 177R of the 2000 Act, and regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended (the 2011 Regulations), as follows:

> *"(a) a candidate site of Community importance,*
>
> *(b) a site of Community importance,*
>
> *(ba) a candidate special area of conservation,*
>
> *(c) a special area of conservation,*
>
> *(d) a candidate special protection area,*
>
> *(e) a special protection area;*

This NIS considers the implications of the Project, on its own and in combination with other plans or projects, for European Sites in view of the conservation objectives of those sites. It includes a scientific examination of evidence and data to identify and assess the implications of the Project for any European sites in view of the conservation objectives of those sites. The NIS considers whether the Project, by itself or in combination with other plans or projects, would adversely affect the integrity of any European sites. In reaching a conclusion in this regard, consideration is given to any mitigation measures necessary to avoid or reduce any potential negative impacts.

This report has been prepared following an assessment, in view of best scientific knowledge, of the potential for the Project to have significant effects, either individually or in combination with other plans or projects on European sites, set out in an Appropriate Assessment screening report. Following an examination, analysis and evaluation of all relevant information on the basis of objective information

and in light of best scientific knowledge, and applying the precautionary principle, that Appropriate Assessment screening report concluded that following an examination, analysis and evaluation of all relevant information, the project, either individually or in combination with other plans or projects, and in the absence of mitigation, is not likely to have a significant effect on any European site(s) in view of their site-specific conservation objectives, and that there was no reasonable scientific doubt as to the absence of such effects.

However, in its Request for Further Information dated 4 October 2024, Kildare County Council stated that *"The proposed Data Centre as hydrological connections to European Sites including South Dublin Bay, North Dublin Bay, River Tolka Estuary, North Bull Island and North West Irish Sea via the Bluebell Stream. Based on the information received with the application, the Planning Authority is not satisfied, having regard to the scale of the proposed development, that the impact on the integrity of the European Sites can be screened out. The Applicant is requested to conduct a Stage 2 Appropriate Assessment of the proposed development and submit a Natura Impact Statement accordingly."*

Therefore, this NIS has been prepared out of an abundance of caution and provides an examination, analysis and evaluation of the potential impacts of the Project on European sites and presents findings and conclusions with respect to the Project in light of the best scientific knowledge in the field. This NIS will inform and assist the competent authority in carrying out an Appropriate Assessment as to whether or not the Project will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, in view of their conservation objectives.

The Project is neither connected with nor necessary to the management of any European sites.

It is the considered view of the authors of this NIS that, following the implementation of the mitigation measures proposed in Section 4.4 below, the Project will not, individually or in combination with other plans or projects, have any adverse effect on the integrity of any European sites in view of their conservation objectives, and there is no reasonable scientific doubt in relation to this conclusion.

1.1 Appropriate Assessment

1.1.1 The Habitats Directive

A key protection mechanism in the Habitats Directive is the requirement to subject plans and projects to Appropriate Assessment (AA) in line with the requirements of Article 6(3), which states that–

> *Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. 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.*

Thus, Article 6(3) defines a two-step procedure for considering plans and projects:

- The first part of this procedure consists of a 'screening' stage to determine whether, firstly, the plan or project is directly connected with or necessary to the management of the site, and secondly, whether it is likely to have a significant effect on the site; it is governed by the first sentence of Article 6(3) (refer to section 1.1.2.1 below).
- The second part of the procedure, governed by the second sentence of Article 6(3), relates to the appropriate assessment and the decision of the competent national authorities (refer to sections 1.1.2.2 and 1.1.3 below).

1.1.2 Transposition into Irish Law

1.1.2.1 Screening

In relation to applications for permission or approval under the 2000 Act, section 177U(1) of the 2000 Act requires that a screening for appropriate assessment of an application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that proposed development, individually or in combination with another plan or project is likely to have a significant effect on a European site.

1.1.2.2 Appropriate Assessment

Again, in respect of applications for permission or approval under the 2000 Act, section 177V of the 2000 Act requires, *inter alia*, that an appropriate assessment carried out by the competent authority shall include a determination by the competent authority under Article 6(3) of the Habitats Directive as to whether or not a proposed development would adversely affect the integrity of a European site.

It also provides that an appropriate assessment shall be carried out by the competent authority, in each case where it has made a determination under section 177U(4) of the 2000 Act that an appropriate assessment is required, before consent is given for the proposed development.

1.1.3 The Appropriate Assessment Process

According to European Commission Notice C(2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021), Appropriate Assessment is a step-wise procedure as illustrated in **Figure 1.1**[1].

As referenced above, the first part of this procedure consists of a pre-assessment stage ('screening') to determine whether, firstly, a plan or project is directly connected with or necessary to the management of the site, and secondly, whether it is likely to have a significant effect on the site.

The second part of the procedure relates to the appropriate assessment itself and the decision of the competent authority or authorities.

A third part of the procedure under Article 6(4), arises only in circumstances where, notwithstanding a negative assessment under Article 6(3), it is proposed to grant approval for a plan or project for imperative reasons of overriding public interest (IROPI). This part of the appropriate assessment process does not arise in the respect of the Herbata Data Centre Project.

1.2 Purpose of the Document

The purpose of this Natura Impact Statement (NIS) is to assist the competent authority in carrying out an appropriate assessment as to whether or not the Project will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, in view of the sites conservation objectives.

[1] The flowchart illustrated in **Figure 1.1** is Figure 1 of EC (2021). It is noted that while this flowchart states in the 'Appropriate Assessment' stage (the dark blue step) "*Is it ascertained that [having applied the necessary mitigation measures and consulted the public] the plan or project will not have* ***significant effect*** *[with other plans or projects] on the integrity of the Natura 2000 site in view of its conservation objectives?*" (emphasis added), the applicable test at the Appropriate Assessment stage, in accordance with Article 6(3) of the Habitats Directive, is whether or not the plan or project will have an **adverse effect** the integrity of any European site (as referred to in section 1.1.1 above).

1.3 Document Structure

1.3.1 Methodology and Guidance

Section 2 of this NIS sets out the methodology followed, and guidance documents used in assessing the implications of the Project on European sites and preparing this NIS.

1.3.2 Project

Section 3 of this NIS describes and illustrates the Project and activities to be undertaken.

1.3.3 Assessment of Potential Effects on European Sites

Section 4 of this Statement contains further examination and analysis of the potential effects of the Project on European sites in view of their conservation objectives.

As part of a Stage 2 Appropriate Assessment, it is permissible to consider mitigation measures proposed to avoid adverse effects of a proposed development. As such, this section identifies the mitigation measures necessary to ensure that the Project will not have any adverse effect on the integrity of any European site.

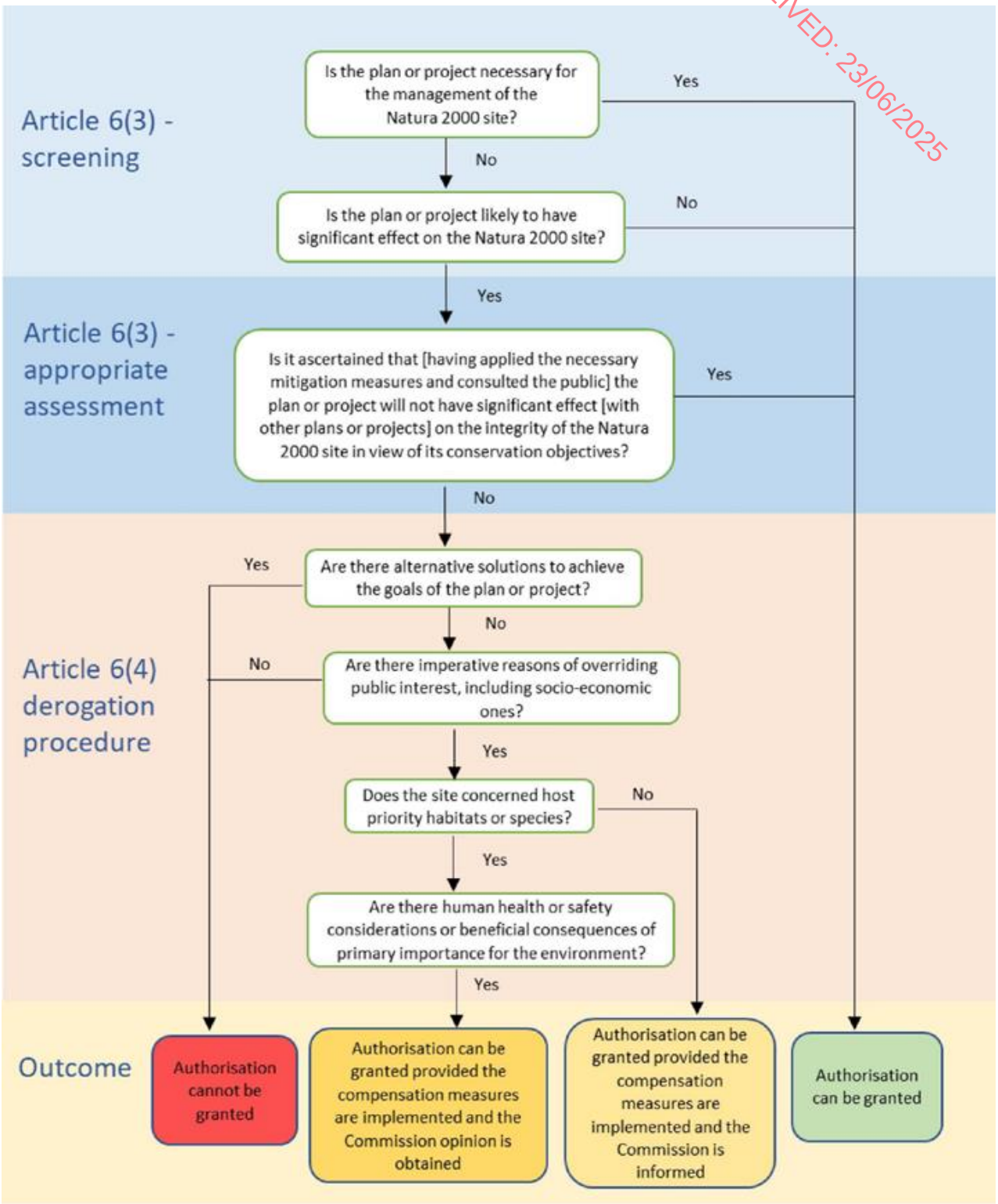

Figure 1.1: Step-wise procedure of Appropriate Assessment (from EC, 2021)

2 METHODOLOGY

2.1 Published guidance on Appropriate Assessment

Guidelines on appropriate assessment for Planning Authorities have been published by the Department of the Environment Heritage and Local Government (DEHLG, 2010) and by the Office of the Planning Regulator (OPR, 2021). In addition to the advice available from the Department and the Planning Regulator, the European Commission has published a number of documents which provide a significant body of guidance on the requirements of Appropriate Assessment, most notably including Commission Notice C(2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021), which sets out the principles of how to approach decision making during the appropriate assessment process. These principal national and European guidelines have been followed in the preparation this NIS. The following list identifies these and other pertinent guidance documents which have guided the preparation of this NIS:

- Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000);
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007);
- Estuaries and Coastal Zones within the Context of the Birds and Habitats Directives – Technical Supporting Document on their Dual Roles as Natura 2000 Sites and as Waterways and Locations for Ports. European Commission (EC, 2009);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010);
- Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging. European Commission (EC, 2011a);
- European Commission Staff Working Document 'Integrating biodiversity and nature protection into port development' (EC, 2011b);
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document, National Parks and Wildlife Service, Dublin (NPWS, 2012);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013);
- European Commission Notice C(2018) 7621 "Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", Office for Official Publications of the European Communities, Luxembourg (EC, 2019);
- Institute of Air Quality Management 'A guide to the assessment of air quality impacts on designated nature conservation sites' (version 1.1). Institute of Air Quality Management, London (IAQM, 2020);
- Office of the Planning Regulator Practice Note (PN01) 'Appropriate Assessment Screening for Development Management' (OPR, 2021);

- European Commission Notice C(2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC,2021); and
- European Commission Guidance document on Assessment of plans and projects in relation to Natura 2000 sites – A summary (EC, 2022).

2.2 Adverse Effects on the Integrity of European sites

The European Commission's 2018 Notice (EC, 2019) states that the purpose of the appropriate assessment is to assess the implications of the plan or project either individually or in combination with other plans or projects in view of the site's Conservation Objectives. The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the European site is designated.

EC (2019) also emphasises the importance of using the best scientific knowledge when carrying out the appropriate assessment to enable the competent authorities to conclude with certainty that there will be no adverse effects on the integrity of the site. This guidance notes that it is at the time of adoption of the decision authorising implementation of the project that there must be no reasonable scientific doubt remaining as to the absence of adverse effects on the integrity of the site in question.

EC (2019) notes that if the competent authority considers the mitigation measures are sufficient to avoid the adverse effects on site integrity identified in the appropriate assessment, they will become an integral part of the specification of the final plan or project or may be listed as a condition for project approval.

The 2021 Notice (EC, 2021) advises that it is for the competent authorities, in the light of the conclusions made in the appropriate assessment on the implications of a plan or project for the European site concerned, to approve the plan or project. This decision can only be taken after they have made certain that the plan or project will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects.

EC (2019) also reaffirms that the authorisation criterion laid down in the second sentence of Article 6(3) of the Habitats Directive integrates the precautionary principle and makes it possible effectively to prevent the protected sites from suffering adverse effects on their integrity as the result of the plans or projects. A less stringent authorisation criterion could not as effectively ensure the fulfilment of the objective of site protection intended under that provision. The onus is therefore on demonstrating the absence of adverse effects rather than their presence, reflecting the precautionary principle. It follows that the appropriate assessment must be sufficiently detailed and reasoned to demonstrate the absence of adverse effects, in light of the best scientific knowledge in the field.

The **'integrity of the site'** can be usefully defined as the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated (EC, 2019).

2.3 Consideration of *Ex-situ* Effects

EC (2019) advises that Member States, both in their legislation and in their practice, allow for the Article 6(3) safeguards to be applied to any development pressures - including those which are external to European sites but which are likely to have significant effects on any of them.

In that regard, consideration has been given in this NIS to implications for habitats and species located outside of the European sites considered in the assessment, with reference to those sites' conservation objectives, where effects upon those habitats and/or species are liable to affect the conservation objectives of the sites concerned (known as "ex situ effects").

2.4 Conservation Objectives

The conservation objectives for each European site are to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the site has been selected. The 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 (or condition, at a site level) 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.

2.4.1 Site-Specific Conservation Objectives

NPWS began preparing detailed Site-Specific Conservation Objectives (SSCOs) for European sites in Ireland in 2011. All of the sites considered in this NIS have SSCOs established for them. The published SSCO documents considered in this NIS are identified in Section 4.1 of this document.

The published SSCO documents note that an appropriate assessment based on the most up-to-date conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.

The most up-to-date Conservation Objectives for the European sites being considered, and details in relation to the Qualifying Interests and Special Conservation Interests of these European sites is based on publicly available data on these European Sites, sourced from the NPWS website in June 2025.

All European sites considered in this appraisal have published SSCOs, including the North-West Irish Sea candidate SPA (cSPA) (site code IE004236), which was notified to the public by the Department of Housing, Local Government and Heritage in July 2023 following selection by the Minister under the 2011 Regulations, as a site to be considered for consideration for classification as a SPA. A further notification then followed in December 2023, commencing a period during which observations and objections to the proposed designation, on scientific/ornithological grounds, may be submitted by interested parties. This notification publicised a closing date for observations or objections to the

classification of the site as an SPA in February 2024. As at 30th May 2025, it is understood that the site remains classified as a candidate SPA. However, as set out above, in the context of Irish law, the definition of "European site" includes a candidate SPA and, accordingly, the Article 6(3) assessments should include the North-West Irish Sea candidate cSPA.

