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Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for Proposed Amendments to Development Permitted under ABP-310567, as amended by Planning Permission LRD6042/23.

18th February 2025

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Ruirside Developments Limited.

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Project	Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for Proposed Amendments to development permitted under ABP-310567, as amended by planning permission LRD6042/23.		
Report	Appropriate Assessment Screening & Natura Impact Statement		
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Introduction

The following Appropriate Assessment (AA) (Screening Stage) has been prepared by Altemar Ltd. at the request of Ruirside Developments Limited for proposed amendments to development permitted under ABP-310567, as amended by Planning Permission LRD6042/23.

An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan, on its own, or in combination with other plans or projects, on one or more Natura 2000 sites. Natura 2000 sites are those sites designated as Special Areas of Conservation (SAC) or Special Protection Areas (SPA).

The AA Screening stage examines the likely significant effects of a plan or project, either on its own, or in combination with other plans and projects, upon a Natura 2000 site and considers whether, on the basis of objective scientific evidence, it can be concluded that there are not likely to be significant effects on any European site, in view of best scientific knowledge and the conservation objectives of the relevant European sites.

The Natura Impact Statement examines whether the plan or project, either alone, or in combination with other plans and projects, in the view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European sites.

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments. Bryan Deegan, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 30 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all elements of this Appropriate Assessment Screening.

Background to the Appropriate Assessment

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/1477/EC)) forms the cornerstone of Europe's nature conservation policy. The Habitats Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Habitats Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive, Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [NATURA 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the component 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."

As outlined in "Managing European sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" (European Commission, 21 November 2018) *"The purpose of the appropriate assessment is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans or projects. 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."*

As outlined in the EC guidance document on Article 6(4) (January 2007)[1]:

"Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field.

Assessment procedures of plans or projects likely to affect European sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity. Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that:

- *Article 6(3) assessment results allow full traceability of the decisions eventually made, including the selection of alternatives and any imperative reasons of overriding public interest.*
- *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. The information required should be updated and could include the following issues:*
    - *Structure and function, and the respective role of the site's ecological assets;*
    - *Area, representativity and conservation status of the priority and nonpriority habitats in the site;*
    - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of the Birds Directive present in the site;*
    - *Role of the site within the biographical region and in the coherence of the European network; and,*
    - *Any other ecological assets and functions identified in the site.*
- *It should include a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*
- *The assessment under Article 6(3) applies the best available techniques and methods, to estimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
- *The assessment provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the European assets which must also be useful to monitor the plan or project implementation."*

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

Stages of the Appropriate Assessment

This Appropriate Assessment screening and Natura Impact Statement was undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001), Part XAB of the Planning and Development Act 2000, as amended, in addition to the December 2009 publication from the Department of Environment, Heritage and Local Government; 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities' and the European Communities (Birds and Natural Habitats) Regulations 2011. In order to comply with the above Guidelines and legislation, the Appropriate Assessment process has been structured as follows:

1) Screening stage:
   - Description of plan or project, and local site or plan area characteristics;
   - Identification of relevant European sites, and compilation of information on their qualifying interests and conservation objectives
   - Identification and description of individual in combination effects likely to result from the proposed project;
   - Assessment of the likely significance of the effects identified above. Exclusion of sites where it can be objectively concluded that there will be no likely significant effects; and,
     Conclusions
2) Appropriate Assessment (Natura Impact Statement):
   - Description of the European sites that will be considered further;
   - Identification and description of potential adverse impacts on the conservation objectives of these sites likely to occur from the project or plan; and,
   - Mitigation Measures that will be implemented to avoid, reduce or remedy any such potential adverse impacts
   - Assessment as to whether, following the implementation of the proposed mitigation measures, it can be concluded, beyond all reasonable scientific doubt, that there will be no adverse impact on the integrity of the relevant European Site in light of its conservation objectives"
   - Conclusions.

If it can be demonstrated during the AA screening phase (Stage 1), that the proposed project will not have a significant effect, whether alone or in combination with other plans or projects, on the conservation objectives of a Natura 2000 site, then no further AA (Stage 2) will be required. It is important to note that there is a requirement to apply a precautionary approach to AA screening. Therefore, where effects are possible, certain or unknown at the screening stage, AA will be required.

In addition, it should be noted that Article 6(3) of the Habitats Directive must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an AA of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

Stage 1 Screening Assessment

Management of the Site

The plan or project is not directly connected with, or necessary to the management of European sites.

Project Description

The proposed development broadly seeks to amend the consented scheme (permitted under ABP-310567-21, as amended by LRD6042/23), to expand the footprint and façade of Block A to accommodate a 2nd fire core. As a result of the expanded footprint, Block B2 has been reconfigured to provide 8no. new 'Build-to-Sell' apartments (1no. unit per floor) and 1no. 2-bedroom apartment in place of a 1-bedroom unit at the interface of Block A and Block B2 (increases to 48no. units total). It is also proposed to provide 26no. 2-bed 3-person units in lieu of 26no. studio apartments in Block A. Overall, the amendments result in the combined number of apartments increasing from 238no. units to 246no. units in Block A and Block B2.

This application relates to Block A and Block B2. These blocks range in height from 10 to 29 storeys and include: 246no. apartments comprising 28no. Studio apartments, 118no. 1-bed apartments, 99no. 2-bed apartments and 1no. 3-bed apartment. The blocks remain largely as per the previously consented development, with amendments in B2 of an additional 8no. units made to comply with Dublin City Council Development Pan 2022-2028 and latest Apartment Design Guidelines, March 2023. The proposed development, for the purposes of this report, is considered in the context of the application site in its entirety, comprising the proposed development (i.e. revised Blocks A & B2) and the same associated demolition, conservation, site works, landscape and boundary works, and development granted for the "new" Block B1/C Scheme- LRD6074/24-S3. It is further considered in the context of ABP Ref. 310567-21 as amended by DCC Reg. Ref. LRD6042/23 (Block A and B2). This will collectively be referred to as "the development".

For avoidance of doubt, while the red line site boundary ('site outline') is drawn around the entire planning unit of LRD6074/24-S3 & 310567- 21, the development works for which permission is expressly sought are identified with a green dashed line ('application extents'), within the wider red line planning unit.

The overall site (c.0.82 ha) is principally bounded by Parkgate Street to the north, the River Liffey to the south, an existing electricity substation and the junction of Sean Heuston Bridge and Parkgate Street to the east, existing Parkgate Place office and residential development to the west. The application site includes areas of public footpath and roadway on Parkgate Street and a small, landscaped area at the junction of Sean Heuston Bridge and Parkgate Street.

The site outline, site location, site layout plan and architectural elevations are shown in Figures 1-4.

Landscape

The landscape strategy for the proposed development has been prepared by Mitchell & Associates. The landscape masterplan is shown in Figure 5.

Construction Environment Management Plan

ARUP has submitted a CEMP with the parent permission under ABP-310567-21 for the purposes of this development. The construction strategy is as follows:

'Demolition of the existing structures

A detailed demolition plan will be developed in due course by the appointed specialist demolition contractor which will take account of any particular requirements of the planning permission. Detailed proposals will depend on the expertise and plant available to the demolition specialists selected to undertake the demolition and will be set out in the Demolition Specification during the project delivery phase. It is envisaged that existing structures will be demolished in the reverse order from how they were constructed. Following a soft strip of the building comprising removal of finishes, electrical fittings, wiring, mechanical plant, fixtures, fittings, etc., the structural frame will be demolished. All substructures and foundations will be grubbed up to an approximate depth of 1.8m below existing ground level. Underground tanks and other buried structures shall be removed in advance of piling mat construction.

Phase 2- Piling and Groundworks

Piling Mat

The piling mat will be formed at existing site levels and will comprise of a combination of imported granular material and site-won crushed concrete and rock material. The piling specialist shall clearly delineate the areas of pile mat constructed in the different sourced materials to enable appropriate removal in future. Prior to construction of the pile mat, the formation shall be prepared, and a separation geotextile membrane installed. The pile mat material shall be appropriately compacted in layers in accordance with the Piling Specialist requirements.