NPWS published detailed Site-Specific Conservation Objectives for the North-West Irish Sea cSPA in September 2023. Details of the site, including a Natura 2000 Standard Data Form, will be transmitted to the European Commission when the applicable statutory processes have been completed, which has not occurred as of 13.06.2025 and it remains a cSPA.

2.4.2 In-combination Effects

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in EC (2019), significance will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned.

EC (2020) notes that cumulative environmental effects can be defined as effects on the environment caused by the combined action of past, current and future activities. Although the effects of one development may not be significant, the combined effects of several developments together can be significant.

EC (2020) also notes that the 'in combination' provision applies to plans or projects that are completed, approved but uncompleted, or proposed. In addition to the effects of the plans or projects that are the main subject of the assessment, it may be appropriate to consider the effects of already completed plans and projects. Although already completed plans and projects are themselves excluded from the assessment requirements of Article 6(3), it is still important to take them into consideration when assessing the effects of the current plan or project in order to determine whether there are any potential cumulative effects arising from the current project in combination with other completed plans and projects. The effect of completed plans and projects would typically form part of the site's baseline conditions at this stage. Plans and projects that have been approved in the past but have not yet been implemented or completed should be included in the in-combination provision. As regards other proposed plans or projects, on grounds of legal certainty it would seem appropriate to restrict the 'in combination' provision to plans that have been proposed, i.e. for which an application for approval or consent has been submitted.

This mirrors the advice contained in EC (2019) which advises that other plans or projects which are completed, approved but uncompleted, or proposed have been considered. EC (2019) specifically advises that "as regards other proposed plans or projects (i.e. other projects not proposed by the Applicant), on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced".

3 DESCRIPTION OF THE PROJECT

3.1 Background

This NIS has been prepared in respect of the proposed Herbata Data Centre Campus which is subject of both a full planning application to Kildare County Council (KCC) and a Strategic Infrastructure Development (SID) application to An Bord Pleanála; the applicant for both applications is Herbata Limited.

The overall Data Centre development includes two main elements, namely:

- The data centre, comprising 6 no. two storey data centre buildings, an administration/management building, car parking, landscaping, energy infrastructure and other associated works. These elements are the subject of the planning application submitted to KCC, and that application is referred to hereafter as "the Data Centre Application".
- The substation, comprising a grid substation and 110kV transmission connection. These elements are subject of the SID application to An Bord Pleanála, and that application is referred to hereafter as "the Substation Application".

There is a separate statutory development consent process for each of these elements, with which Herbata must comply. The data centre element requires planning permission pursuant to section 34 of the Planning and Development Act 2000 (as amended) (the "2000 Act"), while the substation element is "Strategic Infrastructure Development" within the meaning of the 2000 Act and requires approval from An Bord Pleanála under section 182A of the 2000 Act (instead of a regular planning permission under section 34 of the 2000 Act).

It is therefore necessary for Herbata Limited to make two distinct applications, one to Kildare County Council in respect of the data centre (i.e. the Data Centre Application) and one to the Board in respect of the substation (i.e. the Substation Application). This is not at all unusual and is in compliance with legislation.

The Data Centre Application and the Substation Application together constitute the "Project" for the purposes of Appropriate Assessment and references to the "Project" throughout this NIS, should be read as references to those two applications taken together as one project.

Following submission of in the Data Centre Application in August 2024 (planning application reference 24/60787) a Request for Further Information (RFI) (dated 04.10.24) was received from KCC.

This included Item No. 4 of the RFI, in response to which this NIS has been prepared, in which KCC stated that *"The proposed Data Centre as hydrological connections to European Sites including South Dublin Bay, North Dublin Bay, River Tolka Estuary, North Bull Island and North West Irish Sea via the Bluebell Stream. Based on the information received with the application, the Planning Authority is not satisfied, having regard to the scale of the proposed development, that the impact on the integrity of the European Sites can be screened out. The Applicant is requested to conduct a Stage 2 Appropriate Assessment of the proposed development and submit a Natura Impact Statement accordingly."*

Further, in responding to other aspects of the RFI, the applicant has refined and further enhanced the proposals to *inter alia*:

- Increase the utilisation of renewable energy sources from the outset of operations from a minimum of 30% as per the planning application proposals to at least 50%;
- Utilisation of CCGT to provide for up to 50% of the energy required. The use of CCGT instead of OCGT will improve the efficiency of the electricity generated on site from circa 30.8% to near 45%

thereby reducing required gas consumption by 978 GWh per annum at full operating condition, and a consequent reduction of 552,000 tonnes in greenhouse gas emissions; and

- Modify the design of proposed Data Hall 4 to avoid all direct impacts on the previously unrecorded sub-surface archaeological remains.

These enhancements are described in greater detail in the *Response to Further Information Report* (Section 2.2 Increased Utilisation of Renewable Energy, Section 2.3 Reduction in GHH Production via Use of Combined Cycle Gas Turbines and Section 2.4 Modification of Layout of Data Centre 4), and in Section 4.2 of the *Addendum to Chapter 4 Description of the Project and Need for the Project* (of the EIAR). Additionally, these changes are reflected in the now submitted, updated Energy Policy Compliance Report and Revised Architectural Design Statement. All of these changes have been fully considered and assessed as part of the Project the subject of this NIS, and for the avoidance of doubt, the Project remains fundamentally unchanged, comprising the two elements described above.

3.1 Proposed Development Overview

The site of the Project is located south of the R409, on the western side of the M7 motorway, positioned between Junctions 9a and 10, approximately 2.5km west of the Naas. The subject site is located in the townlands of Halverstown, Jigginstown, Osberstown and Newhall.

- The site area (of the planning boundary) of the Data Centre Application is 37.51 ha.
- The site area (of the planning boundary) of the Substation Application is 3.15 ha.

The combined site area of both the Data Centre and Substation Applications is 38.64 ha. It should be noted that the aforementioned application boundaries, have a partial overlap due primarily to the alignment of the proposed underground 110kV connection, because the existing overhead 110kV line (to be removed and replaced with an underground connection) runs above part of the area the subject of the Data Centre Application, and the proposed underground 110kV connection is to be provided in the substratum beneath part of the area the subject of the Data Centre Application.

The site of the Project sits on lands bound to the north by the R409 road. The subject site comprises predominantly of lands in agricultural grass and smaller elements of residential and agricultural buildings (further information on the existing habitat makeup of the proposed development can be found in section 4.3.1 Habitat Loss). A watercourse, the Bluebell Stream, is located to and largely forms the southern boundary of the site.

There are 3 no. dwelling along the R409 boundary and 5 no. farm buildings located on the site, these buildings will be demolished as part of the Proposed Project.

3.1.1.1 Key Elements of the Project are set out below:

- Combined site areas (planning boundaries) of both the Data Centre and Substation Applications - 38.64 ha
- Site area (planning boundary) of Data Centre Application – 37.51 ha;
- Site area (planning boundary) of Substation Application – 3.15 ha.
- Data Centre buildings following a *template design*, each with a total internal area and height as follows:
- Total gross internal area (GIA) – 27,261m2 (note – Data Centre 4 is subject of an amended design resulting in a reduced GIA of 16,188m2)
- Height to parapet – 18m

- Height to flue – 19m
- Each Data Centre building will be c.19m in height;
- Admin workshop and Water Treatment Plant (WTP) GIA - 818.9 m2;
- Site security hut GIA - 42.1m2;
- District Heating (DH) building GIA - 340.5m2;
- Total of 210 no. car parking spaces comprising of 63 electric car charging spaces and 14 disabled car parking spaces;
- Of the 210 total, each of the 6 Data Centre buildings will have 30 car parking spaces (total) and the administration building will also have 30 car parking spaces;
- 7 no. smoking shelters of 9m2 each are proposed proximate to the entrance to each Data Centre and the admin / workshop building.
- Total number of 104 bicycle spaces (16 per each of the 6 Data Centre buildings and 8 for the administration workshop)
- Demolition of 5 no. agricultural buildings to the centre of the site;
- Demolition of 3 no. dwellings along the northern boundary of the site, fronting onto R409 road;
- Provision of a rising main, extending from south from the site and connecting into the existing network at Newhall Road; and
- Removal of internal hedgerows and provision of site wide landscaping, including 30m mounded landscape buffer along M7.

The amended design for Data Centre 4 is primarily in respect of the external plant yard (to the rear of the building) and subsequently, the overall shape of the building and an overall reduction in the area of the building.

In order to accommodate the amended design of Data Centre 4 building, minor amendments to the layout of ancillary elements (such as security fencing, access road, drainage etc) which are within immediate vicinity of the building, are proposed. The component elements of Data Centre 4, the location within the overall site, building height, materials and finishes, remain unchanged.

Data Centre 4 retains the *templated design*, common to Data Centres 1 – 3, 5 and 6 but with a reduced gross internal area (GIA) of 16,188m^2 (previously 27,261m^2).

The amended design of Data Centre 4 has resulted in a reduced number of solar photovoltaic (PV) arrays on the roof of the building.

Amendments have been made by way of additional compounds to the rear of each Data Centres 1 - 3, 5 and 6. The amendments include the provision of air cool condensers and a steam turbine, adjacent to the fuel supply and sprinkler supply compounds.

The amendment to Data Centre 4 does not result in any significant change to the lighting design of the Project.

Minor amendments are proposed in respect of a footpath and cycle path along the R409 Caragh Road, which traverses the M7 motorway on an overbridge.

3.1.2 Data Centre Buildings and Processes

Each Data Centre will comprise of its own secure site boundary, encompassing the main building with dedicated car parking to the fore of the building.

Each of the Data Centre buildings will comprise of 8no. data halls with a capacity to support up to 30MW of IT equipment load in each building. Each data hall has an individual electrical capacity of 3.75MW allowing each Data Centre building to be split to facilitate multiple end users.

Each Data Centre building will consist of the main data hall block with an external plant gantry and an enclosed yard to the rear encompassing the building energy infrastructure. The front of each Data Centre building will comprise of end-user clients administration/office areas, plus storage areas and the loading/receiving docks.

The administration/office space of the building is split over two floors with the ground floor facilitating security screening and check in, loading and associate storage. The upper level primarily comprises of office and welfare facilities to support client's operational needs.

The roof of each Data Centre building will be provided with a reflective finish to improve solar reflectivity and better sustainability. Solar panels will be provided on the roof of each Data Centre building to improve on-site renewable energy generation.

3.1.2.1 Construction Methodology

Piling and Excavation

The pile mat is to be constructed by the demolition contractor having reused the crushed materials from the demolition process. Additional imported hardcore is to be required and laid down to create a piling mat. Bored piles are to be installed for the foundations to support the new buildings. The ground floor concrete base will allow construction to proceed with no new excavation required

Sub Structure

Several cranes will be installed at the beginning of this phase which will not require temporary weekend road closure of the R409 and are to be erected during construction operation times.

The ground floor slab and core will be formed of concrete and therefore, concrete mixer trucks will be the primary vehicle accessing the site during this stage of construction. Lorries will be off loaded from a loading area within the site. A banksman will control the movement of vehicles, pedestrians, and cyclists when lorries are accessing and egressing the site.

Super-Structure

The frame will be built using standard hot rolled steel girders tied into steel columns and the flooring will be metal deck slab with concrete. The girders will be brought by lorry to the site and loaded from the loading area in the site. The metal decks will also be brought to site by lorry.

Using large, remanufactured components, the number of vehicles accessing the site will be reduced significantly.

Cladding

The design of the façade requires external access to all elevations. The strategy will be to have a minimum reliance on the crane to enable the crane to be servicing the construction of the steel and concrete slabs. The only crane dependent activity will be to lift large façade panels in position. The deliveries will be made out of hours as there will be no immediate demand for the supplies.

Fit Out, Testing and Commissioning

Typical procurement routes using off the shelf materials and construction in situ will not suit the delivery programme of this project. Components with a precise fit and finish will be manufactured off site to ensure the quality and programme sequencing objectives are achieved.

This will reduce the number of small vehicle and ad-hoc deliveries required. Bathrooms, balconies and railing and mechanical, electrical, and plumbing equipment are all expected to be manufactured and assembled offsite and brought to the site to be installed as a complete unit.

Electrical Supply

As detailed in Section 3.1.3 Site Energy Strategy, the Project will use a combination of highly efficient on site gas turbines and importing of off-site renewable energy (secured via Corporate Power Purchase Agreements [CPPAs]) via a direct connection to the grid.

The existing 110kV transmission line which extends across the site to the northwest corner will be rerouted underground to allow for the development of a GIS Substation on site.

3.1.3 Site Energy Strategy

The energy strategy of the Project has been looked at again in response to the RFI from Kildare County Council to further improve the energy strategy and specifically in response to matters set out within the Kildare County Council RFI (Items 1 – 3), the following amendments have been made in respect of the Project energy strategy:

- Use of higher efficiency turbines (than those proposed in the submitted planning application and EIAR)
- Commitment to increase level of energy from off-site renewable energy sources from 30% (as committed to in the submitted planning application and EIAR) to at least 50%

The on-site generation of electricity will primarily use Combined Cycle Gas Turbines (CCGTs) to provide for 50% of the energy required, supplement by Open Cycle Gas Turbines (OCGTs) and smaller reciprocating engines (for load stepping). During the first few years of operation, energy sources will be used in a hierarchical manner as shown below, with the top of the listing the most preferred:

1. Renewable energy sourced via CPPAs using the grid connection (at all times providing at least 50% from CPPAs in line with the commitment to do so and as will be required by the planning condition proposed and discussed in Section 3.3 of the Updated Energy Compliance Policy Report

and, for the remainder of the operational energy demands of the Project:-

2. On-site CCGTs
3. On-site OCGTs
4. Reciprocating Engines

This arrangement is consistent with recent EU direction (the Hydrogen and Decarbonised Gas Market Package) and Irish Government direction on the use of gas for generation as a transitional fuel.

It also means that the Project will not add any additional demands to the electricity grid and allows for any excess power generated on-site (i.e. in excess of the 50% of demand which will be met by on-site generation) to be exported to the grid. The on-site electricity generation capacity will be in excess of that required for the operation of the data centres (namely up to 50% of their overall energy demands) and will provide an opportunity for the export of electricity to the grid to participate in the wholesale electricity market if and when required.

Highly efficient mains (Gas Networks Ireland [GNI]) connected, on-site natural gas CCGTs will be used for on-site generation of up to 50% of the operational energy demands of the data centres. Generation of electricity is proposed using gas turbines, located within a dedicated, adjoined plant area, to the rear

of each Data Centre building. Each Data Centre building will comprise of 7 no. turbines (Data Centre 4 will have 4 turbines).

The gas supply from GNI will be sourced to provide fuel to the gas turbines. Gas Networks Ireland as set out in the Vision 2050 publication aim to decarbonise their gas network by 2050 by injecting renewables gas (biomethane), abated natural gas, and hydrogen into the gas network over time. A biomethane gas injection point is proposed to allow sustainable gas to be inputted for use in the turbines and more broadly in the wider network.

3.1.4 Gas Networks Ireland Gas Connection

Whilst the Project includes an on-site Above Ground Installation (AGI) to regulate the supply to the turbines, a physical connection to the Gas Networks Ireland (GNI) gas network is required to provide the supply to the gas turbines.

GNI will be responsible for providing the required infrastructure works, to construct a new high-pressure gas distribution pipeline, to the Project site boundary (on the R409), from the existing GNI AGI at Glebe West, Co. Kildare.

The final, detailed design, consenting and construction of the required infrastructure works will be the responsibility of GNI in the exercise of their own statutory functions, and therefore Herbata Ltd is not seeking planning consent to carry out these works as part of the Project.