Piling

The foundations are envisaged to be continuous flight auger (CFA) piles to Buildings B and C, and bored rock socketed piles to Building A. The piles shall support reinforced concrete pile caps and piled rafts under the stability cores. It is anticipated that the respective piling rig shall install piles from a pile mat datum close to existing ground level. Arisings from the pile installation shall be appropriately disposed off-site to a licensed facility. A temporary retention structure is required in the vicinity of the existing Protected Arch to facilitate the bulk excavation of the basement. This will comprise of either sheet piles or king-post construction and will be monitored for movement throughout the substructure works. The retention structure shall be removed upon achievement of the appropriate concrete strength in the ground floor slab construction. Subsequent to the bulk excavation of the basement, the constructed piles in this area will be broken down to proposed foundation datum level using an excavator with hydraulic breaker attachment.

Groundworks

The outline Construction Waste Management Plan (CWMP) contains more detailed information regarding the minimising of stockpiling of excavated material on site. Excavated material generated by the construction works shall be appropriately assessed for possible re-use on site, where possible, through various accommodation works. Surplus material will be immediately removed from site. The groundworks external to the buildings will comprise installation of precast retaining walls along the existing River Liffey boundary to facilitate build-up of ground to proposed finished levels.

Dewatering

Dewatering may be required for local excavations, such as pile cap or lift pit locations. Any local dewatering is to be discharged to the River Liffey by agreement with the Local Authority and will include necessary treatment as required, such as silt traps and settlement tanks. Alternatively, dewatering may be reinjected to the subsurface through a number of wells or injection points across the site. Similar treatment measures will be adopted prior to reinjection. Local dewatering is likely to be necessary for only a portion of the construction programme, approximately 20 weeks.

Surface Water Run-Off

Existing surface water drainage on the site discharges to the River Liffey. It is envisaged that one of the existing surface water discharge points shall be maintained for the duration of the works, subject to Local Authority agreement. All other existing surface water discharge points to the River Liffey shall be decommissioned. Appropriate settlement tanks and silt traps shall be incorporated to capture any excess silt in the run-off. Refer to ***Section 10.1.9*** *for further detail on surface water management measures. The Contractor shall employ measures to ensure surface water run-off from Parkgate Street does not enter the site.*

Phase 3- Main Construction Works

3.2.1 Substructure

The substructure generally consists of a reinforced concrete slab supported on reinforced concrete pile-caps. The stability core walls are supported on reinforced concrete piled raft foundations. The pile-caps and piled rafts for works at grade will be shuttered with formwork and the concrete cast. Upon removal of the formwork, the areas between the foundations will be built-up with site-won material. In the basement area, the bulk dig datum will be the formation level of the foundations. This will mean the method of constructing the pile-caps and piled rafts in the basement will be similar to that at grade. There will be an open dig to the basement area, with localised retention works at existing structures. The rising perimeter walls will be constructed with two-sided shutters, propped in position, and supported off the basement slab.

Superstructure

The superstructure of Building A is cast in-situ concrete. The stability core walls will be constructed by jump-formwork technique. Columns and slabs will be conventional reinforced concrete flat slab construction. The proposed external envelope comprises either prefabricated or precast panels, hence most of the fabrication will occur off-site at supplier premises.

The superstructures of Buildings B and C are in-situ concrete up to and including Level 1. Thereafter, the superstructure is precast concrete. The proposed façade comprises lightweight cold form steel sections to the inner leaf façade, with the external leaf constructed in masonry and supported from relieving angles and lintels. Scaffolding around the building exterior shall be necessary for construction of the masonry outer leaf and will remain in place until completion of the façade. Prefabricated balcony structures shall be lifted into position and fixed into cast-in connection points. The precast elements are large components and require substantial vehicle movement on site for deliveries. Vehicles will be standard multi-axle flat back trucks delivering less than 40 tonnes each trip and typical for a building of this scale. There will be in-situ concrete work requiring regular deliveries of premixed concrete and formwork materials. The construction works will require the use of tower cranes on site. The cranes will be required for the moving of building materials on site, such as formwork for concrete, reinforcement, precast concrete, steelwork, façade, plant, and general building materials. The use of mobile cranes may be adopted to assist in the installation of the façade and plant.

Duration and Sequencing

It is envisaged that construction of the proposed development will take approximately 34 months. Phase 1 and phase 2 will run concurrently and are expected to take approximately 4 months. Phase 3 as the main construction works will take approximately 30 months. All construction works will be carried out during day time hours (Refer to ***Section 6.6****). The Main Contractor(s), once appointed, will ultimately be responsible for the sequencing and implementation of the works in a safe and secure manner, and in accordance with all statutory requirements and the mitigation measures proposed in the EIAR.*

The main stages of construction will proceed in a general sequence as follows:

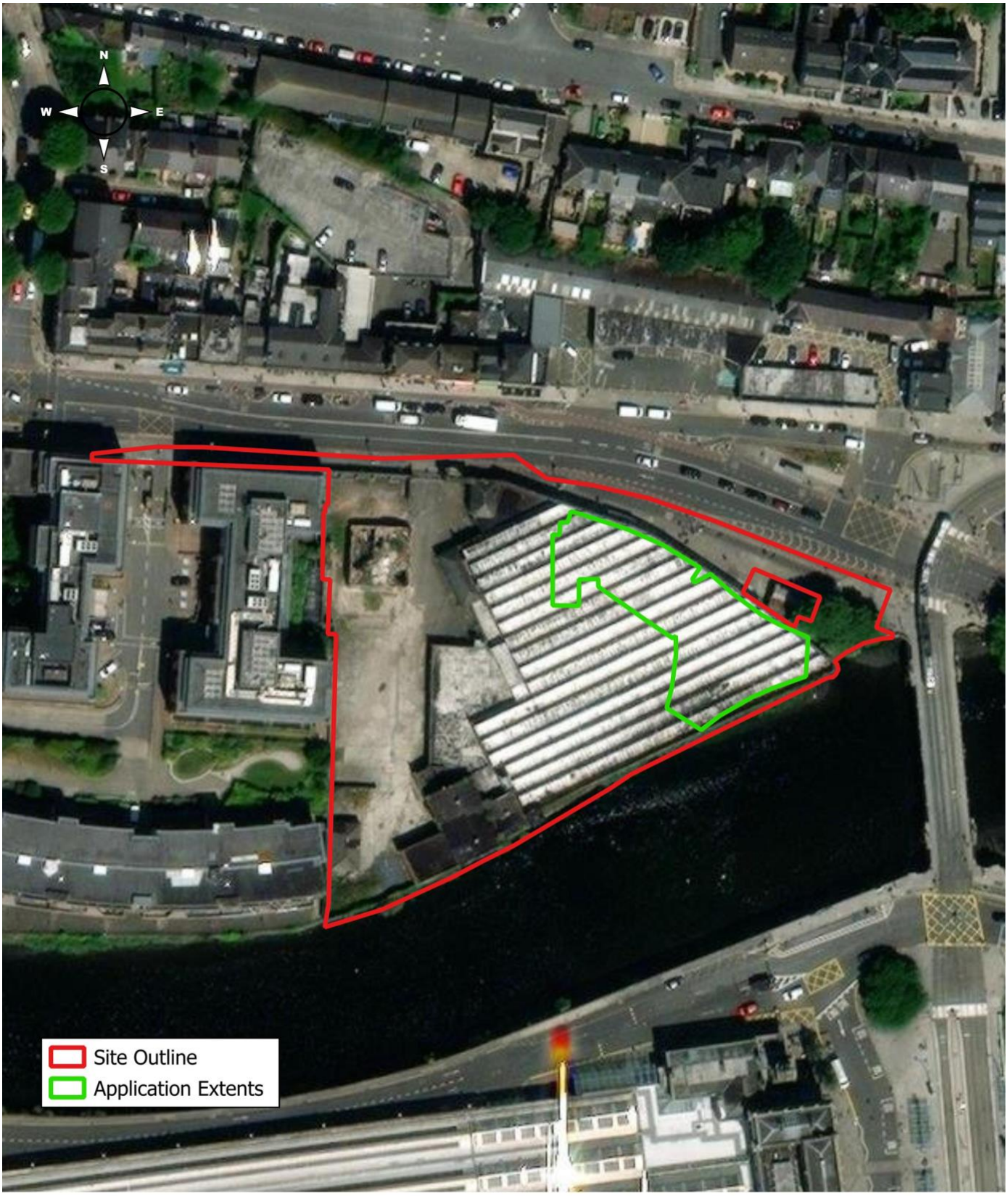
- *Phase 1: Enabling Works and Demolition*
- *Phase 2: Piling and Groundworks*
- *Phase 3: Main Construction Works'*

As noted in a memorandum by ARUP concerning this development:

'We confirm there is no proposed changes to the CEMP granted under ABP Ref. ABP-310567-21.'