Notwithstanding the fact that Herbata Ltd is not seeking planning consent to carry out these works as part of the Project, given the functional interdependence that exists between the Project and the GNI Gas Connection, the in combination effects of the Project with the GNI Gas Connection have been considered and assessed in this NIS, and their cumulative impacts are considered and assessed in the related Environmental Impact Assessment Report. This is consistent with the approach endorsed by the High Court on a number of occasions in the context of Environmental Impact Assessment of, for example, proposed wind farm developments and their associated grid connections (see, for example, the decisions of the High Court in Ó Gríanna & Ors v An Bord Pleanála & Ors [2014] IEHC 632 and [2017] IEHC 7, and the line of case law following those decisions).

In order to inform this consideration and assessment of the in-combination effects of the Project with the GNI Gas Connection, a report identifying the most likely route for the new high-pressure gas distribution pipeline and a description of the works required to provide same has been prepared. The GNI Infrastructure Upgrade Outline Report has been prepared following a review of the existing GNI network, to determine the most likely source of the connection and the most likely route. The location of the existing GNI above ground installations (AGIs) at Glebe West and Naas Town and the associated existing high-pressure transmission line between, has been used to inform the most likely connection point and route for the new high-pressure gas distribution pipeline.

From the existing Naas Town AGI, the most likely route for the new high-pressure gas distribution pipeline is considered to follow a combination of the existing road network (along the Southern Link Road, Naas) and the route of existing utilities (foul drainage network wayleave). From this point, the most likely route is considered to cross the M7 (east of the Project site) before following the route of the R409 to the Project site. It is understood that similar crossings, below the M7 have previously been implemented in order to deliver comparable service infrastructure.

The likely specification of the new high-pressure gas distribution pipeline, pressure levels, construction methodology and timelines, as set out with the GNI Infrastructure Upgrade Outline Report have been informed by experience and knowledge of comparable infrastructure developments. The GNI Infrastructure Upgrade Outline Report is included in Appendix C and provides sufficient detail and information to allow a robust in combination effects assessment to be conducted.

A summary of the gas connection, as set out within the aforementioned report, is set out below:

3.1.4.1 Overview

- The Proposed Project will likely comprise of a new high-pressure gas distribution pipeline from the existing GNI AGI at Glebe West, Co. Kildare to the subject site of the Project.
- The high-pressure gas pipeline is expected to be made available by GNI, to the Project site boundary on the R409, to connect into the AGI gas infrastructure compound which forms part of the Project.
- The high-pressure gas pipeline will comprise of a 300mm diameter high pressure gas pipeline.
- The most likely route for the gas pipeline is to follow the existing pipeline route from the Glebe West AGI to the Naas Town AGI, a distance of approximately 6.5km. It is considered that the gas pipeline will likely be constructed immediately adjacent to the existing pipeline, allowing for minimum separation requirements.
- From the point of the Naas Town AGI it is considered that the most likely route for the gas pipeline will be to follow the existing low-pressure distribution network around the Southern Link Road to the junction with the R445 Newbridge Road, after which it will likely cross the canal to follow the existing public foul sewer network which crosses agricultural lands, heading northwest.
- The gas pipeline will then likely cross under the M7 motorway, most likely, by directional drilling / pipe jacking to reach the west side of the M7, emerging onto the R409 Caragh Road, whereupon it will enter the Project site.
- The likely route from Naas Town AGI to the Project site is approximately 4km (2km along the public road from Naas Town AGI to the Newbridge Road, 1.55km across agricultural lands from the Newbridge Road to the M7 motorway and circa 0.5km crossing beneath the motorway and running along the R409 to the Project site).
- The gas turbines are supported by smaller, reciprocating gas engines which provide a back up for various running scenarios to include for maintenance and demand requirements. In the unlikely event that gas supply to the turbines is interrupted or becomes unavailable, the reciprocating gas engines can operate either on piped gas supply or natural gas.

General Description of the Works

- A large portion of the gas pipeline will cross agricultural / open lands.
- A construction corridor for the works will be required in order to complete the construction and installation of the pipeline. This usually consists of a 14m wide strip, centred on the pipeline which will become the permanent wayleave following completion of the works.
- Access to the works on agricultural lands will typically be provided at public road crossing locations.
- Special considerations for construction traffic management, adequate site signage and risk assessments will be required for the route through agricultural lands and particularly at interfaces/accesses with public roads.
- Temporary roads may need to be constructed from existing access points to the location of the works in remote locations.
- Works along the public road will likely involve the installation of the new pipeline along the verge of the Southern link road, where the existing low-pressure transmission pipes are also located.

- There will also be a requirement for crossings at several public roads along the route of the pipe. Consultations with Kildare Co. Council Roads Department will be required as well as the preparation of temporary traffic management plans, road opening licences, construction traffic management plans and all associated safety and signage requirements in order to complete the works.

Typical Pipeline Installation

- The installation of the pipeline requires excavation of a trench through the agricultural land / roadway.
- Typically, the depth of burial will be 1.2m of cover to the pipe, with 2 layers of marker tape to be laid in the trench.
- The new pipeline will likely be installed at a pressure of 19 bar.

Watercourse Crossing

- The assumed route of the new pipeline will require crossing a number of watercourses, including the Grand Canal, Naas Rive, Bluebell Stream and numerous land drainage ditches.
- The method of constructing these crossings will typically consist of either open excavation (from smaller watercourses and ditches) or directional drilling / pipe jacking as appropriate.
- GNI will determine the best crossing method for all watercourses as part of their Environmental Assessment.
- The final design will be subject to consultations with Waterways Ireland / Inland Fisheries Ireland and Kildare Co. Council Water Services and Environment departments.

Construction Timeline

- The nature and extent of the required works dictate an approximate construction programme of 7-12 months.
- The construction of the AGIs will take approx. 7- 8 months each.

3.1.4.2 Battery Energy Storage System

To provide uninterrupted and conditioned power, each Data Centre building will have a dedicated battery energy storage system (BESS) located within the adjoined plant area, to the rear of each Data Centre building.

The system will comprise of individual modules connected in parallel, with the total quantity of modules for each Data Centre building as required to match the load of the Data Centre. The modules will be housed in outdoor-rated enclosures.

The battery energy storage system will consist of rack mounted lithium iron phosphate battery modules connected to a DC bus. Rectification from AC to DC is achieved via an input inverter and conversion back to AC is achieved via an output inverter.

3.1.4.3 Electrical Grid Connection

110kV GIS is proposed to be located to the north west corner of the subject site. The substation will provide the grid connection on site, formed from the breaking into and partial undergrounding of the existing 110kV overhead line that currently crosses the site.

The substation will comprise of the following elements:

- 110kV GIS Building/Grid Substation c. 1350sqm and 15m in height;

- Undergrounding of the 110kV transmission line;
- Interface towers (17m in height);
- Connection of the new 110kV underground cables into the substation;
- Client control building;
- Internal road layout;
- Boundary fences;
- Underground services (watermain, surface water, foul, power); and
- Ancillary works (including removal of obsolete 110kV infrastructure).

3.1.4.4 Solar Photovoltaics

Solar photovoltaic (PV) arrays are located on the roof top of each of the six Data Centre buildings. The solar PV arrays will provide a minimum 500kW peak per building. As discussed in section above and set out in more detail in **Section 4.2.3 Energy Strategy of EIAR Chapter 4 and Pg 7 of the associated Updated Energy Compliance Report** the proportion of the operational energy demands of the data centres that will be met by 100% renewable energy sources from the outset of operations has been increased from a minimum of 30% as per the planning application proposals to at least 50%.

3.1.4.5 Heat Recovery and District Heating

Two of the gas turbines associated with Data Centre 5 are proposed to have waste heat thermal boilers installed within their exhaust flues in order to recover the medium to high grade heat from the turbines. Each turbine as a nominal electrical output rating of 5MWe, the available maximum heat output is assumed at 10MWth per turbine, with a total capacity of 20MWth possible when both turbines are available and running. Both of these turbines will be prioritized in terms of running whenever possible.

The heat from the thermal boilers will then be pumped via heat exchangers to the perimeter of the Data Centre campus, to enable district heating pipework to be connected to the identified uses.

An average electrical load of the site associated with ICT (information and communications technology) and cooling, when fully operational, is likely to max out at 220MW, however typically Data Centres don't achieve 100% utilisation of the power, more normally they max out at 70-80% so in this case with all phases completed an annual power demand from the onsite generation of around 140MW. It is acknowledged that this load is unlikely to be present on the first operational day, with a phased approach being employed by the Data Centre developer.

3.1.5 Ancillary Buildings

In addition to the 6 Data Centre buildings, other ancillary structures are located within the site boundary. The site security hut is located at the entrance of the site. The site administration workshop and water treatment plant is located in the northwest portion of the site, adjacent to the main entrance. The AGI and DH buildings are in the north of the site adjacent to the site boundary.

3.1.6 Drainage and Water Supply

Below ground drainage are to be separate foul and surface water systems. Currently there is no known public surface water connections available to the development.

The surface water drainage design aims to collect and attenuate, as far as practically possible, all surface water within a series of swales and ponds, which will discharge (at three locations) into the Bluebell River (subject to regulatory approval) at a rate no greater than greenfield runoff.

Some of the surface water ponds will also act as water retention ponds to use the water for fire fighting purposes. Most of the ponds will be dry detention basins. All roads will drain into swales and carparking bays will be designed with a permeable surface to allow for surface water to be cleansed and attenuated within the subbase. Ancillary buildings such as the Admin Workshop and Security Hut will incorporate green roofs.

3.1.6.1 Foul Water Drainage

The proposed foul strategy will be to provide a new foul drainage network to collect effluent from the new the Project via a local piped network. Each Data Centre building shall be served by its own local foul drainage network which conveys flows to a main gravity line discharging to a pumping station located on the site.

There are two proposed foul drainage catchments on the proposed site. Data Centres 1,2 and 3 and the adjacent Substation (Catchment 1) shall discharge to a pumping station located to the west of the site while Data Centres 4, 5 and 6 and the AGI building (Catchment 2) shall discharge to a pumping station at the Eastern portion of the site.

Foul effluent will be pumped via two separate rising mains (one from each pumping station), crossing agricultural lands located south of the Bluebell Stream to discharge to the main public foul drainage network which is located along the L2030 via a stand-off manhole.

3.1.6.2 Water Supply for Cooling

The proposed cooling system for the Data Centre buildings is based on direct air cooling, which will be used for over 90% of the year. During the remaining period, water may be needed to trim the cooling temperatures within the data halls by use of adiabatic cooling techniques.

At peak, during usually a couple of weeks in the summer, elevated amounts of water are required. To mitigate this demand, it is intended to provide significant amounts of underground tanked water storage to each building to provide for at least 48 hours of peak day cooling requirement.

Rainwater harvesting with extensive underground harvesting tanks of approximately 100m3 per Data Centre building are proposed to avoid reliance on mains supply water for mechanical cooling. Blue roofs are proposed for the administration wings of each Data Centre block which will collect up to two-thirds of precipitation on each Data Centre building roof.

A minimum of 1 year water storage is provided on site for the adiabatic cooling top-up and storage top-up from on-site ponds if required.

3.1.7 Telecommunications and Data Connections

The Project site is comprehensively served from a fibre and telecoms perspective, providing the opportunity for a straightforward and secure fibre and telecoms connection. It is proposed there will be three telecommunications points of entry to the site.

These locations will be:

- At the main site entrance,
- At the emergency site entrance located to the south corner of the site via the M7 Business Park
- Via a connection opposite the Osberstown Business Park.

3.1.8 Site Access Design

The main site access (vehicular and pedestrian) will be via a new access onto the R409 road with a secondary emergency access provided from the M7 Business Park to the south. As part of the R409

improvement works, a new footpath, cycleway and bus layby is proposed to the southern side of the R409. This access will be extended across the R409 bridge over the M7 motorway and link up to the existing footway to the eastern side of the bridge.

3.1.8.1 Proposed R409 Works

Engagement with KCC resulted in proposals for an extension of the existing pedestrian and cyclist infrastructure along the south side of the R409 from the east of the M7 bridge crossing; these works comprised of the following:

- Transition of the existing cycle path and footpath to a single 2.0m wide 'off-road' shared surface
- The 2.0m shared surface crossing the bridge structure shall transition to a separated 1.8m off road cycle path and 2.0m footpath on the west side of the bridge once clear of the existing traffic barrier restrictions. This arrangement shall continue along the R409 for the extent of the Project boundary.
- Allowance for a 3.0m wide bus stop carriageway where the proposed cycle track shall transition to a 1.8m 'on-road' arrangement for the extent of the bus stop as indicated below.
- Shared surface shall be proposed at the main site entrance to facilitate all Vulnerable Road Users (VRU's) travelling to and from the site.
- Public lighting.
- New roadside drainage to be provided along the southern section of the road where new kerbs are to be installed.

3.1.8.2 Internal Roads

The internal roads within the development are to remain private and will be maintained by the Data Centre management company. The internal road network is comprised of a 7.5m wide main campus road with 5.5m one-way roads provided around each Data Centre Building.

Internal access road with separate pedestrian footpath, provide a safe and uncomplicated access to building within the site. Car parking is located to the front of the Data Centre building for all visitors and staff arriving by car; separate pedestrian and cycle access is also provided for each Data Centre building.

A separate vehicular access to the rear of each Data Centre will be provided for HGV's and service vehicles only. This will be accessed through additional gates.

An emergency entrance is located to the southeast corner of the site entered through the M7 Business Park. This connection will be over the existing Bluebell Stream and will be provided with a security gate which will be permanently closed except in emergency circumstances. A turning head has been provided for security to be able to patrol this part of the site.

3.1.8.3 Car Parking

A total of 210 no. car parking spaces, comprising of 63 electric car charging spaces and 14 disabled car parking spaces, are proposed.

Of the 210 total, each of the 6 Data Centre buildings will have 30 car parking spaces (total) and the administration building will also have 30 car parking spaces.

A total number of 104 bicycle spaces (16 per each of the 6 Data Centre buildings and 8 for the administration workshop) are also proposed.

3.1.9 Lighting and Security

The Project will operate as a 'Dark Site' where minimal lighting is only used when required in order to avoid *light spill* beyond the site boundary and disturbance of wildlife.

New external lighting will be provided to the following areas:

- Internal site access roads
- Car parks (at Data Centres and ancillary buildings)
- Site security lighting (including emergency escape lighting)

Lighting systems in areas covered by CCTV cameras will be designed and installed to facilitate high-definition images recorded by the video surveillance system. Perimeter lighting will be provided along the full boundary of the site. This will be triggered by movement detections covering the complete perimeter.

3.1.10 Proposed Landscaping

The existing external boundary trees and hedgerows will be retained, protected and augmented with additional native tree and hedge planting where necessary.

Around the eastern boundary of the site to the M7, there will be a 30m wide landscape buffer provided. On other boundaries a minimum 10m buffer will be provided, which will allow for earth mounding and native, screen woodland planting to be provided to help integrate the development into the landscape, mitigate visual effects and increase site biodiversity. The principal elements of the landscape design approach will include the following measures:

- Provision of temporary fencing during construction in accordance with BS5837: 2012 for the protection of all trees, hedgerows and vegetation to the perimeter of the site;
- Retention and utilisation of subsoil and topsoil for the creation of landscape mounding, up to 6.5m high, to the site boundary with the M7 and for reinstatement of disturbed landscape areas;
- Provision of security fencing, approx. 2.4m high with native hedge planting to boundaries;
- Provision of mammal passes throughout the site, within security fencing (to allow passage of mammals across the site);
- Provision of mixed, native woodland planting, including evergreen and deciduous tree species, planted to the perimeter landscape buffer and mounding
- Internal landscape areas will include SuDS features include detention/attenuation basins, swales, biofiltration planters and permeable paving integrated with suitable landscape planting and seeding including native grassland meadows; and,
- Planting and grassland management will follow the All-Ireland Pollinator Plan and Guidance documents, helping to increase site biodiversity, with a maintenance programme for the woodland screen planting to ensure establishment.