Summary of the Works

As can be seen from the information provided above, the works involve the demolition of existing structures on site, excavation of basement levels and the construction of a new development on site. Based on the information outlined in the Construction and Environmental Management Plan and the supporting information in the accompanying Drainage Report, the nature of construction including demolition and deep excavation works proximate to the River Liffey which is a direct pathway to Natura 2000 sites at Dublin Bay, a robust approach to Appropriate Assessment is required. The proposed project will require a robust series of mitigation measures to prevent impacts on the River Liffey and significant effects on downstream Natura 2000 sites.



Project: Blocks A and B2
Location: Parkgate Street, Dublin 8
Date: 14th February 2025
By: Jeff Boyle (Altemar)

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Figure 1. *Site outline*

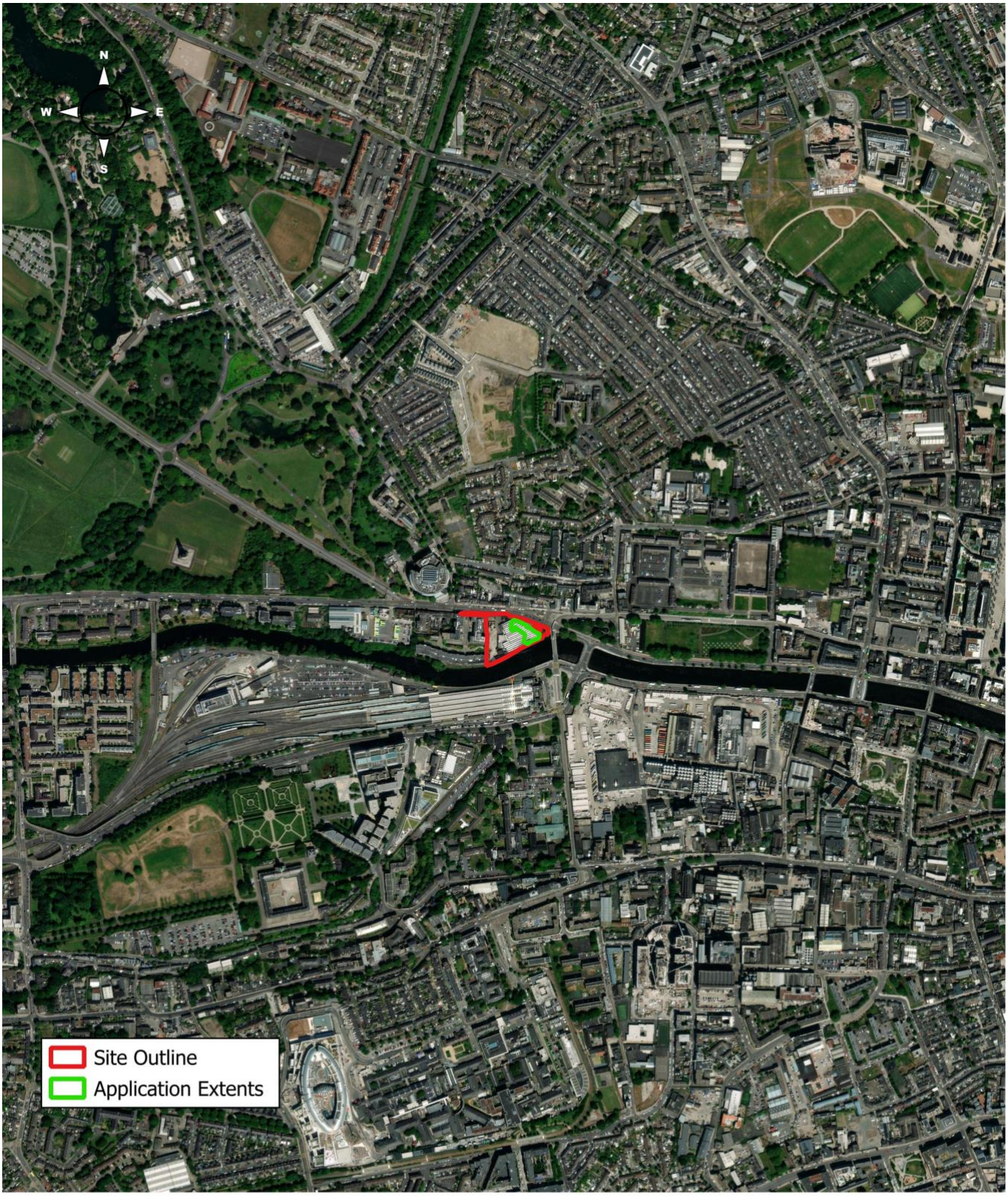

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Figure 2. *Site location*

Figure 3. *Proposed site layout plan*

Figure 4. *Proposed contiguous elevations*

Figure 5. *Proposed landscape plan*

Drainage

A Drainage and Watermain Planning Report has been prepared by ARUP for the proposed development. It outlines the following drainage strategy:

'Existing Drainage Systems

The existing drainage systems on the site are mainly separate with the surface water system discharging unrestricted into the River Liffey and the foul system into the existing sewerage network on Parkgate Street.

There is an existing 450mm combined sewer on Parkgate Street discharging in an easterly direction into a 750mm combined sewer on Wolfe Tone Quay, which eventually discharges into the Municipal Wastewater

Treatment Plant at Ringsend. Approximately 6% of the existing roof area of the site discharges to the existing sewer on Parkgate Street. Refer to Arup drawing PGATE-ARUP-ZZ-00-DR-CD-0001 in Appendix A and Appendix C for a copy of the existing drainage and sewerage systems in the vicinity.

Proposed Drainage

Drainage from the development will be drained on a completely separate system, with separate foul and surface water drains connecting to the receiving systems on Parkgate Street and the River Liffey respectively.

Sustainable drainage systems will be incorporated into the design with surface water run-off from the development discharging through a minimum of a two-stage treatment train process prior to discharge by gravity to the River Liffey.

Foul drainage from the development will discharge by gravity to the existing 450mm foul sewer on Parkgate Street.

The drainage systems shall be designed in accordance with Part H of the Building Regulations, EN 752: Drain and Sewer Systems outside Buildings, The Greater Dublin Regional Code of Practice for Drainage Works, Uisce Éireann's Code of Practice for Water and Wastewater and to DCC Drainage Division and Uisce Éireann requirements.

Proposed Foul Drainage

Foul drainage from the development shall be drained by a separate system to that of the surface water drainage system. Foul drainage from the new development shall drain by gravity and discharge to the existing 450mm sewer on the Parkgate Street. See Arup drainage drawings PGATE-ARUP-ZZ-00-DR-CD- 0002 and PGATE-ARUP-ZZ-00-DR-CD-0003 in Appendix A, consented under An Board Pleanála ref. 306569-20.

Foul drainage from basement level within Blocks B and C (which is part of the consented scheme) shall drain by gravity to a central pumping chamber and be pumped via a rising main to an external foul manhole prior to discharge by gravity to the existing 450mm foul sewer on Parkgate Street. Incidental run-off from the basement car park will discharge through a Class 2 full retention petrol interceptor before discharge via a pump chamber and rising main to the external foul gravity drainage system. Foul outfall manholes will be constructed to Uisce Éireann's Code of Practice.

Three new foul connections will be required to the existing sewerage system on Parkgate Street in agreement with Uisce Éireann.

As noted in a memorandum by ARUP concerning this development:

'We confirm that the proposed planning amendments will have no material change to the surface water drainage design permitted under ABP Ref. ABP-310567-21'.