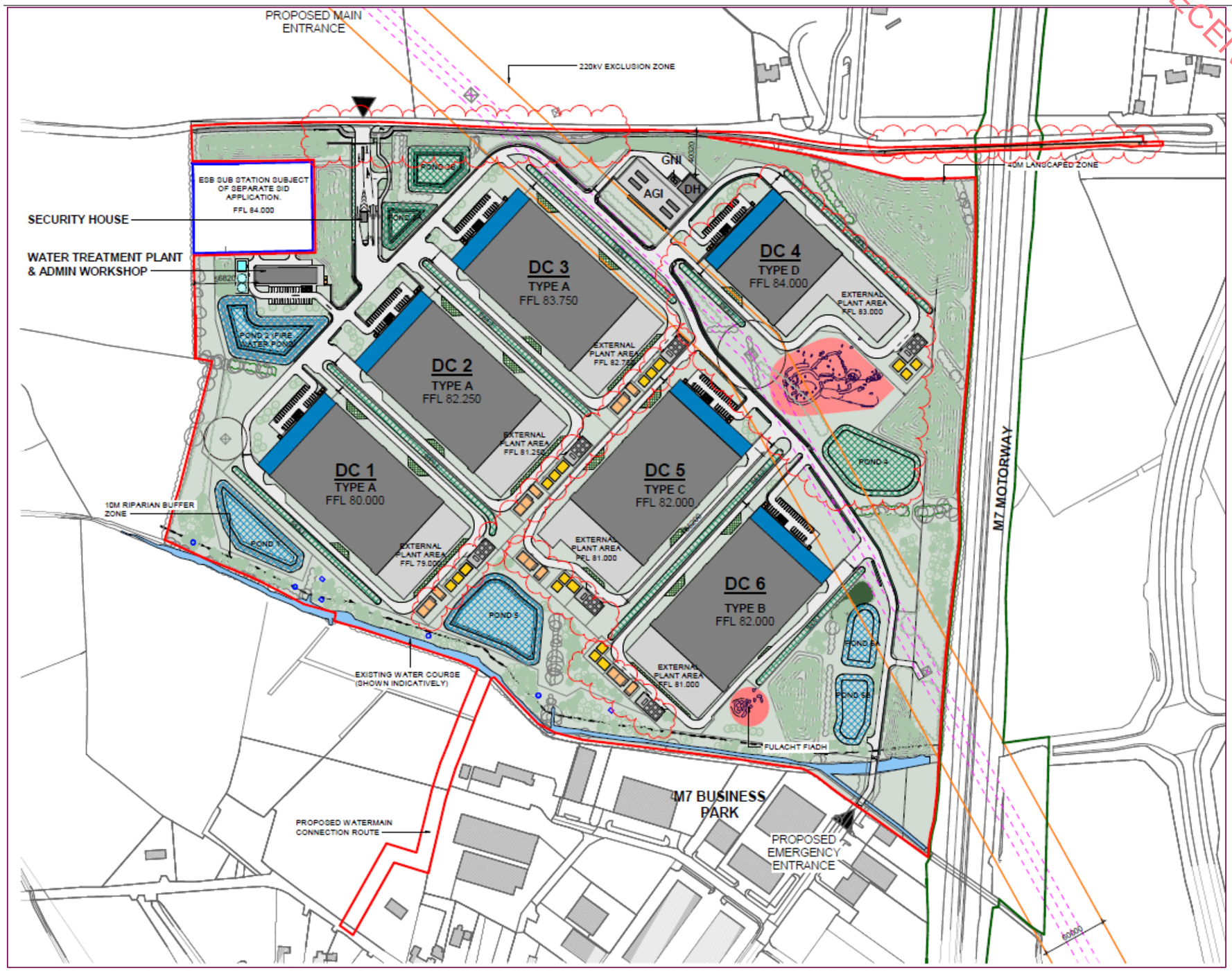

Figure 3.1: Herbata Data Centre Layout (Extract of drawing 22217-RKD-ZZ-ZZ-DR-A-1010-OVERALL PROPOSED SITE PLAN)

4 ASSESSMENT OF POTENTIAL EFFECTS ON EUROPEAN SITES

4.1 Conclusions of the Stage 1 Appropriate Assessment Screening

4.1.1 Conclusions of the Stage 1 Screening Appropriate Assessment Screening Report

As mentioned above, RPS prepared an Appropriate Assessment Screening Report which was completed in compliance with EU and Irish law and the relevant European Commission and national guidelines to determine whether Likely Significant Effects on any European site could be screened out as occurring due to the proposed development. The Appropriate Assessment Screening Report was submitted as part of the application for planning permission and is included as Appendix B to this NIS.

The Appropriate Assessment Screening Report (Appendix B) firstly established that the Project is not directly connected with or necessary to the management of any European site.

The possibility of significant effects was then considered using a source-pathway-receptor model, where 'Source' was defined as the individual elements of the Proposed Project that have the potential to affect the identified ecological receptors both within the European site and *ex-situ* in accordance with the *Holohan* judgment. 'Pathway' was defined as the means or route by which a source can affect the ecological receptor. 'Ecological receptor' was defined as the Special Conservation Interests (for SPAs) or Qualifying Interests (of SACs) for which conservation objectives have been set for the European sites under consideration. Each element can exist independently however an effect is created when there is a linkage between the source, pathway and receptor.

The screening report concluded as follows –

> *"Following an examination, analysis and evaluation of all relevant information, on the basis of objective information and in light of the best scientific knowledge and applying the precautionary principle, it can be concluded that the project, either individually or in combination with other plans or projects, and in the absence of mitigation, is not likely to have a significant effect on any European site(s) in view of their site-specific conservation objectives. It is considered that there is no reasonable scientific doubt as to the absence of such effects.*
>
> *This conclusion is drawn in light of the nature of the project, its proximity and linkages to European sites, the lack of identifiable pathways for effect and the nature of the qualifying interests of those European sites.*
>
> *In reaching this conclusion, the nature of the Project and its relationship with all European Sites within the zone of influence, and their site-specific conservation objectives, has been fully considered.*
>
> *Therefore it is the professional opinion of the author of this report that the proposed Project does not require a Stage 2 Appropriate Assessment."*

4.1.2 Request for Further Information by Kildare County Council

Kildare County Council noted at point 4 of the RFI that –

> *"The proposed Data Centre has hydrological connections to European Sites including South Dublin Bay, North Dublin Bay, River Tolka Estuary, North Bull Island and North West Irish Sea via the Bluebell Stream. Based on the information received with the application, the Planning*

Authority is not satisfied, having regard to the scale of the proposed development, that the impact on the integrity of the European Sites can be screened out.

The Applicant is requested to conduct a Stage 2 Appropriate Assessment of the proposed development and submit a Natura Impact Statement accordingly."

Therefore, in response to this aspect of the RFI, this Natura Impact Statement (NIS) has been prepared to consider and assess the potential impacts of the Project on European Sites, including those identified by KCC which are hydrologically connected to the site of the Project via the Bluebell Stream, to inform and assist the Competent Authority in carrying out an Appropriate Assessment as to whether or not the Project will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, in view of their conservation objectives.

This NIS assesses the implications of the proposed Herbata Data Centre on a number of European sites illustrated in **Figure 4.1** and as outlined below in **Table 4.1**. The conservation objectives were used to assess the likely significant effects of the Project on the qualifying interests (QI's) of the SACs and the special conservation interests (SCIs) of the SPAs (and candidate SPAs) for the European Sites considered in this NIS. These features are listed in **Table 4.1**.

4.1.3 Defining the Project Zone of Interest (ZoI)

European Sites which are hydrologically linked to the Project site all occur downstream of the Project site, linked by the Bluebell Stream. This watercourse is located to the south of, and runs along the southern boundary of, the Project site. It drains into the River Liffey which flows into Dublin Bay.

In total, two SACs and three SPAs within Dublin Bay which are hydrologically linked to the Project have been scoped in and the Project has been assessed for its potential to adversely affect the following European sites –

- North Dublin Bay SAC;
- South Dublin Bay SAC;
- South Dublin Bay & River Tolka Estuary SPA;
- North Bull Island SPA; and
- North West Irish Sea cSPA.

Due to their hydrological connectivity via the Bluebell Stream to the proposed project (**see Table 4.1 and Figure 4.1**) they have been screened into this Stage 2 Natura Impact Statement Report for further assessment of any potential impacts on their qualifying species and habitats.

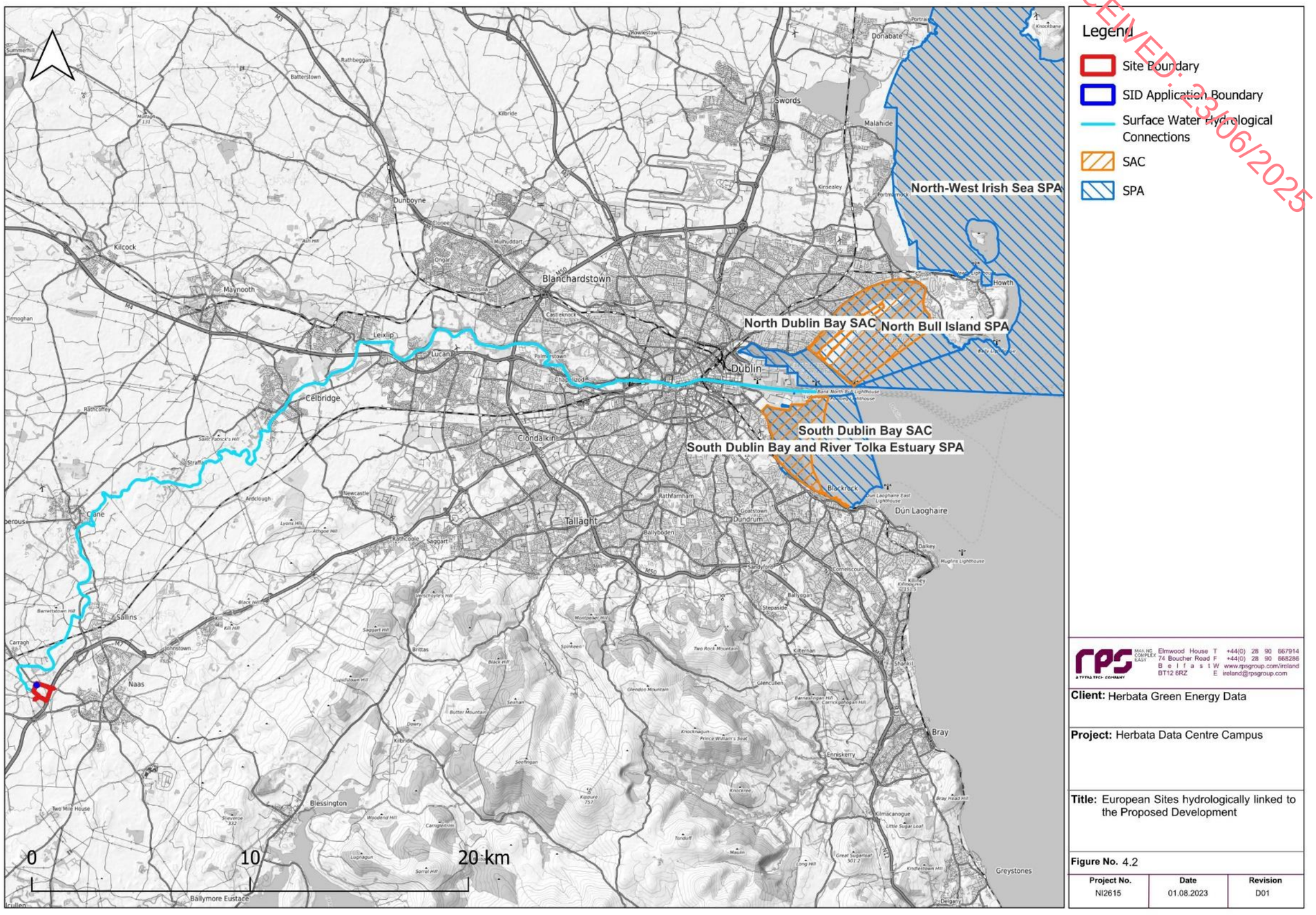

Figure 4.1: Location of the Hydrologically Connected European Sites

Table 4.1: Qualifying Interests and Special Conservation Interests of the European sites considered in the NIS

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td>IE000206</td><td>North Dublin Bay SAC</td><td>
Conservation Objectives Specific Version 1.0 (06/11/13)
To maintain or restore the favourable conservation condition of 9 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets; and of 1 no. Annex II species in the SAC, as defined by 5 no. attributes and targets.

○ Mudflats and sandflats not covered by seawater at low tide [1140]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>The permanent habitat area is stable or increasing, subject to natural processes.</td></tr>
<tr><td>Community extent</td><td>Hectares</td><td>Maintain the extent of the Mytilus edulis-dominated community, subject to natural processes.</td></tr>
<tr><td>Community structure: Mytilus edulis density</td><td>Individuals/m²</td><td>Conserve the high quality of the Mytilus edulis-dominated community, subject to natural processes</td></tr>
<tr><td>Community distribution</td><td>Hectares</td><td>Conserve the following community types in a natural condition: Fine sand to sandy mud with Pygospio elegans and Crangon crangon community complex; Fine sand with Spio martinensis community complex.</td></tr>
</table>
○ Annual vegetation of drift lines [1210]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>Area increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain the natural circulation of sediment and organic matter, without any physical obstructions</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.)</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
</table>
</td><td>34.8km NE