Proposed Surface Water Drainage

Surface water run-off from the development shall drain by gravity and discharge to the River Liffey. Sustainable drainage systems will be incorporated into the development and will include greenroofs, raingardens, filter strips, filter drains, rainwater harvesting for irrigation purposes and surface water treatment systems. Surface water run-off will go through a minimum of two-stage treatment prior to discharge by gravity to the River Liffey. The proposed SuDS measures will reduce the quantity and improve the quality of water discharging into the receiving system, see Section 3.3 below.

Run-off from roofs and paved areas will discharge unrestricted to the River Liffey above the 1 in 200-year tidal event plus 20% climate change of 3.82m OD. A non-return valve will be located at the outfall headwall in agreement with DCC Drainage Division.'

Figure 6 shows the permitted drainage strategy for the site.

Flood Risk Assessment

A site-specific flood risk assessment was undertaken by ARUP. It concluded with the following:

'This FRA reviews the risk of flooding for a proposed mixed-use development at Parkgate Street in Dublin 8. This FRA is to form part of the planning application for the development.

There is no record historical flooding at the site.

While the site borders the River Liffey, flood risk to the site is low and existing ground levels are above the maximum 1% AEP fluvial water level and the 0.5% AEP tidal level. The risk of groundwater flooding is also low.

There is a risk of pluvial flooding at the site. This risk will be managed through grading of paved surfaces to direct surface water to the drainage system, and provision of drainage channels across entrance points to collect surface water. Further mitigation actions will be taken to remove part of the surface runoff from the combined sewer on Parkgate Street and relieve the drainage system in the area, reducing the risk of pluvial flooding in the vicinity of the site.

The minimum site flood defence level of the proposed development including an allowance for climate change and freeboard is 4.07mOD.

Flood risk to the buildings on site will be managed by raising ground levels to between 5.25mOD..

Access and egress routes will not be compromised during a flood event with the exception of the route to the internal river walk next to the River Liffey. This is not a primary access and egress route for the proposed development and the entrance/exit point to the building itself will be above the minimum site flood defence level.

The proposed development will also not impact on floodplain storage or conveyance. As a small area of the existing site is within the 0.1% AEP tidal flood extent. The site is therefore classified as Flood Zone B and a Justification Test is required. Both the Plan Making and Development Management Justification elements of the Justification test have been assessed and both are deemed to be passed as part of this FRA.'

Figure 6. *Permitted drainage and watermain layout*

Identification of Relevant European Sites

The proposed development site is not within a European site. As outlined in Office of the Planning Regulator (2021) "*The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source- Pathway-Receptor framework and not by arbitrary distances (such as 15 km)*."

A key factor in the consideration as to whether a particular European site is likely to be affected by the proposed development is its distance from the development location. It is generally, but not necessarily, the case that the greater the distance from the plan or project the smaller the likelihood of impacts. In this case, the nearest Natura 2000 sites to the proposed development are South Dublin Bay SAC (5.5km) and South Dublin Bay and River Tolka Estuary SPA (4.4 km) (Figure 7 & 8). The proposed development site is brownfield and is occupied by existing roof and hardstanding areas and contains a number of low-rise buildings which will be demolished. The site is directly adjacent to the River Liffey (Figure 9). Excavation of the basement is also required. During construction there is the potential for dust, construction pollutants and contaminated surface water to enter the River Liffey. Given the immediate proximity of the River Liffey to the proposed development site, it is considered that there is a direct pathway to the River Liffey during construction and therefore a direct pathway to Natura 2000 sites at Dublin Bay (South Dublin Bay SAC (5.5km), North Dublin Bay SAC (7.5km), South Dublin Bay and River Tolka Estuary SPA (4.4km), North Bull Island SPA (7.5km) and North-West Irish Sea SPA (9.5km) . In addition, surface water will be discharged to the River Liffey during the construction (dewatering and existing surface water discharge point to be retained) and operation (post SuDS) of the proposed development.

Foul water from the proposed development will be directed to the existing 450mm foul sewer on Parkgate Street where it will ultimately flow to Ringsend WwTP for treatment under licence. In the absence of mitigation, no significant effects on the qualifying interests of Natura 2000 sites are foreseen via foul water drainage.

Given the nature of the proposed excavation, demolition, construction and site clearance works directly adjacent to the River Liffey, out of an abundance of caution it is considered that the ZOI of the proposed project includes the site outline, the River Liffey and Natura 2000 sites located within Dublin Bay. In the absence of mitigation, there is the potential for dust, surface water runoff and other construction pollutants to enter the River Liffey with the potential for downstream impacts on Natura 2000 sites located within Dublin Bay, namely South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA.

In the interest of carrying out a thorough assessment in line with both the Habitats Directive, and the precautionary principle, the assessment area was expanded to include designated sites within 15km of the proposed development site, and sites beyond 15km with the potential for a hydrological connection. This was done in the interest of ensuring that any pathways, however indirect or remote, were considered. All Natura 2000 sites within 15km, and beyond 15km with the potential for a hydrological pathway are listed in Table 1. The qualifying interests, and the potential impact of the development on each European site and qualifying interest, are screened in/out in Table 2. SPA's and SAC's within 15km are seen in Figures 7 & 8. Watercourses, waterbodies, SACs and SPAs near the subject site are demonstrated in Figures 9-12.

Table 1. Proximity to designated sites of conservation importance

Site Code	NATURA 2000 Site	Distance
Special Areas of Conservation		
IE000210	South Dublin Bay SAC	5.5 km
IE000206	North Dublin Bay SAC	7.5 km
IE001209	Glenasmole Valley SAC	11 km
IE000199	Baldoyle Bay SAC	12 km
IE002122	Wicklow Mountains SAC	12.1 km
IE001398	Rye Water Valley/Carton SAC	13.1 km
IE000202	Howth Head SAC	13.3 km
IE003000	Rockabill to Dalkey Island SAC	13.5 km
IE000205	Malahide Estuary SAC	14.1 km
Special Protection Areas		
IE004024	South Dublin Bay and River Tolka Estuary SPA	4.4 km
IE004006	North Bull Island SPA	7.5 km
IE004236	North-West Irish Sea SPA	9.5 km
IE004040	Wicklow Mountains SPA	12.1 km
IE004016	Baldoyle Bay SPA	12.4 km
IE000205	Malahide Estuary SPA	14.1 km

Table 2. Initial screening of Natura 2000 sites within 15km and Natura 2000 sites further than 15km with potential of hydrological connection to the proposed development

Natura Code	Name	Screened In/Out	Details/Reason
Special Areas of Conservation			
IE0000210	South Dublin Bay SAC	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying 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] **Potential Impact** The development site is located within an urban area 5.5 km from the South Dublin Bay SAC (Figure 7). Given the nature of the proposed works, and the proximity of the subject site to the River Liffey (directly adjacent), it is considered that there is a direct hydrological pathway to this SAC. In the absence of mitigation, there is the potential for dust and surface water runoff to enter the River Liffey with the potential for downstream impacts on the qualifying interests of this SAC. Mitigation measures are required to ensure that dust and contaminated surface water runoff does not enter the River Liffey. In a strict application of the precautionary principle, it has been concluded that significant effects on the South Dublin

Natura Code	Name	Screened In/Out	Details/Reason
			Bay SAC are likely, in the absence of mitigation measures, from the proposed works primarily as a result of the direct hydrological connection to the SAC from the proposed project, which involves demolition and construction works beside the River Liffey. During construction and operation, there is also a direct hydrological pathway to this SAC via surface water drainage to the River Liffey. Mitigation measures will need to be in place to prevent silt, hazardous materials and petrochemicals entering the River Liffey, which has a direct pathway to this SAC. For these reasons (mitigation measures are required in relation surface water and a direct pathway), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives. **Significant effects are likely - Natura Impact Statement Required**
IE0000206	North Dublin Bay SAC	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying 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] Petalwort (*Petalophyllum ralfsii*) [1395] **Potential Impact** The proposed works are located within an urban area 7.5 km from North Dublin Bay SAC (Figure 7). Given the nature of the proposed works, and the proximity of the subject site to the River Liffey (directly adjacent), it is considered that there is a direct hydrological pathway to this SAC. In the absence of mitigation, there is the potential for dust and surface water runoff to enter the River Liffey with the potential for downstream impacts on the qualifying interests of this SAC. Mitigation measures are required to