58.5km by hydrological connection

Hydrological Connectivity</td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
Salicornia and other annuals colonising mud and sand [1310]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>Area increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain the natural circulation of sediment and organic matter, without any physical obstructions</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.)</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
</table>
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat Area</td><td>Hectares</td><td>Area stable or increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Physical structure: sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions</td></tr>
<tr><td>Physical structure: creeks and pans</td><td>Occurrence</td><td>Maintain creek and pan structure, subject to natural processes, including erosion and succession</td></tr>
<tr><td>Physical structure: flooding regime</td><td>Hectares flooded; frequency</td><td>Maintain natural tidal regime</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation structure: vegetation height</td><td>Centimetres</td><td>Maintain structural variation within sward</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities</td></tr>
<tr><td>Vegetation structure: negative indicator species - Spartina anglica</td><td>Hectares</td><td>No significant expansion of common cordgrass (Spartina anglica), with an annual spread of less than 1%</td></tr>
</table>
Mediterranean salt meadows (Juncetalia maritimi) [1410]
</td><td></td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat Area</td><td>Hectares</td><td>Area stable or increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Physical structure: sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions</td></tr>
<tr><td>Physical structure: creeks and pans</td><td>Occurrence</td><td>Maintain creek and pan structure, subject to natural processes, including erosion and succession</td></tr>
<tr><td>Physical structure: flooding regime</td><td>Hectares flooded; frequency</td><td>Maintain natural tidal regime</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation structure: vegetation height</td><td>Centimetres</td><td>Maintain structural variation within sward</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities</td></tr>
<tr><td>Vegetation structure: negative indicator species - Spartina anglica</td><td>Hectares</td><td>No significant expansion of common cordgrass (Spartina anglica), with an annual spread of less than 1%</td></tr>
</table>
Embryonic shifting dunes [2110]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>Area increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain the natural circulation of sediment and organic matter, without any physical obstructions</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.)</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
</table>
Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]
</td><td></td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>Area increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain the natural circulation of sediment and organic matter, without any physical obstructions</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.)</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
</table>
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat Area</td><td>Hectares</td><td>Area stable or increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Hectares flooded; frequency</td><td>Maintain natural tidal regime</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation structure: bare ground</td><td>Percentage cover</td><td>Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes</td></tr>
<tr><td>Vegetation structure: sward height</td><td>Centimetres</td><td>Maintain structural variation within sward</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain range of subcommunities with typical species</td></tr>
<tr><td>Vegetation composition: negative indicator species (including Hippophae rhamnoides)</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
<tr><td>Vegetation composition: scrub/trees</td><td>Percentage cover</td><td>No more than 5% cover or under control</td></tr>
</table>
Humid dune slacks [2190]
</td><td></td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat Area</td><td>Hectares</td><td>Area stable or increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Hectares flooded; frequency</td><td>Maintain natural tidal regime</td></tr>
<tr><td>Physical structure: hydrological and flooding regime</td><td>Water table levels; groundwater fluctuations (metres)</td><td>Maintain natural hydrological regime</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation structure: bare ground</td><td>Percentage cover</td><td>Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer sla which can have up to 20% bare ground</td></tr>
<tr><td>Vegetation structure: height</td><td>Centimetres</td><td>Maintain structural variation within sward</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain range of subcommunities with typical species</td></tr>
<tr><td>Vegetation composition: cover of Salix repens</td><td>Percentage cover</td><td>Maintain less than 40% cover of creeping willow (Salix repens</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
<tr><td>Vegetation composition: scrub/trees</td><td>Percentage cover</td><td>No more than 5% cover or under control</td></tr>
</table>
○ Petalophyllum ralfsii (Petalwort) [1395]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Distribution of populations</td><td>Number and geographical spread of populations</td><td>No decline</td></tr>
<tr><td>Population size</td><td>Number of individuals</td><td>No decline. Population at Bull Island estimated at a maximum of 5,824 thalli. Actual population is more likely to be 5% of this, or c. 300 thalli</td></tr>
<tr><td>Area of suitable habitat</td><td>Hectares</td><td>Maintain natural tidal regime</td></tr>
<tr><td>Physical structure: hydrological and flooding regime</td><td>Water table levels; groundwater fluctuations (metres)</td><td>No decline. Area of suitable habitat at Bull Island is estimated at c. 0.04ha</td></tr>
<tr><td>Hydrological conditions: soil moisture</td><td>Occurrence</td><td>Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but not subject to prolonged inundation by flooding in winter</td></tr>
<tr><td>Vegetation structure: height and cover</td><td>Centimetres and percentage</td><td>Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground</td></tr>
</table>
</td><td></td></tr>
<tr><td>IE000210</td><td>South Dublin Bay SAC</td><td>Conservation Objectives Specific Version 1.0 (22/08/13)
To maintain the favourable conservation condition of 1 no. Annex 1 habitat type [1140] in the SAC, as defined by 4 no. attributes and targets.

Note: Habitat types [1210], [1310] and [2110] were added as qualifying interests in 2015 and the site's conservation objectives have not yet been revised to take account of these features. Their objectives from North Dublin Bay SAC have been adopted for this assessment.</td><td>34.8km NE

58.5km by hydrological connection

Hydrological Connectivity</td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
○ Mudflats and sandflats not covered by seawater at low tide [1140]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>The permanent habitat area is stable or increasing, subject to natural processes.</td></tr>
<tr><td>Community extent</td><td>Hectares</td><td>Maintain the extent of the Mytilus edulis-dominated community, subject to natural processes.</td></tr>
<tr><td>Community structure: Mytilus edulis density</td><td>Individuals/m²</td><td>Conserve the high quality of the Mytilus edulis-dominated community, subject to natural processes</td></tr>
<tr><td>Community distribution</td><td>Hectares</td><td>Conserve the following community types in a natural condition: Fine sand to sandy mud with Pygospio elegans and Crangon crangon community complex; Fine sand with Spio martinensis community complex.</td></tr>
</table>
○ Annual vegetation of drift lines [1210]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>Area increasing, subject to natural processes, including erosion and succession.</td></tr>
<tr><td>Habitat distribution</td><td>Occurrence</td><td>No decline, or change in habitat distribution, subject to natural processes</td></tr>
<tr><td>Physical structure: functionality and sediment supply</td><td>Presence/ absence of physical barriers</td><td>Maintain the natural circulation of sediment and organic matter, without any physical obstructions</td></tr>
<tr><td>Vegetation structure: zonation</td><td>Occurrence</td><td>Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession</td></tr>
<tr><td>Vegetation composition: typical species and subcommunities</td><td>Percentage cover at a representative number of monitoring stops</td><td>Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.)</td></tr>
<tr><td>Vegetation composition: negative indicator species</td><td>Percentage cover</td><td>Negative indicator species (including non-natives) to represent less than 5% cover</td></tr>
</table>
</td><td></td></tr>
<tr><td>IE004024</td><td>South Dublin Bay & River Tolka Estuary SPA</td><td>
Conservation Objectives Specific Version 1.0 (09/03/15)
To maintain the favourable conservation condition of –
• 9 no. overwintering species in the SPA, as defined by 2 no. attributes and targets.
• 3 no. breeding and passage species of terns, as defined by a wider range of attributes and targets; and
• wetland habitats in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it, as defined by 1 no. attribute and target.

Special Conservation Interests
</td><td>34.7km NE

58km by hydrological connection

Hydrological Connectivity</td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
Light-bellied Brent Goose (Branta bernicla hrota) [A046]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation</td></tr>
</table>
Oystercatcher (Haematopus ostralegus) [A130]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation</td></tr>
</table>
Ringed Plover (Charadrius hiaticula) [A137]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by ringed plover, other than that occurring from natural patterns of variation</td></tr>
</table>
Knot (Calidris canutus) [A143]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by knot, other than that occurring from natural patterns of variation</td></tr>
</table>
Sanderling (Calidris alba) [A144]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
</table>
</td><td></td></tr>
</table>

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by sanderling, other than that occurring from natural patterns of variation	
		• Dunlin (*Calidris alpina*) [A149]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	
		• Bar-tailed Godwit (*Limosa lapponica*) [A157]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	
		• Redshank (*Tringa totanus*) [A162]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	
		• Black-headed Gull (*Croicocephalus ridibundus*) [A179]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by black-headed gull, other than that occurring from natural patterns of variation	
		• Roseate Tern (*Sterna dougallii*) [A192]			
		Attribute	**Measure**	**Target**	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Passage population: individuals	Number	No significant decline	
		Distribution: roosting areas	Number; location; area (hectares)	No significant decline	
		Prey biomass available	Kilogrammes	No significant decline	
		Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	
		Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns	
		• Common Tern (*Sterna hirundo*) [A193]			
		Attribute	**Measure**	**Target**	
		Breeding population abundance: Apparently occupied nests (AONs)	Number	No significant decline	
		Productivity rate: fledged young per breeding pair	Mean number	No significant decline	
		Passage population: individuals	Number	No significant decline	
		Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	
		Distribution: roosting areas	Number; location; area (hectares)	No significant decline	
		Prey biomass available	Kilogrammes	No significant decline	
		Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	
		Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population	
		Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns	
		• Arctic Tern (*Sterna paradisaea*) [A194]			
		Attribute	**Measure**	**Target**	
		Passage population	Number of individuals	No significant decline	
		Distribution: roosting areas	Number; location; area (hectares)	No significant decline	
		Prey biomass available	Kilogrammes	No significant decline	

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Barriers to connectivity</td><td>Number; location; shape; area (hectares)</td><td>No significant increase</td></tr>
<tr><td>Disturbance at roosting site</td><td>Level of impact</td><td>Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns</td></tr>
</table>
Grey Plover (Pluvialis squatarola) [A140]
<u>Note</u>: Grey Plover (Pluvialis squatarola) [A140] is proposed for removal from the list of Special Conservation Interests for South Dublin Bay and River Tolka Estuary SPA. As a result, a site-specific conservation objective has not been set for this species. The conservation objectives below have been drawn from North Bull Island SPA.
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation</td></tr>
</table>
Wetlands [A999]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation.</td></tr>
</table>
</td><td></td></tr>
<tr><td>IE004006</td><td>North Bull Island SPA</td><td>
Conservation Objectives Specific Version 1.0 (09/03/15)
To maintain the favourable conservation condition of 17 no. Annex 1 species in the SPA, as defined by 2 no. attributes and targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target

Special Conservation Interests
Light-bellied Brent Goose (Branta bernicla hrota) [A046]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
</table>
</td><td>36.7km NE

58.5km by hydrological connection

Hydrological Connectivity</td></tr>
</table>

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	
		• Shelduck (*Tadorna tadorna*) [A048]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	
		• Teal (*Anas crecca*) [A052]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by teal, other than that occurring from natural patterns of variation	
		• Pintail (*Anas acuta*) [A054]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by pintail, other than that occurring from natural patterns of variation	
		• Shoveler (*Anas clypeata*) [A056]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by shoveler, other than that occurring from natural patterns of variation	
		• Oystercatcher (*Haematopus ostralegus*) [A130]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	
		• Golden Plover (*Pluvialis apricaria*) [A140]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by golden plover, other than that occurring from natural patterns of variation	
		• Grey Plover (*Pluvialis squatarola*) [A141]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	
		• Knot (*Calidris canutus*) [A143]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by knot, other than that occurring from natural patterns of variation	
		• Sanderling (*Calidris alba*) [A144]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by sanderling, other than that occurring from natural patterns of variation	
		• Dunlin (*Calidris alpina*) [A149]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	
		• Black-tailed Godwit (*Limosa limosa*) [A156]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by black-tailed godwit, other than that occurring from natural patterns of variation	
		• Bar-tailed Godwit (*Limosa lapponica*) [A157]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	
		• Curlew (*Numenius arquata*) [A160]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by curlew, other than that occurring from natural patterns of variation	
		• Redshank (*Tringa totanus*) [A162]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	
		Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing, or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	
		• Turnstone (*Arenaria interpres*) [A169]			
		Attribute	**Measure**	**Target**	
		Population trend	Percentage change	Long term population trend stable or increasing	

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by turnstone, other than that occurring from natural patterns of variation</td></tr>
</table>
• Black-headed Gull (Croicocephalus ridibundus) [A179]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population trend</td><td>Percentage change</td><td>Long term population trend stable or increasing</td></tr>
<tr><td>Distribution</td><td>Range, timing and intensity of use of areas</td><td>No significant decrease in the range, timing, or intensity of use of areas by black-headed gull, other than that occurring from natural patterns of variation</td></tr>
</table>
• Wetlands [A999]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Habitat area</td><td>Hectares</td><td>The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation.</td></tr>
</table>
</td><td></td></tr>
<tr><td>IE004236</td><td>North-West Irish Sea cSPA</td><td>
Conservation Objectives Specific Version 1.0 (19/09/23)
To maintain the favourable conservation condition of 21 no. Annex 1 species in the SPA, as defined by 5 no. attributes and targets
Special Conservation Interests
• Manx Shearwater (Puffinus puffinus) [A013]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Breeding population size</td><td>Number</td><td>No significant decline</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
<tr><td>Disturbance across the site</td><td>Intensity, frequency, timing, and duration</td><td>The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution</td></tr>
</table>
</td><td>36.7km NE

58.5km by hydrological connection

Hydrological Connectivity</td></tr>
</table>

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Barriers to connectivity</td><td>Number; location; shape; area (hectares)</td><td>The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA</td></tr>
</table>
• Cormorant (Phalacrocorax carbo) [A017]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Breeding population size</td><td>Number</td><td>Long term population trend within the SPA is stable or increasing</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
<tr><td>Disturbance across the site</td><td>Intensity, frequency, timing, and duration</td><td>The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution</td></tr>
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</table>
• Shag (Phalacrocorax aristotelis) [A018]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Breeding population size</td><td>Number</td><td>Long term population trend within the SPA is stable or increasing</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
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Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Lesser Black-backed Gull (*Larus fuscus*) [A183]			
		Attribute	**Measure**	**Target**	
		Breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Roseate Tern (*Sterna dougallii*) [A192]			
		Attribute	**Measure**	**Target**	
		Breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	

<table>
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<table>
<tr><td>Disturbance across the site</td><td>Intensity, frequency, timing, and duration</td><td>The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution</td></tr>
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</table>
Common Tern (Sterna hirundo) [A193]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Breeding population size</td><td>Number</td><td>No significant decline</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
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<tr><td>Barriers to connectivity</td><td>Number; location; shape; area (hectares)</td><td>The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA</td></tr>
</table>
Arctic Tern (Sterna paradisaea) [A194]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Breeding population size</td><td>Number</td><td>No significant decline</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
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</td><td></td></tr>
</table>

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Little Tern (*Sterna albifrons*) [A195]			
		Attribute	**Measure**	**Target**	
		Breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Puffin (*Fratercula arctica*) [A204]			
		Attribute	**Measure**	**Target**	
		Breeding population size	Number	Long term population trend within the SPA is stable or increasing	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Red-throated Diver (*Gavia stellata*) [A001]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Great Northern Diver (*Gavia immer*) [A003]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Common Scoter (*Melanitta nigra*) [A065]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Black-headed Gull (*Chroicocephalus ridibundus*) [A179]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Common Gull (*Larus canus*) [A182]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Great Black-backed Gull (*Larus marinus*) [A187]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	

<table>
<tr><th>Site Code</th><th>Site Name</th><th>QIs, SCIs and Conservation Objectives</th><th>Distance from Project & Connectivity Identified</th></tr>
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<table>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
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<tr><td>Barriers to connectivity and site use</td><td>Number; location; shape; area (hectares)</td><td>The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA</td></tr>
</table>
Little Gull (Hydrocoloeus minutus) [A862]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Non-breeding population size</td><td>Number</td><td>No significant decline</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
<tr><td>Disturbance across the site</td><td>Intensity, frequency, timing, and duration</td><td>The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution</td></tr>
<tr><td>Barriers to connectivity</td><td>Number; location; shape; area (hectares)</td><td>The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA</td></tr>
</table>
Fulmar (Fulmarus glacialis) [A009]
<table>
<tr><th>Attribute</th><th>Measure</th><th>Target</th></tr>
<tr><td>Population size</td><td>Number</td><td>Long term SPA population trend is stable or increasing</td></tr>
<tr><td>Spatial distribution</td><td>Hectares, timing, and intensity of use</td><td>Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population</td></tr>
<tr><td>Forage spatial distribution, extent, abundance, and availability</td><td>Location and hectares, and forage biomass</td><td>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</td></tr>
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Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Herring Gull (*Larus argentatus*) [A184]			
		Attribute	**Measure**	**Target**	
		Population size	Number	Long term SPA population trend is stable or increasing	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Kittiwake (*Rissa tridactyla*) [A188]			
		Attribute	**Measure**	**Target**	
		Population size	Number	Long term SPA population trend is stable or increasing	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Guillemot (*Uria aalge*) [A199]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	
		• Razorbill (*Alca torda*) [A200]			
		Attribute	**Measure**	**Target**	
		Non-breeding population size	Number	No significant decline	
		Spatial distribution	Hectares, timing, and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	
		Forage spatial distribution, extent, abundance, and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	

Site Code	Site Name	QIs, SCIs and Conservation Objectives			Distance from Project & Connectivity Identified
		Disturbance across the site	Intensity, frequency, timing, and duration	The intensity, frequency, timing, and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	
		Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape, and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	

4.2 Potential Impact Pathways from the Project

Five potential impact pathways were fully assessed, namely: Habitat Loss, Aerial Noise and Disturbance, Diminution of Water Quality and Habitat Deterioration and In-Combination Effects.

4.2.1 Habitat Loss (Direct and Indirect)

Appendix B Appropriate Assessment Screening Report concluded there will be no direct habitat loss from any European site(s) as a result of the Project and that there will therefore be no likely significant effects on any European Site as a result of direct habitat loss (see Appendix B). This is the case because the project is located over 30km from the European sites (by direct straight line distance) being considered and direct habitat loss effects are not possible.

However, given that the site is hydrologically connected to several downstream European sites that support a variety of coastal and marine habitats (See Table 4.1), this NIS has considered the potential of Diminution of Water Quality and Habitat Deterioration to cause adverse effects due to the accidental release of pollutants into the water column below in section 4.2.4.