Natura Code	Name	Screened In/Out	Details/Reason
			ensure that dust and contaminated surface water runoff does not enter the River Liffey. In a strict application of the precautionary principle, it has been concluded that significant effects on the North Dublin Bay SAC are likely, in the absence of mitigation measures, from the proposed works primarily as a result of the direct hydrological connection to the SAC from the proposed project, which involves demolition and construction works in beside the River Liffey. During construction and operation, there is also an indirect hydrological pathway to this SAC via surface water drainage to the River Liffey. Mitigation measures will need to be in place to prevent silt, hazardous materials and petrochemicals entering the River Liffey, which has a direct pathway to this SAC. For these reasons (mitigation measures are required in relation surface water and a direct pathway), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives. **Significant effects are likely - Natura Impact Statement Required**
IE001209	Glenasmole Valley SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Semi-Natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410] Petrifying springs with tufa formation (*Cratoneurion*) [7220] **Potential Impact** The proposed development site is located within an urban environment 11 km from this SAC. There is no direct or indirect pathway from the proposed development site to the SAC. No potential impact is foreseen. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0000199	Baldoyle Bay SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Natura Code	Name	Screened In/Out	Details/Reason
			Qualifying Interests Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] **Potential Impact** The proposed development site is located in an urban environment 12 km from this SAC (Figure 7). There is no direct hydrological pathway from the proposed development site to the SAC. Out of an abundance of caution, it is considered that there is a remote indirect hydrological pathway to this SAC via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt, hazardous materials or pollutants to enter the marine environment. During construction and operation, there is also an indirect hydrological pathway to this SAC via surface water drainage to the River Liffey. However, given the distance to this SAC (min. 12km) across a substantial marine environment, in the absence of mitigation measures, any silt or pollutants will settle, be dispersed, or diluted within the marine environment. No significant impacts on the qualifying interests of this SAC are foreseen. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0002122	Wicklow Mountains SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with *Erica tetralix* [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Calaminarian grasslands of the *Violetalia calaminariae* [6130] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130]

Natura Code	Name	Screened In/Out	Details/Reason
			Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Otter (*Lutra lutra*) [1355] **Potential Impact** The proposed development site is located in an urban environment 12.1 km from this SAC (Figure 7). There is no direct or indirect pathway from the proposed development site to the SAC. No potential impact is foreseen. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE001398	Rye Water Valley/Carton SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] **Potential Impact** The proposed development site is located in an urban environment 13.1 km from this SAC (Figure 7). There is no direct or indirect pathway from the proposed development site to the SAC. No potential impact is foreseen. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0000202	Howth Head SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030] **Potential Impact** The proposed development site is located within an urban area 13.3 km from this SAC (Figure 7). There is no direct hydrological pathway from the proposed development site to the SAC.

Natura Code	Name	Screened In/Out	Details/Reason
			Out of an abundance of caution, it is considered that there is a remote indirect hydrological pathway to this SAC via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt, hazardous materials or pollutants to enter the marine environment. During construction and operation, there is also an indirect hydrological pathway to this SAC via surface water drainage to the River Liffey. However, given the distance to this SAC (min. 13. km) across a substantial marine environment, and the fact that the qualifying interests are terrestrial habitats, in the absence of mitigation measures, any silt or pollutants will settle, be dispersed, or diluted within the marine environment. No significant impacts on the qualifying interests of this SAC are foreseen. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0003000	Rockabill to Dalkey Island SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Reefs [1170] Harbour Porpoise (*Phocoena phocoena*) [1351] **Potential Impact** The development site is located within an urban area 13.5 km from this SAC (Figure 7). There is no direct hydrological pathway from the proposed development site to the SAC. Out of an abundance of caution, it is considered that there is a remote indirect hydrological pathway to this SAC via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt, hazardous materials or pollutants to enter the marine environment. During operation, there is also an indirect hydrological pathway to this SAC via surface water drainage to the River Liffey. However, given the distance to this SAC (min. 13.5 km), in the absence of mitigation measures, any silt or pollutants will settle, be dispersed, or diluted within the marine environment. Harbour Porpoise (*Phocoena phocoena*) would not be expected to be as far upstream within the upper tidal

Natura Code	Name	Screened In/Out	Details/Reason
			River Liffey. No significant impacts on the qualifying interests of this SAC are foreseen. No potential impact is foreseen. Due to the extensive dilution within the marine environment in Dublin Bay there is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0000205	Malahide Estuary SAC	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] **Potential Impact** The proposed development site is located within an urban environment 14.1 km from this SAC (Figure 7). There is no direct hydrological pathway from the proposed development site to the SAC. Out of an abundance of caution, it is considered that there is an indirect hydrological pathway to this SAC via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt or pollutants to enter the marine environment. During operation, there is also an indirect hydrological pathway to this SAC via surface water drainage to the River Liffey. However, given the distance to this SAC (min. 14.1km) across a substantial marine environment, and in the absence of mitigation measures, any silt or pollutants will settle, be dispersed, or diluted within the marine environment. No significant impacts on the qualifying interests of this SAC are foreseen. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site.

Natura Code	Name	Screened In/Out	Details/Reason
			No significant effects likely
Special Protection Areas			
IE0004024	South Dublin Bay and River Tolka Estuary SPA	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying 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] **Potential Impact** The development is on a brownfield site is located within an urban area 4.4 km from the South Dublin Bay and River Tolka Estuary SPA (Figure 8). Given the nature of the proposed works, and the proximity of the subject site to the River Liffey (directly adjacent), it is considered that there is a direct hydrological pathway to this SPA. In the absence of mitigation, there is the potential for dust and contaminated surface water runoff to enter the River Liffey with the potential for downstream impacts on the qualifying interests of this SPA. Mitigation measures are required to ensure that dust and surface water runoff does not enter the River Liffey. The works will be carried out within an extensive urban environment with existing disturbance and traffic noise impacts. Noise from the works would not be seen to be significant 4.4 km from the site within a highly disturbed urban environment. During construction and operation, there is also an indirect hydrological pathway to this SPA via surface water drainage to the River Liffey. The proposed development is located within a dense urban environment with surrounding buildings of a similar height. As a result, the building would be clearly visible to birds both during construction and operation.

Natura Code	Name	Screened In/Out	Details/Reason
			In a strict application of the precautionary principle, it has been concluded that significant effects on the South Dublin Bay and River Tolka Estuary SPA are likely, in the absence of mitigation measures, from the proposed works primarily as a result of the direct hydrological connection to the SPA from the proposed project, which involves demolition and construction works beside the River Liffey. Mitigation measures will need to be in place to prevent silt and petrochemicals entering the River Liffey, which has a direct pathway to this SPA. For these reasons (mitigation measures are required in relation surface water and a direct pathway), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives. **Significant effects are likely - Natura Impact Statement Required**
IE0004006	North Bull Island SPA	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] 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] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999] **Potential Impact** The proposed works are located within an urban area 7.5 km from the North Bull Island SPA (Figure 8). Given the nature of the proposed works, and the proximity of the subject site to the River Liffey (directly adjacent), it is considered that there is a direct hydrological pathway to this SPA. In the absence of mitigation, there is the potential for dust, hazardous materials and surface water runoff to enter

Natura Code	Name	Screened In/Out	Details/Reason
			the River Liffey with the potential for downstream impacts on the qualifying interests of this SPA. Mitigation measures are required to ensure that dust and contaminated surface water runoff does not enter the River Liffey. The works will be carried out within an extensive urban environment with existing disturbance and traffic noise impacts. Noise from the works would not be seen to be significant 7.5 km from the site within a highly disturbed urban environment. During construction and operation, there is also an indirect hydrological pathway to this SPA via surface water drainage to the River Liffey. The proposed development is located within a dense urban environment with surrounding buildings of a similar height. As a result, the building would be clearly visible to birds both during construction and operation. In a strict application of the precautionary principle, it has been concluded that significant effects on the North Bull Island SPA are likely, in the absence of mitigation measures, from the proposed works primarily as a result of the direct hydrological connection to the SPA from the proposed project, which involves construction and demolition works beside the River Liffey. Mitigation measures will need to be in place to prevent silt and petrochemicals entering the River Liffey, which has a direct pathway to this SPA. For these reasons (mitigation measures are required in relation surface water and a direct pathway), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives. **Significant effects are likely - Natura Impact Statement Required**
IE004236	North-West Irish Sea SPA	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying 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] Little Gull (*Larus minutus*) [A177]

Natura Code	Name	Screened In/Out	Details/Reason
			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] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204] **Potential Impact** The proposed works are located within an urban area 9.5 km from the North-West Irish Sea SPA (Figure 8). Given the nature of the proposed works, and the proximity of the subject site to the River Liffey (directly adjacent), it is considered that there is a direct hydrological pathway to this SPA. In the absence of mitigation, there is the potential for dust, hazardous materials and surface water runoff to enter the River Liffey with the potential for downstream impacts on the qualifying interests of this SPA. Mitigation measures are required to ensure that dust and contaminated surface water runoff does not enter the River Liffey. In a strict application of the precautionary principle, it has been concluded that significant effects on this SPA are likely, in the absence of mitigation measures, from the proposed works primarily as a result of the direct hydrological connection to the SPA from the proposed project, which involves demolition works beside the River Liffey. The works will be carried out within an extensive urban environment with existing disturbance and traffic noise impacts. Noise from the works would not be seen to be significant 9.5km from the site within a highly disturbed urban environment. During construction and operation, there is also an indirect hydrological pathway to this SPA via surface water drainage to the River Liffey. The proposed development is located within a dense urban environment with surrounding buildings of a similar height. As a result, the building would be clearly visible to birds both during construction and operation. Mitigation measures will need to be in place to prevent silt and petrochemicals entering the River Liffey, which has a direct pathway to this SPA.

Natura Code	Name	Screened In/Out	Details/Reason
			For these reasons (mitigation measures are required in relation surface water and a direct pathway), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives. **Significant effects are likely - Natura Impact Statement Required**
IE0004040	Wicklow Mountains SPA	**OUT**	**Conservation Objectives** To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. **Qualifying Interests** Merlin (*Falco columbarius*) [A098] Peregrine (*Falco peregrinus*) [A103] **Potential Impact** The proposed development site is located within an urban environment 12.1 km from this SPA. No potential impact is foreseen. There is no direct or indirect hydrological pathway from the proposed development site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0004016	Baldoyle Bay SPA	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Ringed Plover (*Charadrius hiaticula*) [A137] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Bar-tailed Godwit (*Limosa lapponica*) [A157] Wetland and Waterbirds [A999] **Potential Impact** The proposed development site is located within an urban environment 12.4 km from this SPA (Figure 8). There is no direct hydrological pathway from the proposed development to this SPA. During construction and operation, out of an abundance of caution, it is considered that there is an indirect hydrological pathway to this SPA via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt or pollutants to enter the marine environment. However, given the distance to this SPA (min. 12.4 km) across a substantial marine environment, in the absence of mitigation measures, any silt or pollutants will settle, be dispersed, or diluted

Natura Code	Name	Screened In/Out	Details/Reason
			within the marine environment. No significant impacts on the qualifying interests of this SPA are foreseen. The works will be carried out within an extensive urban environment with existing disturbance and traffic noise impacts. Noise from the works would not be seen to be significant 12.4km from the site within a highly disturbed urban environment. The proposed development is located within a dense urban environment with surrounding buildings of a similar height. As a result, the building would be clearly visible to birds both during construction and operation. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**
IE0004025	Malahide Estuary SPA	**OUT**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Great Crested Grebe (*Podiceps cristatus*) [A005] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Pintail (*Anas acuta*) [A054] Goldeneye (*Bucephala clangula*) [A067] Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162] Wetland and Waterbirds [A999] **Potential Impact** The proposed development site is located within an urban environment 14.1 km from this SPA (Figure 8). There is no direct hydrological pathway from the proposed development to this SPA. During construction and operation, out of an abundance of caution, it is considered that there is an indirect hydrological pathway to this SPA via dust and surface water runoff. Given the proximity of the proposed works site to the River Liffey (directly adjacent), there is the potential for silt or pollutants to enter the marine environment. However, given the distance to this SPA (min. 14.1 km) across a substantial marine environment and in the absence of mitigation

Natura Code	Name	Screened In/Out	Details/Reason
			measures, any silt or pollutants will settle, be dispersed, or diluted within the marine environment. No significant impacts on the qualifying interests of this SPA are foreseen. The works will be carried out within an extensive urban environment with existing disturbance and traffic noise impacts. Noise from the works would not be seen to be significant 14.1 km from the site within a highly disturbed urban environment. The proposed development is located within a dense urban environment with surrounding buildings of a similar height. As a result, the building would be clearly visible to birds both during construction and operation. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects likely**