4.2.2 Aerial Noise and Disturbance

Appendix B Appropriate Assessment Screening Report concluded that there could not be any likely significant effects on any European Site(s) as a result of aerial noise and disturbance arising from the Project, because there will be no works in proximity to any European sites as part of the Project that could give rise to such effects. Annex II species populations and Annex I SCI bird populations of SACs or SPAs respectively are not present within the site and it is known that the site is not used as supporting habitat by any such populations per the ecology surveys conducted to support the ecological impact assessment presented in the accompanying EIAR as Chapter 5 Biodiversity (refer Appendix D to the NIS).

4.2.3 Underwater Noise and Vibration

Appendix B Appropriate Assessment Screening Report concluded that the site is distant from any hydrologically linked European site(s), and the qualifying interest species of those hydrologically linked European Sites are not sensitive to the effects of underwater noise or vibration (Table 4.1) over 50 km upstream along the surface water pathway of the River Liffey.

The Project will not have any likely significant effect on any Annex II species sensitive to effects associated with underwater noise or vibration, given their absence from the affected areas.

4.2.4 Diminution of Water Quality and Habitat Deterioration

Appendix B Appropriate Assessment Screening Report outlined that the site is hydrologically connected to several European sites within Dublin Bay, via the Bluebell Stream and subsequently the River Liffey, namely the South Dublin Bay SAC and North Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA. The Project is linked to these European Sites by a hydrological pathway of at least 58km in length via the Bluebell Stream (See Table 4.1 and Figure 4.1).

Appendix B Appropriate Assessment Screening Report indicated that due to this substantial distance, any potential impacts on the qualifying habitats and water quality of these downstream European sites would be *de minimis* due to the significant dilution factor and level of deposition any pollutants would experience while travelling down the hydrological connectivity pathway over such a large distance.

However, as the construction works for the Project will take place within 10m of the Bluebell Stream, and have the potential to result in run-off of sediments and pollutants, the Project is linked to these sites via an identifiable impact pathway as set out above.

In that regard, the construction phase will involve significant earth works to facilitate site levelling and the creation of Sustainable Drainage Systems (SuDS) as described in section 3.1.10 Proposed Landscaping above. Such works could have the potential to result in adverse impacts upon the aquatic environment through the inadvertent release of such sediment materials into the Bluebell Stream.

In light of this hydrological connection and in response to Item No. 4 of Kildare County Council's request for further information, and to assist and inform the Competent Authority in carrying out an appropriate Assessment of the Project, this NIS considers and assesses in section 4.3 below the likely significant effects of the Project on South Dublin Bay SAC and North Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA, in view of their conservation of objectives, arising from Diminution of Water Quality and Habitat Deterioration.

4.2.5 Conclusion in relation to potential impact pathways

Therefore, for the reasons set out in sections 4.2.1 and 4.2.4 above, the only potential impact pathways arising from the Project are as follows:-

- Indirect habitat loss arising from diminution of water quality
- Diminution of Water Quality and Habitat Deterioration

Aquatic habitats which form a QI of the South Dublin Bay SAC and North Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA could be sensitive to impacts associated with short-term deterioration of water quality and degradation of habitats caused by the proposed project.

Therefore, likely significant effects in relation to diminution of water quality and habitat deterioration could occur on the above SPA's and SAC's qualifying interests and conservation objectives in the absence of mitigation.

On the basis of the above, Indirect habitat loss arising from diminution of water quality and diminution of water quality and habitat deterioration on South Dublin Bay SAC and North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA have been screened into this Natura Impact Statement for further assessment.

4.3 Potential Effects

4.3.1 Habitat Loss

As set out above, the proposed development boundary of the Project (Figure 3.2: Location of the Hydrologically Connected European Sites) does not encroach upon or border any European site. The project's site consists of the following habitat makeup, outlined in Appendix D, EIAR Chapter 5 Biodiversity:

- Improved Agricultural Grassland
- Amenity Grassland
- Dry Neutral Grassland
- Dry Meadows and Grassy Verges
- Wet Grassland
- Large Sedge Swamps
- Tilled Land
- Scattered Trees / Orchard
- Scrub
- Buildings
- Hardstanding
- Drainage Ditches
- Lowland River
- Amenity Planting
- Hedgerows
- Treelines
- Scattered Tree

The habitats outlined above are unsuitable for the coastal and wetland bird species that make up the qualifying interests and special conservation interests of North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA. Appendix D EIAR Chapter 5 Biodiversity concludes in Section 5.5.4 Birds that there could be significant impacts on nesting birds likely to use the habitats outlined above due to site clearance works. As the waterbirds identified in Table 4.1 as QIs for designated sites would not use the habitats available on the proposed projects site, no impacts are expected to occur on these species.

These unsuitable nesting habitats, combined with the large 34.7km overland distance between the proposed project and these designated sites eliminate possibility of any qualifying species utilising the existing habitats on the site of the Project.

Therefore, we expect that there will be no adverse *ex situ* effects on any qualifying bird species of the European Sites due to site clearance works as the habitats available within the proposed project site are unsuitable and located a substantial overland distance from the SPAs and SACs.

4.3.2 Diminution of Water Quality and Habitat Deterioration

The Project is located 58km upstream of North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA, and is hydrologically connected to these European Sites via the Bluebell stream which flows adjacent to the boundary of the Project.

Aspects of the Project, including the works required in proximity to the Bluebell stream, a minor watercourse, (i.e. with 10m) such as proposed watercourse crossings utilising an open-cut methodology, in addition to general construction activities and earthworks across the site in proximity to field drains, have the potential to give rise to elevated concentrations of suspended sediments within the freshwater environment.

Potential Construction Phase Impacts in the absence of Mitigation

During the construction phase, in the absence of mitigation, increased suspended sediment levels could potentially occur due to the accidental release of sediment to the water column during:

- Culvert Installation and access route creation.
- Sewer & Fibre Cable Installation
- Watercourse damming during cable, sewage and culvert installation (soil, sand etc).
- Surface water runoff carrying construction contaminants (e.g. concrete, cement) during the creation of buildings and hardstanding areas.
- General water quality impacts associated with works machinery, infrastructure and on-land operations including the temporary storage of construction materials, oils, fuels and chemicals.

This could result in the diminution of water quality and habitat deterioration of the qualifying habitats within the downstream SACs and SPAs due to the accidental release of suspended sediments and contaminants into the water column during construction works in the absence of mitigation.

Potential Operational Phase Impacts in the absence of Mitigation

The operational phase impacts associated with the Project (buildings/structures, on-site power generators, increased vehicle traffic, loss of habitat) represents a change of land use from the current ongoing agricultural activities.

Operational phase pollution could arise from increased surface-water runoff due to the increased area of hardstanding surfaces post construction, along with the disposal of foul wastewater and sewage from onsite facilities.

This could result in operational phase diminution of water quality and habitat deterioration of the European sites qualifying interests due to the release of contaminants and increased sediment runoff into the Bluebell Stream.

4.3.3 Summary Assessment of Potential Impacts on Conservation Objectives

Table 4.2 Summary Assessment of Potential Impacts on Conservation Objectives

Designated Site	Distance from Site (km)	Description	Impact Pathways and Potential Effects
North Dublin Bay SAC	34.8km NE 58.5km by hydrological connection Hydrological Connectivity	**Conservation Objectives Specific Version 1.0 (06/11/13)** To maintain or restore the favourable conservation condition of 9 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets; and of 1 no. Annex II species in the SAC, as defined by 5 no. attributes and targets **Special Conservation Interests** • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalophyllum ralfsii (Petalwort) [1395]	Diminution of Water Quality and Habitat Deterioration Release of increased suspended sediments during construction. Increased operational phase pollution due to increased areas of hardstanding present on site.
South Dublin Bay SAC	34.8km NE 58.5km by hydrological connection Hydrological Connectivity	**Conservation Objectives Specific Version 1.0 (22/08/13)** To maintain the favourable conservation condition of 1 no. Annex 1 habitat type [1140] in the SAC, as defined by 4 no. attributes and targets. *Note*: Habitat types [1210], [1310] and [2110] were added as qualifying interests in 2015 and the site's conservation objectives have not yet been revised to take account of these features. Their objectives from North Dublin Bay SAC have been adopted for this assessment. **Special Conservation Interests** • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]	Diminution of Water Quality and Habitat Deterioration Release of increased suspended sediments during construction. Increased operational phase pollution due to increased areas of hardstanding present on site.
South Dublin Bay & River Tolka Estuary SPA	34.7km NE	**Conservation Objectives Specific Version 1.0 (09/03/15)** To maintain the favourable conservation condition of –	Diminution of Water Quality and Habitat Deterioration

Designated Site	Distance from Site (km)	Description	Impact Pathways and Potential Effects
	58km by hydrological connection Hydrological Connectivity	9 no. overwintering species in the SPA, as defined by 2 no. attributes and targets. 3 no. breeding and passage species of terns, as defined by a wider range of attributes and targets; and wetland habitats in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it, as defined by 1 no. attribute and target. **Special Conservation Interests** • Light-bellied Brent Goose (Branta bernicla hrota) [A046] • Oystercatcher (Haematopus ostralegus) [A130] • Ringed Plover (Charadrius hiaticula) [A137] • Grey Plover (Pluvialis squatarola) [A141] • Knot (Calidris canutus) [A143] • Sanderling (Calidris alba) [A144] • Dunlin (Calidris alpina) [A149] • Bar-tailed Godwit (Limosa lapponica) [A157] • Redshank (Tringa totanus) [A162] • Black-headed Gull (Chroicocephalus ridibundus) [A179] • Roseate Tern (Sterna dougallii) [A192] • Common Tern (Sterna hirundo) [A193] • Arctic Tern (Sterna paradisaea) [A194] • Wetland and Waterbirds [A999]	Release of increased suspended sediments during construction. Increased operational phase pollution due to increased areas of hardstanding present on site. The habitats on site are unsuitable for these coastal and wetland bird species, no likely significant effects are expected due to foraging or roosting habitat loss.
North Bull Island SPA	36.7km NE 58.5km by hydrological connection Hydrological Connectivity	**Conservation Objectives Specific Version 1.0 (09/03/15)** To maintain the favourable conservation condition of 17 no. Annex 1 species in the SPA, as defined by 2 no. attributes and targets; and of wetland habitats in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target. **Special Conservation Interests** • Light-bellied Brent Goose (Branta bernicla hrota) [A046] • Shelduck (Tadorna tadorna) [A048] • Teal (Anas crecca) [A052] • Pintail (Anas acuta) [A054] • Oystercatcher (Haematopus ostralegus) [A130] • Golden Plover (Pluvialis apricaria) [A140] • Grey Plover (Pluvialis squatarola) [A141] • Knot (Calidris canutus) [A143] • Sanderling (Calidris alba) [A144] • Dunlin (Calidris alpina) [A149] • Black-tailed Godwit (Limosa limosa) [A156] • Bar-tailed Godwit (Limosa lapponica) [A157] • Curlew (Numenius arquata) [A160] • Redshank (Tringa totanus) [A162] • Turnstone (Arenaria interpres) [A169]	Diminution of Water Quality and Habitat Deterioration Release of increased suspended sediments during construction. Increased operational phase pollution due to increased areas of hardstanding present on site. The habitats on site are unsuitable for these coastal and wetland bird species, no likely significant effects are expected due to foraging or roosting habitat loss.

Designated Site	Distance from Site (km)	Description	Impact Pathways and Potential Effects
		• Black-headed Gull (Chroicocephalus ridibundus) [A179] • Shoveler (Spatula clypeata) [A857] • Wetland and Waterbirds [A999]	
North-West Irish Sea cSPA	36.7km NE 58.5km by hydrological connection Hydrological Connectivity	**Conservation Objectives Specific Version 1.0 (19/09/23)** To maintain the favourable conservation condition of 21 no. Annex 1 species in the SPA, as defined by 5 no. attributes and targets **Special Conservation Interests** • Red-throated Diver (Gavia stellata) [A001] • Great Northern Diver (Gavia immer) [A003] • Fulmar (Fulmarus glacialis) [A009] • Manx Shearwater (Puffinus puffinus) [A013] • Cormorant (Phalacrocorax carbo) [A017] • Shag (Phalacrocorax aristotelis) [A018] • Common Scoter (Melanitta nigra) [A065] • Black-headed Gull (Chroicocephalus ridibundus) [A179] • Common Gull (Larus canus) [A182] • Lesser Black-backed Gull (Larus fuscus) [A183] • Herring Gull (Larus argentatus) [A184] • Great Black-backed Gull (Larus marinus) [A187] • Kittiwake (Rissa tridactyla) [A188] • Roseate Tern (Sterna dougallii) [A192] • Common Tern (Sterna hirundo) [A193] • Arctic Tern (Sterna paradisaea) [A194] • Guillemot (Uria aalge) [A199] • Razorbill (Alca torda) [A200] • Puffin (Fratercula arctica) [A204] • Little Gull (Hydrocoloeus minutus) [A862] • Little Tern (Sternula albifrons) [A885]	Diminution of Water Quality and Habitat Deterioration Release of increased suspended sediments during construction. Increased operational phase pollution due to increased areas of hardstanding present on site. The habitats on site are unsuitable for these coastal and wetland bird species, no likely significant effects are expected due to foraging or roosting habitat loss.

4.4 In-Combination Effects Assessment

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in the Commission's 2018 Notice (EC, 2019), significance of effect will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned. The significance of any identified combined effects of the Proposed Project alongside other past, present or reasonably foreseeable future plans or projects must be evaluated.

In that context, plans or projects which are completed, approved but uncompleted, or proposed have been considered. EC (2019) specifically advises that "as regards other proposed plans or projects, on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced".

The first step in assessing the in combination effects of the Project comprised the identification of a list of other projects which may have the potential to overlap with the Project based on available information.

Other projects for which a development consent application has been submitted or consent granted were included. Potential future projects which have not submitted an application for consent were not included.

Those other projects whose impacts could foreseeably overlap with the construction or operation of the Project or where construction impacts may be consecutive but cumulative, were considered. The cut-off date for sourcing information on the other projects considered was June 2025.

In combination effects are changes to the environment that are caused by an action in combination with other actions. They can arise from several sources, where relevant, including:

- the interaction between all the different projects in the same area; and
- the interaction between the various impacts within a single project.

4.4.1.1 Future Gas Networks Ireland Infrastructure Upgrade Works

As discussed in section [•] above, as part of the Project includes an on-site Above Ground Installation (AGI) to regulate the supply to the proposed gas turbines, a physical connection to the GNI gas network is required to provide the supply to the gas turbines.

The final, detailed design, consenting and construction of the required infrastructure works will be the responsibility of GNI in the exercise of their own statutory functions, and therefore Herbata Ltd is not seeking planning consent to carry out these works as part of the Project.

Notwithstanding the fact that Herbata Ltd is not seeking planning consent to carry out these works as part of the Project, given the functional interdependence that exists between the Project and the GNI Gas Connection, the in combination effects of the Project with the GNI Gas Connection have been considered and assessed in this NIS, and their cumulative impacts are considered and assessed in the related Environmental Impact Assessment Report. This is consistent with the approach endorsed by the High Court on a number of occasions in the context of Environmental Impact Assessment of, for example, proposed wind farm developments and their associated grid connections (see, for example, the decisions of the High Court in Ó Gríanna & Ors v An Bord Pleanála & Ors [2014] IEHC 632 and [2017] IEHC 7, and the line of case law following those decisions).

A report has been prepared by Donnachadh O'Brien & Associates Consulting Engineers Ltd. (at Appendix C) in order to inform this consideration and assessment of the in-combination effects of the Project with the GNI Gas Connection, which identifies the most likely route for the new high-pressure gas distribution pipeline and describes the works that are required to provide same, and which provides sufficient detail and information to allow a robust in combination effects assessment to be conducted. That report is included within Appendix C Gas Networks Ireland Infrastructure Upgrade Outline Report (Donnachadh O'Brien & Associates Consulting Engineers Ltd).