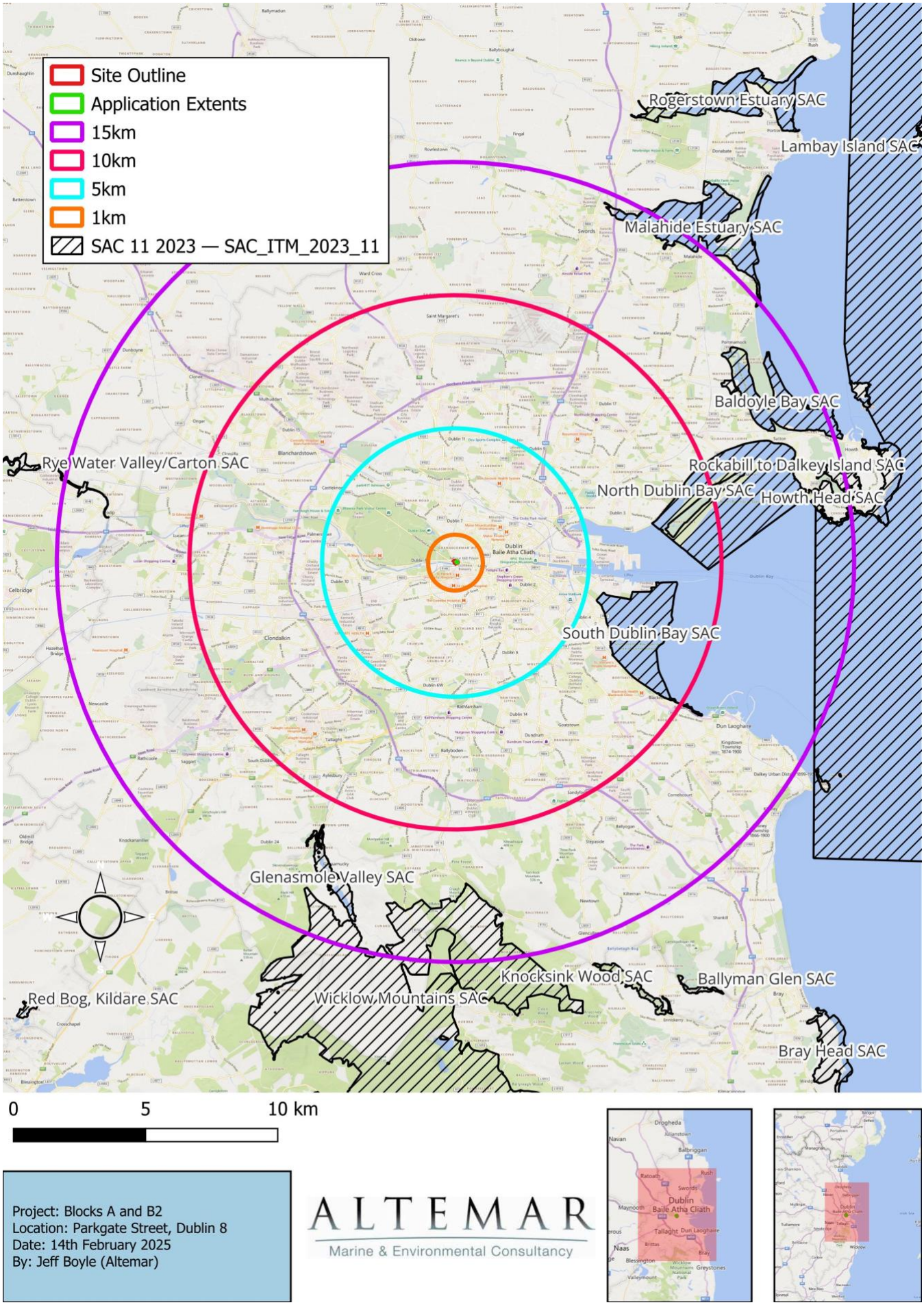


Figure 7. *SACs within 15km of the proposed development*

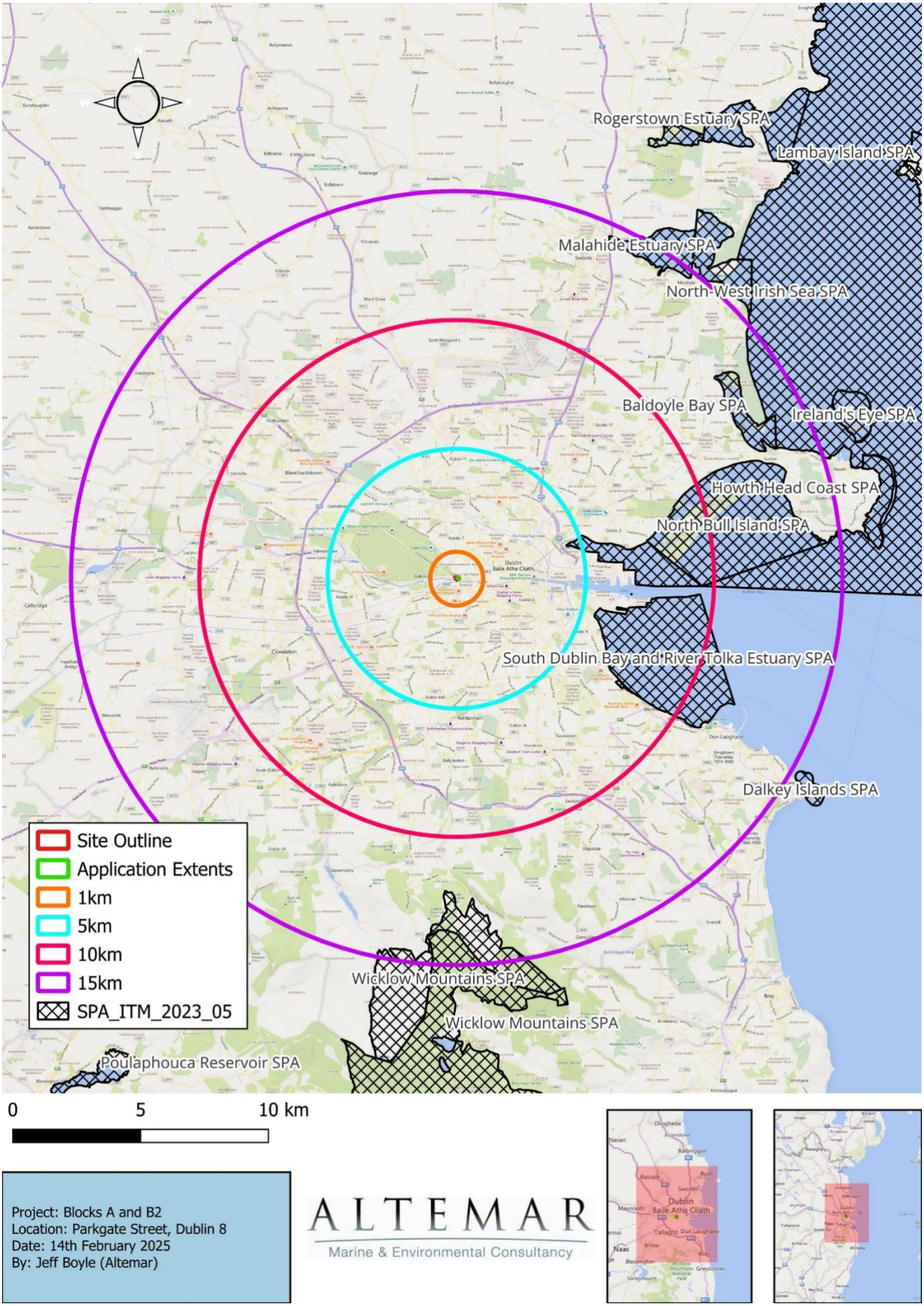


Figure 8. *SPAs within 15km of the proposed development*

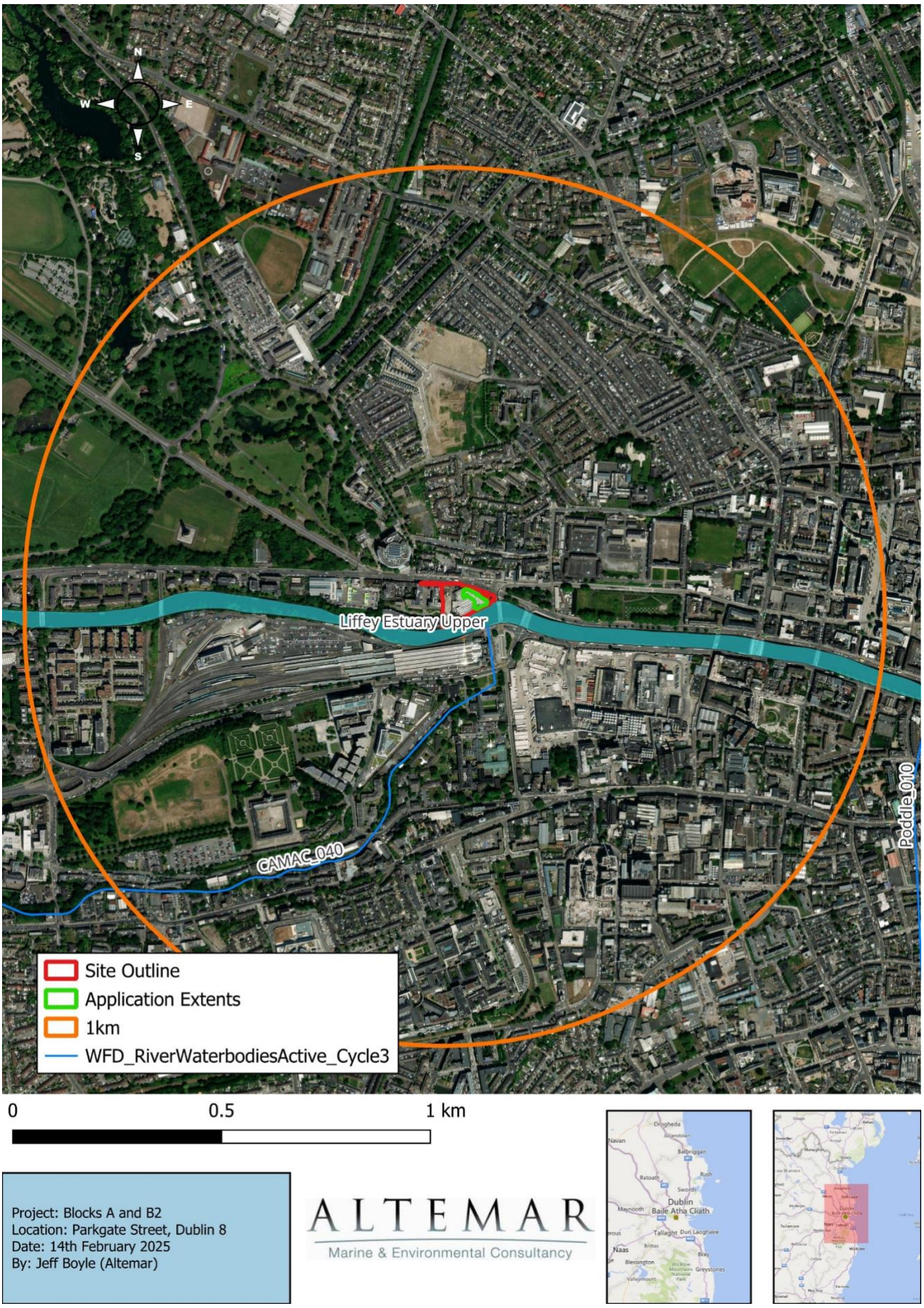