The European Sites that may fall within the zone of influence of the future GNI Connection Works are limited to those which also lie downstream of the Herbata project, as discussed above, including the various SACs and SPAs within Dublin Bay assessed in this report.

The GNI connection works could not have any likely significant effects on any other European Sites, as there are no pathways for effects on any other European Sites, including no surface water hydrological connections.

Having considered and assessed the most likely route of the new high-pressure gas distribution pipeline, the European Sites within the zone of influence of the future works (see Section 4.1.3), and the nature and extent of the works required, as set out in the report of Donnachadh O'Brien & Associates Consulting Engineers Ltd. (see Appendix C Gas Networks Ireland Infrastructure Upgrade Outline Report (Donnachadh O'Brien & Associates Consulting Engineers Ltd) it is the opinion of the authors of

this report that the future gas pipeline connection to the Project will be consented only where it is determined by the competent authority that all appropriate mitigations have been conditioned to the planning permission so as to prevent adverse effects on the integrity of any European site. As any future GNI connection application can be consented only after being subject to its own assessment procedure, it will be subject to the same obligations as the Project in respect of the extent of mitigation measures and standard good practice at construction. As a result, there will be no adverse in-combination effects on any European Sites from the Project when considered cumulatively with the proposed gas infrastructure works and there is no reasonable scientific doubt in relation to this conclusion.

4.4.1.2 Kildare County Council County Development Plan 2023 – 2029

As part of our assessment of potential impacts on nearby designated sites, the Kildare County Council County Development Plan 2023-2029 was reviewed to determine if the proposed changes to public services and land use outlined in the plan would cause adverse effects in combination or alone with the proposed project and any other plans or projects.

The SEA (Strategic Environmental Assessment) of the Local Development Plan, outlines the following conclusions regarding the Stage 1 and Stage 2 Appropriate Assessments conducted regarding the plans impact on European sites:

"This SEA Addendum concludes that most of the Proposed Material Alterations to the Draft Kildare Draft County Development Plan 2023-2029 satisfy the strategic environmental objectives and will not result in any significant negative impact on the environment. 175 No. Proposed MAs were identified as having potential to result in significant environmental effects. These Alterations have been subjected to SEA in this report.

It is considered that the mitigation measures set out in Chapter 9 of the SEA Environmental Report will work to avoid or reduce any potential negative environmental effects identified in this Addendum and should be complied with. Further, in accordance with environmental legislation, where the potential for significant environmental effects exist, site-specific environmental assessment will be carried out, as required. These assessments will include the incorporation of site-specific detailed mitigation measures to ameliorate the potential for significant environmental effects."

As the County Development Plan has been assessed and any potential impacts on European Sites mitigated for, we expect that following the mitigation outlined in section 4.5 of this report, that the Herbata Project will have no adverse effects on the integrity of any European site either alone or in-combination with the County Development Plan or any other plans or projects.

4.4.1.3 National Planning Framework 2040

The National Planning Framework 2040 is *"the long-term, 20-year strategy for strategic planning and sustainable development of our urban and rural areas to 2040, with the core objectives of securing balanced regional development and a sustainable 'compact growth' approach to the form and pattern of future development."*

National Policy Objective 1 outlines that it will ***"****Ensure that all plans, projects and activities requiring consent arising from the National Planning Framework are subject to the relevant environmental assessment requirements including SEA, EIA, SFRA and AA, as appropriate."*

An Appropriate Assessment Screening undertaken to assess the potential impacts on European Sites within the National Planning Framework 2040, concluded that in the absence of mitigation measures, the plan could have adverse effects on the European Sites within its area.

A Stage 2 Natura Impact Statement was then subsequently conducted, assessing the potential impacts of the National Planning Framework 2040 on all sites within its zone of influence and how the plan could impact their qualifying interests, along with how to mitigate the potential impacts outlined in the stage 1 AA.

The National Planning Framework was assessed, and it was found that no likely significant effects would arise due to its implementation alone or in-combination with any other plans or projects.

We expect that following the mitigation outlined in section 4.5 of this report, that the Herbata Project will have no adverse effects on the integrity of any European site either alone or in combination with the National Planning Framework 2040 or any other plans or projects.

4.4.1.4 Further Plans and Projects

The Kildare County Council Planning Portal, in addition to the An Bord Pleanála case database, were consulted to establish whether there are additional projects with the potential to have in-combination effects with the Project. **Table 4.3** identifies and assesses all those projects which have been assessed with regards to in combination effects, both (i) on a pairwise basis with the Project, and (ii) cumulatively with the Project and all other projects identified in Table 4.3

Having consulted the Kildare County Council Planning Portal and the An Bord Pleanála case database, there are no additional projects beyond those identified in Table 4.3 below with the potential to have in-combination effects with the Project.

All other recent applications in the vicinity of the Proposed Project are small-scale developments including proposals for dwellings, outbuildings and domestic conversions, all of which have been considered and, due to their nature, location, and scale, could not have any adverse effects on the integrity of any European site in combination with the Project.

Table 4.3: In-Combination Assessment Summary Table

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
2460968	18B Osberstown Business Park , Osberstown , Naas	Application for construction of a 93.0 sq/m Car Showroom and 35.6 sq/m Valeting building, both reduced in size from original granted permission ref: 221515	Application Finalised	21/11/24	No	This proposal lies near the Project (0.5km N) overland separated from the proposed development by the R409 Road, agricultural land adjacent to the M7 road and the Oberstown Business Park. While this limited spatial separation is over a relatively short distance, Application 2460968 is of a small scale (A car showroom complex) and is not out of the existing character of the area due to the ongoing business park activities and high level of vehicle traffic on the R409 and M7. We don't expect any significant noise or dust impacts to arise on any European Site either alone or in-combination due to Application 2460968 above the existing baseline conditions and due to its substantial spatial separation (36km overland) from the Dublin Bay sites assessed in this report. Application 2460968 possesses no hydrological pathways for likely significant effects to occur on any European Site within Herbata project's zone of interest No Appropriate Assessment Screening report was completed for this application as it only involves the construction of a car showroom building within the existing urban environment of Oberstown Business Park. No pathways for adverse effects on the integrity of any European site due to Application 2460968. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse impacts on the downstream Dublin Bay European Sites. As Application 2460968 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse in-combination effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
2461367	Site no. 15 Osberstown Business Park , Ploopluck , Naas	For the, a) the development of a self storage facility comprising 20 no. steel storage containers, b) a staff welfare facility unit, c) a covered bicycle parking unit, d) car parking, e) boundary treatment/fencing, f) landscaping, g) signage and h) all associated site development works. Revised by Significant Further Information which consists of; The Site Layout Plan has been altered to include the following; the introduction of buffer zones, the relocation of storage units, additional landscaping/fencing, a revised parking layout and changes to the surface water drainage system	New Application	n/a (Received 18/12/24)	No	This proposal lies near the Herbata Project (0.5km N) overland, separated from the proposed development by the R409 Road, agricultural land adjacent to the M7 road and the Oberstown Business Park. While this limited spatial separation is over a relatively short distance, Application 2461367 is of a small scale (Self Storage Compound) and is not out of the existing character of the area due to the ongoing business park activities and high level of vehicle traffic on the R409 and M7. We don't expect any significant noise or dust impacts to arise on any European Site either alone or in-combination due to Application 2461367 above the existing baseline conditions and due to its substantial spatial separation (36km overland) from the Dublin Bay sites assessed in this report. Application 2461367 possesses no hydrological pathways for likely significant effects to occur on any European Site within Herbata project's zone of interest No Appropriate Assessment Screening report was completed for this application as it only involves the construction of a car showroom building within the existing urban environment of Oberstown Business Park. No pathways for adverse effects are expected on any European Sites due to Application 2461367. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 2461367 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
2560637	Motor Park , Newhall , Naas	for the construction of a Surface Vehicle Storage Compound and Vehicle Inspection Building, together with all associated site and landscaping works	Further Information Requested	n/a (Received 18/12/2024)	No	This proposal lies near the Herbata Project (Adjacent S) overland, located on agricultural land adjacent to the M7 road and the Motor Park , Newhall , Naas. While this limited spatial separation is over a relatively short distance, Application 2461367 is of a small scale (Self Storage Compound) and is not out of the existing character of the area due to the ongoing business park activities and high level of vehicle traffic on the M7. We do not expect any significant noise or dust impacts to arise on any European Site either alone or in-combination due to Application 2560637 above the existing baseline conditions and due to its substantial spatial separation (36km overland) from the Dublin Bay sites assessed in this report. Application 2461367 possesses no hydrological pathways for likely significant effects to occur on any European Site within Herbata project's zone of interest No Appropriate Assessment Screening report was completed for this application as it only involves the construction of a car showroom building within the existing urban environment of Oberstown Business Park. No pathways for adverse effects are expected on any European Sites due to Application 2461367. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 2461367 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
2560637	Motor Park , Newhall , Naas	for, a) the development of a self storage facility comprising 20 no. steel storage containers, b) a staff welfare facility unit, c) a covered bicycle parking unit, d) car parking, e) boundary treatment/fencing, f) landscaping, g) signage and h) all associated site development works. Revised by Significant Further Information which consists of; The Site Layout Plan has been altered to include the following; the introduction of buffer zones, the relocation of storage units, additional landscaping/fencing, a revised parking layout and changes to the surface water drainage system	Pre-Validation	n/a (Received 09/06/25)	No	This proposal lies near the Herbata Project (Adjacent S) overland, located on agricultural land adjacent to the M7 road and the Motor Park , Newhall , Naas. While this limited spatial separation is over a relatively short distance, Application 2560637is of a small scale (Self Storage Compound) and is not out of the existing character of the area due to the ongoing business park activities and high level of vehicle traffic on the M7. We do not expect any significant noise or dust impacts to arise on any European Site either alone or in-combination due to Application 2560637 above the existing baseline conditions and due to its substantial spatial separation (36km overland) from the Dublin Bay sites assessed in this report. Application 2560637 possesses no hydrological pathways for likely significant effects to occur on any European Site within Herbata project's zone of interest No Appropriate Assessment Screening report was completed for this application as it only involves the construction of a car showroom building within the existing urban environment of Oberstown Business Park. No pathways for adverse effects are expected on any European Sites due to Application 2560637. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. Application 2560637 possesses no pathways, even in the absence of mitigation, to have adverse effects on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways. As such we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
201418	Kerdiffstown and Monread North,Naas,Co. Kildare	A proposed solar farm on an area of approximately 10.8 hectares, comprising photovoltaic panels on ground mounted frames, 4 no. single storey inverter/transformer stations, 1 No. onsite terminal station, storage containers and temporary site compound, security fencing, new and upgraded internal access tracks, CCTV and all associated ancillary development works. Elgin Energy Services Limited are applying for the proposed solar farm to have planning permission that is effective for 10 years (and an operational period of 40 years)	Granted	05/05/2021	No	This proposal lies significantly distant from the Project (15km NE) overland, separated from the proposed development by the town of Naas, Sallins, multiple regional roadways and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 201418 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project and have been assessed as part of this report. Its AA screening concluded that no activities or potential pollutant release into the water column occurring due to the applications operation or construction possess the potential to cause a likely significant effect on any European Site. Mitigation measures will be implemented as part of conditions 8 and 9 of Application 201418. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 201418 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
PL09.305953	Townlands of Drehid, Mulgeeth,Ballynamullagh,	A ten-year planning permission to develop a renewable energy development. The proposed renewable energy development will comprise of (a)	Granted	29/07/2020	Yes	This proposal lies significantly distant from the Project (16.3km NW) overland, separated from the proposed development by several villages, multiple regional roadways and large areas of agricultural land.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
	Mucklon, Kilmurray (Carbury By),Killyon and Timahoe East, Co. Kildare	the construction and operation of 2 areas of solar photovoltaic arrays mounted on metal frames over an area of approximately 200ha, and having a maximum overall height of 3 metres over ground level; (b) Internal solar farm underground cabling; (c) 2 no. temporary construction compounds; (d) recreation and amenity works, including looped walk (upgrade of existing tracks and provision of new tracks, car parking and vehicular access); (e) 1 no. Battery Storage compound; (f) upgrade of existing tracks and provision of new site access roads; (g) site drainage; (h) forestry felling and replanting; (i) permanent signage; and (j) all associated site development and ancillary works. The proposed renewable energy development will have an operational life of 35 years from the date of commissioning. The overall renewable energy project also includes the provision of a 110kV substation with associated electrical plant, welfare facilities, waste water holding tank, security fencing, upgrade of existing tracks and provision of new site access roads, 110kV overhead line grid connection cabling with associated angle lattice masts and supporting polesets and all ancillary works				This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application PL09.305953 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project and have been assessed as part of this report. The Applications Stage 2 NIS report mitigated for potential pollutant release into the water column and was found to have no adverse effects on any European Sites, Mitigation measures will be implemented as part of conditions 9 and 11 of Application PL09.305953. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application PL09.305953 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
18969	Brownstown and Carnalaway, Kilcullen, Co. Kildare	A solar farm to be installed over restored landfill with an export capacity of approximately 3MW comprising photovoltaic panels on ground mounted frames, connection to existing single-storey ESB Sub- Station / switch room building, installation of 3 No.	Granted	21/08/2019	Yes	This proposal lies significantly distant from the Project (8.68km S) overland, separated from the proposed development by the M7 Business Park, multiple regional roadways (M7) and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
		transformers, ducting and underground electrical cabling and all associated ancillary works and services. Revised by significant further information consisting of; construction management plan detailing construction techniques				and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 18969 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project and have been assessed as part of this report. The Appropriate Assessment Screening was screened out for any emission of surface water, groundwater or atmospheric pollution on any of the European Sites assessed. As part of condition 6 of Application 18969, avoidance and mitigation measures will be implemented to control surface water flow on site during construction and operation. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be prevented, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 18969 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
18250	Killeenlea, Ardrass Lower & Killadoon, Celbridge, Co. Kildare	A 10 year permission (to construct development) for a solar farm comprising: the installation of photovoltaic panels on ground mounted frames in rows on a site of C.47.44 hectares, a single storey onsite 38kV substation with compound, with 2 no single storey storage containers, 25 no. invertor stations , ducting & underground electrical cabling, perimeter fencing, 23.no mounted	Granted	12/01/2019	Yes	This proposal lies significantly distant from the Project (14.72km NE) overland, separated from the proposed development by the town of Naas, Sallins, multiple regional roadways and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 18250 possesses no pathways for likely significant effects to occur on any European Site within the zone of

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
		CCTV Cameras, provision of a new access from the L5066/Killadoon Road, provision of internal access tracks, and all associated site development and landscaping works				interest of the Herbata Project and have been assessed as part of this report. Its AA screening concluded that no activities or potential pollutant release into the water column occurring due to the applications operation or construction possess the potential to cause an adverse effect on any European Site. Mitigation measures will be implemented as part of conditions 8 and 9 of Application 18250. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 18250 possesses no pathways, even in the absence of mitigation to have adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
12577	Bord na Mona, Main Street, Newbridge, Co. Kildare.	Construction of a new I.T. data centre building, concrete slab to facilitate a 550 Kva back-up generator and a concrete fuel storage bund to hold a 3000L fuel tank	Granted	03/09/2012	No	This proposal lies significantly distant from the Project (7.47km SW) overland, separated from the proposed development by the town of Newbridge, multiple regional roadways and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 12577 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest that have been assessed as part of this report as no hydrological connectivity pathways are present. No Appropriate Assessment Screening report was completed for this application as it only involves the construction of a data centre building within the existing urban environment of

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
						Newbridge. No pathways for adverse impacts are expected on any European Sites due to Application 12577. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 18250 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
18247	Porterstown and Kilteel Lower, Kill, Co. Kildare	Development of a grid system services facility within a total site area of up to 1.95 hectares, to include 1no. TSO compound including 1no. single storey TSO electrical substation building and 1no. single storey customer substation, 1no. customer switchgear, electrical inverter /transformer station modules, containerised battery storage modules on concrete support structures, heating, ventilation and air conditioning units (HVAC units), access tracks and upgraded site entrance, associated electrical cabling and ducting, security gates, perimeter security fencing, CCTV security monitoring system, culverts and landscaping works and all associated ancillary infrastructure	Granted	11/06/2018	Yes	This proposal lies significantly distant from the Project (11.9km E) overland, separated from the proposed development by the town of Naas, Johnstown and Kill, multiple regional roadways and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 18247 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project and have been assessed as part of this report. Its AA screening concluded that no activities or potential pollutant release into the water column occurring due to the applications operation or construction possess the potential to cause an adverse effect on any European Site. No conditions regarding protecting European sites have been required as part of Application 18247.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
						Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be averted, which will in turn prevent adverse impacts on the downstream Dublin Bay European Sites. As Application 18247 possesses no pathways, even in the absence of mitigation to have adverse effects on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
20745	Porterstown, Kill, Co. Kildare.	The development of a new electrical substation and additional equipment in the existing ESB Kilteel 110kV Substation to facilitate the connection of the Porterstown Battery Storage Facility (Planning Ref 18/247) The total site area is 1.2 hectares. The new electrical substation will include 1 control building (GRP Containerised Substation), a 110kV transformer, surge arresters, instrument transformers, a 110kV busbar connecting to the ESB substation, a lightning mast and other electrical equipment to be installed on concrete support structures. Additional features will include palisade fencing, security gates, access tracks, external lighting, drainage, associated electrical cabling and ducting, CCTV security monitoring system, landscaping and all associated ancillary infrastructure. The additional equipment to be installed in the ESB substation to facilitate the connection of the new substation will include a 110kV busbar extension, a	Granted	05/10/2020	Yes	This proposal lies significantly distant from the Project (10km E) overland, separated from the proposed development by the town of Naas, Johnstown and Kill, multiple regional roadways (M7) and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed project or any other nearby plans or projects. Application 20745 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project and have been assessed as part of this report. Its AA screening concluded that there would be no risk of adverse significant effects on the conservation objectives of any scoped in European site due to the applications operation or construction possess. No conditions regarding protecting European sites have been required as part of Application 20745. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
		110kV transformer bay, a 110kV coupler bay, a 110kV busbar connecting to the new substation, an interface kiosk, palisade fencing, a lightning mast and all associated ancillary infrastructure required for the connection				averted, which will in turn prevent adverse effects on the downstream Dublin Bay European Sites. As Application 20745 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.
PL09.310841	Dunnstown, Co. Kildare	A 10 year planning permission for the construction of: 1. An enclosed battery energy storage system compound on c. 4.089 ha with 76 no. battery storage units (each with associated containerised step-up transformer), 1 no. containerised control room and 1 no. containerised switch room, 1 no. containerised switchgear unit and CCTV cameras; 2. new site entrance off the L6044 and site access road; 3. site access road extension to a proposed substation site (proposed substation currently subject of a Strategic Infrastructure Development Pre-Application Consultation with An Bord Pleanála); and 4. all associated ancillary development works. The operational lifespan of the battery energy storage system will be 35 years.	Granted with Conditions after Appeal	30/09/2022	Yes	This proposal lies significantly distant from the Project (8.0km S) overland, separated from the proposed development by the town of Naas, Johnstown and Kill, multiple regional roadways (M7) and large areas of agricultural land. This substantial spatial separation negates the possibility of aerial noise and disturbance, underwater noise and vibration and direct habitat loss impacts in-combination with the proposed Herbata project or any other nearby plans or projects. Application PL09.310841 possesses no pathways for likely significant effects to occur on any European Site within the zone of interest of the Herbata Project. Its AA screening concluded that there would be no risk of likely significant effects on the conservation objectives of any scoped in European Site assessed in the stage 1 report. The application possessed no hydrological connectivity with any nearby watercourse. No conditions regarding protecting European sites have been required as part of Application PL09.310841. Following the implementation of the best practice pollution mitigation outlined in section 4.5 Mitigation Measures of this report, any potential pollution of the Bluebell Stream will be prevented, which will in turn prevent adverse impacts on the downstream Dublin Bay European Sites.

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
						As Application PL09.310841 possesses no pathways, even in the absence of mitigation to have significant adverse impacts on the Dublin Bay sites, and the proposed data centre project will robustly mitigate any potential adverse effect pathways, we expect that there will be no adverse effects either in-combination or alone on the water column and in turn the European Sites assessed in this report.

4.4.1.5 Conclusion of In-combination Assessment

As set out in section 4.4.1.1 *et seq.* and **Table 4..3** above, the in-combination effects assessment has concluded that there is no pathway for likely significant effects to occur on any European sites from the construction or operation of the Project in combination with any other plans or projects, either (i) on a pairwise basis taking the GNI Connection Works, Kildare County Council LDP, National Planning Framework 2040 and each of the developments identified in Table 4.3, in combination with the Project, or (ii) cumulatively considering the GNI Connection Works, Kildare County Council LDP, National Planning Framework 2040 and all of the developments identified in Table 4.3 taken together with the Project

4.5 Mitigation Measures

As set out in section 4.2 above, in the absence of mitigation, the construction of some elements of the Project has the potential to result in diminution of water quality which could prevent or delay achieving the conservation objectives for habitats and associated species in the Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA.

This section presents the mitigation measures that will be implemented during the Construction and Operational phases of the Project to avoid or reduce the potential impacts of the Project on Dublin Bay SAC, the North Bull Island SPA, the South Dublin Bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA. All the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment. Mitigation measures and associated Management Plans are included within the Updated Construction Environmental Management Plan (CEMP) provided in Appendix A, all of which shall be implemented during the construction phase of the Project.

The Updated CEMP has been prepared and is included as Appendix A to this NIS. The Updated CEMP will be updated and finalised prior to the commencement of the construction phase, to include any additional measures required pursuant to conditions attached to any decision to grant planning permission. The Updated CEMP has regard to the following recognised international guidelines:

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA, 2001);
- Control of Water Pollution from construction sites, Guidance for consultants and contractors (C532);
- Environmental Good Practice on Site (3rd edition) (C692); and
- Guidelines on Protection of Fisheries During Construction Works and Adjacent to Waters (2016).

Additionally, as set out the Updated CEMP, works will demonstrate adherence to good working practices as detailed in current Guidance for Pollution Prevention documents (as detailed in Section 1.1 of the Updated CEMP).

4.5.1.1 Open-Cut Methodology

The following mitigation measures as set out in the Updated CEMP will be implemented to prevent sediments and contaminants escaping the proposed project and causing diminution of water quality and habitat deterioration on the downstream European Sites during construction works within the Bluebell Stream.
The following represents a standard methodology for open-cut works within streams.

The Bluebell River will be dammed upstream of where the proposed construction works will occur.

1. Silt traps will be placed downstream of the proposed construction works to minimise silt loss.
2. The dam will be constructed using sand bags/other suitable materials
3. A sump pump will be installed to ensure water continues to flow downriver, matching the existing water flow-rate.
4. A pre-cast concrete culvert will be installed to create the proposed river crossing points.

The river bed will be reinstated following ecological supervision with original or similar bed material once construction has been completed.

4.5.1.2 Water Pollution Prevention Measures

The following mitigation measures as set out in the Updated CEMP will be implemented to prevent pollutants entering the Bluebell Stream and reaching the North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA.

- Appropriate sediment control measures in line with guidance provided in Guidance for Pollution prevention (GPP) documents and CIRIA guidelines will be installed to ensure silt laden or contaminated surface runoff from the compound does not discharge directly to a water body.
  - Control of water pollution from construction sites. Guidance for consultants and contractors (C532)
  - Control of water pollution from linear construction projects. Technical guidance (C648)
  - Guidance for Pollution Prevention (GPP) documents
- All contractors will undertake toolbox talks and water quality awareness training
- All mobile plant & equipment will have drip trays installed underneath.
- All oils and diesels will be stored on drip trays (including when in vans).
- All Plant & equipment will be located as far away as possible from drains.
- Refuelling will not take place near drains. Refuelling will take place at a designated area on impermeable surface and will not be left unsupervised
- Plant, equipment & vehicles will be checked for leaks on a regular basis, and at least twice daily if working in or near waterways.
- If small plant has the potential to leak or is leaking, effected vehicle will be stood on a drip tray.
- All leaking plant material will be reported to the site supervisor.
- Any leaking or damaged plant material will be removed from the site for maintenance.
- Underground services will be checked for to prevent accidental damage to these lines during excavation.
- No silt-laden water will be pumped into any watercourse
- Do not disturb water in excavations to prevent stirring up silt.

  - The lowest corner of the excavation will be used as a sump pump. The pump will be positioned off the bottom of the excavation.
- Absorbent pads will be utilised to remove any light contamination from oil or fuel spills.
- When disposing of silt laden water from pumping out excavations/ dewatering:
  - Water will be pumped via a settlement tank/ lagoon (with sufficient retention time to settle any silt)
  - With landowner permission, silt laden water will be pumped onto grasslands / fields.
  - For small quantities of water in excavations – pump onto grassland with the landowners' permission provided there is no potential from preferential flow paths and overland flow to the aquatic environment.
  - The pump will be monitored to prevent scouring and generation of suspended solids.
  - Permission will be obtained from relevant body discharge to surface watercourse/ surface water drain if this is required.
- Watercourse banks will be left intact to prevent soils from entering the watercourse.
- Silt fences or other suitable measures will be installed where the working area encroaches within 10m of a watercourse (except for dedicated water course crossing points) and the local topography indicates there is potential for run-off to directly enter the watercourse. Silt fences will be monitored and maintained to ensure that they are working effectively.
- All plant material and equipment will maintain a 10m buffer from all watercourses
- Excess material stockpiles will be managed to prevent siltation of water bodies through run-off and overland flow during rainfall events.
- Where the soil stockpiles represent a particular risk of runoff an interception ditch(cut-off) or silt fencing will be deployed to contain and direct run-off to a treatment area will be provided.
- Refuelling will not occur within 10m of a watercourse without the prior agreement of the Environmental Protection Agency
- A containment boom will be placed across the watercourse directly downstream of where instream works are occurring to catch any potential oil or fuel spills.
- A wash-out area will be designated for plant material at a minimum 10m distance from the watercourse.

4.5.1.3 Spill response plans and pollution control measures

The following mitigation measures as set out in the Updated CEMP will be implemented to minimise the potential for likely significant adverse impacts on any downstream European sites relating to diminution of water quality and habitat degradation.

- All staff will have access to a spill kit during works. The following spill kit procedure will be followed if contaminants enter a watercourse.
  - The appropriate spill kit will be deployed immediately, and the site manager will be informed.
  - The incident will be recorded within the site logbook; and in the event of contaminants being discharged directly to water courses, or in the event of significant spillage (exceeding 10 litres), the Environment Protection Agency (EPA) will be contacted.

- A spill kit will contain the following equipment: Pillows, Buckets, Mats, PPE (Gloves, Masks, Goggles), Granular absorbent material and Boom socks.
- Spill kits will be regularly inspected and immediately replaced if used.
- Toolbox talks will be communicated to Site staff and contractors so that they are fully informed of refuelling procedures.

4.5.1.4 Storage of fuels and hazardous materials

The following mitigation measures as set out in the Updated CEMP will be implemented to will be implemented to minimise the potential for likely significant adverse impacts on any downstream European sites relating to diminution of water quality and habitat degradation due to the accidental spillage of fuels and hazardous materials.

- Specific areas will be designated for oil storage and refuelling, providing bunds sized to contain 110% of fuel storage capacity.
- The contractor will use fill point drip trays, bunded pallets and secondary containment units.
- The site will be enclosed and secured, and fuel storage areas will be secondarily secured.
- All fuel, oil and chemical deliveries will be supervised by a responsible person who will be trained to deal with any spillage to prevent a pollution problem occurring.
- Storage of Control of Substances Hazardous to Health (COSHH) items is not permitted and such items will only be brought to site as required, fuel is provided from an existing bunded static supply, where small portable machines are to be fuelled up a drip tray is used.

4.5.1.5 Surface water Protection Measures

The following mitigation measures as set out in the Updated CEMP will be implemented to minimise the potential for likely significant adverse impacts on any downstream European sites relating to diminution of water quality and habitat degradation due to the contaminants carried via surface water flow.

- Any containers of contaminating substances on site will be leak proof and kept in a safe and secure building or compound from which they cannot leak, spill or be open to vandalism.
- Vehicles will not be left unattended during refuelling
- The site will be enclosed and secured, and fuel storage areas will be secondarily secured.
- Only construction equipment and vehicles free of oil/fuel leaks which could cause contamination will be permitted on site.
- There will be regular inspections of machinery on site.

4.5.1.6 Operational Foul Wastewater Storage and Removal

The following mitigation measures will be implemented during the operational phase to minimise the potential for likely significant adverse impacts on any downstream European sites relating to diminution of water quality and habitat degradation due to overflow of sewage into the Bluebell stream.

- Foul wastewater will be piped and discharged into the existing Irish Water foul sewer system.

- Each Data Centre building will be serviced by its own foul water drainage system which transports wastewater to one of two onsite pumping stations
- Each station will have capacity to accommodate wastewater generated by sprinkler discharge by a Data Centre building (440m2)
- This is sufficient storage for 24hr storage of domestic wastewater generation.

4.5.1.7 Operational Storm Water Run-off

The following mitigation measures will be implemented during the operational phase to minimise the potential for likely significant adverse impacts on any downstream European sites relating to diminution of water quality and habitat degradation due to the increased flow of surface water into the Bluebell stream.

- Sustainable drainage systems have been incorporated into the design of the Project including:
  - Bypass separators on the piped storm water network
  - Green roofing
  - Permeable pavements
  - Rain gardens
  - Attenuation tanks
  - Bioretention pods
  - Grassed and open space landscape areas on site.

4.5.2 Residual Impacts

With the effective implementation of appropriate mitigation measures identified in this NIS as set out above, the Project poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the QIs and SCIs of North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA, and there are therefore, no residual direct or indirect impacts associated with the Project that could adversely affect the integrity of North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA.

4.6 NIS Conclusion

This NIS has examined and analysed, in light of the best scientific knowledge, with respect to those European sites within the zone of influence of the Project (determined via the source-pathway-receptor model), the manner in which the Project could potentially impact on the European sites' qualifying interest habitats and species and special conservation interest species and whether the predicted impacts would adversely affect the integrity of the North Dublin Bay SAC, the North Bull Island SPA, the South Dublin bay SAC, the South Dublin and River Tolka Estuary SPA and the North-West Irish Sea cSPA. These sites have been identified as being within the Zone of Influence of the Project following the source-pathway-receptor model. The possibility of likely significant effects on any other European site can be excluded.

With the effective implementation of the mitigation measures set out in Section 4.4 Mitigation Measures above (all of which are contained within the Updated CEMP (Document Number: 10360452-HDR-XX-XX-RP-T-000001, included at Appendix A to this NIS), , there will be no adverse effects on any of the qualifying interest or special conservation interest habitats and species of North Dublin Bay SAC, North Bull Island SPA, South Dublin Bay SAC, South Dublin & River Tolka Estuary SPA and the North-West Irish Sea cSPA.

It has been objectively concluded by RPS following an examination, analysis and evaluation of all relevant information, including in particular the nature of the predicted impacts from the Project and the effective implementation of the mitigation measures proposed, that the Project will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects and there is no reasonable scientific doubt in relation to this conclusion.

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APPENDICES