Figure 9. *Watercourses within 1km of the subject site*

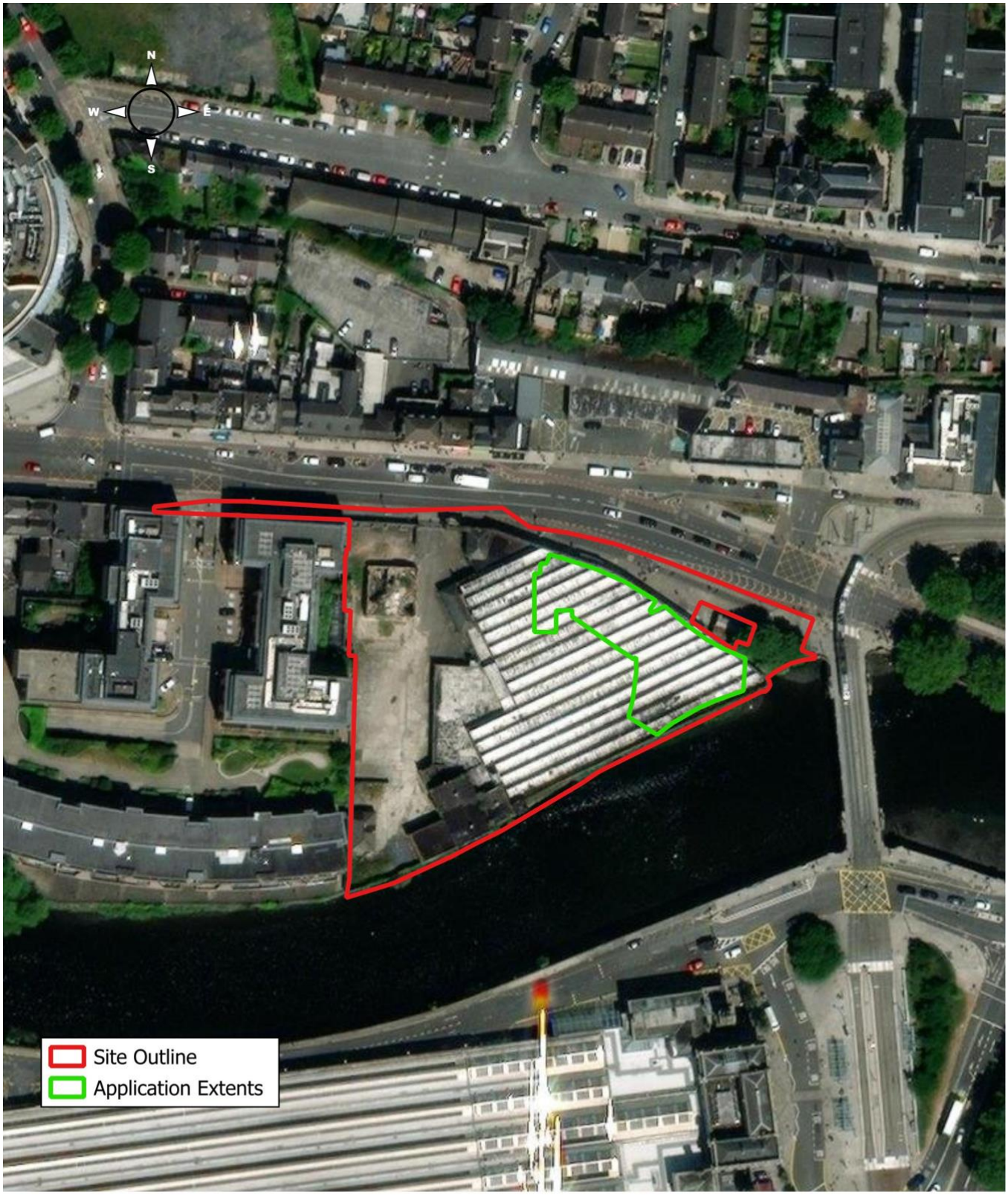


Figure 10. *Subject site directly adjacent to River Liffey*

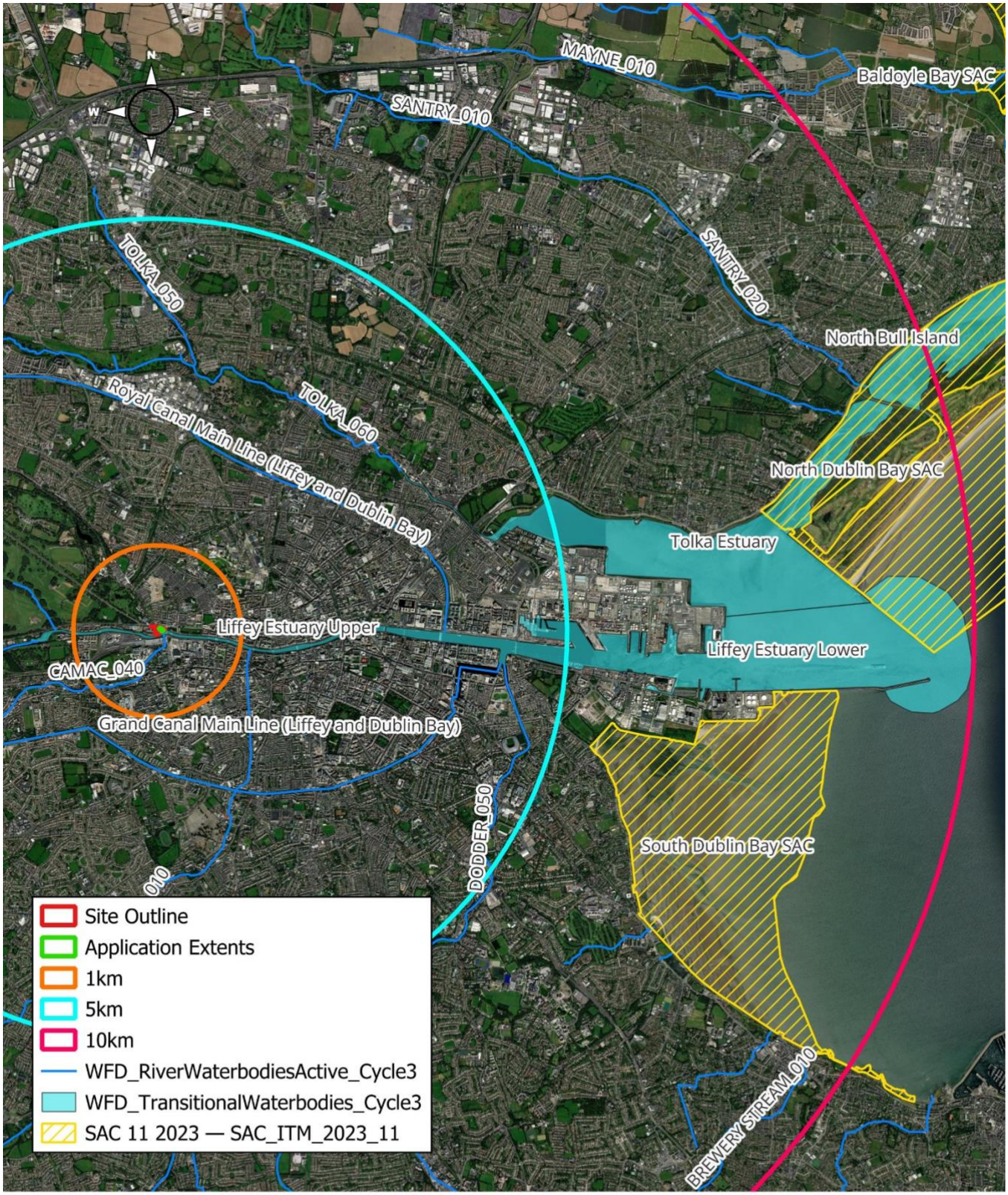


Figure 11. *Watercourses and SACs near the subject site*

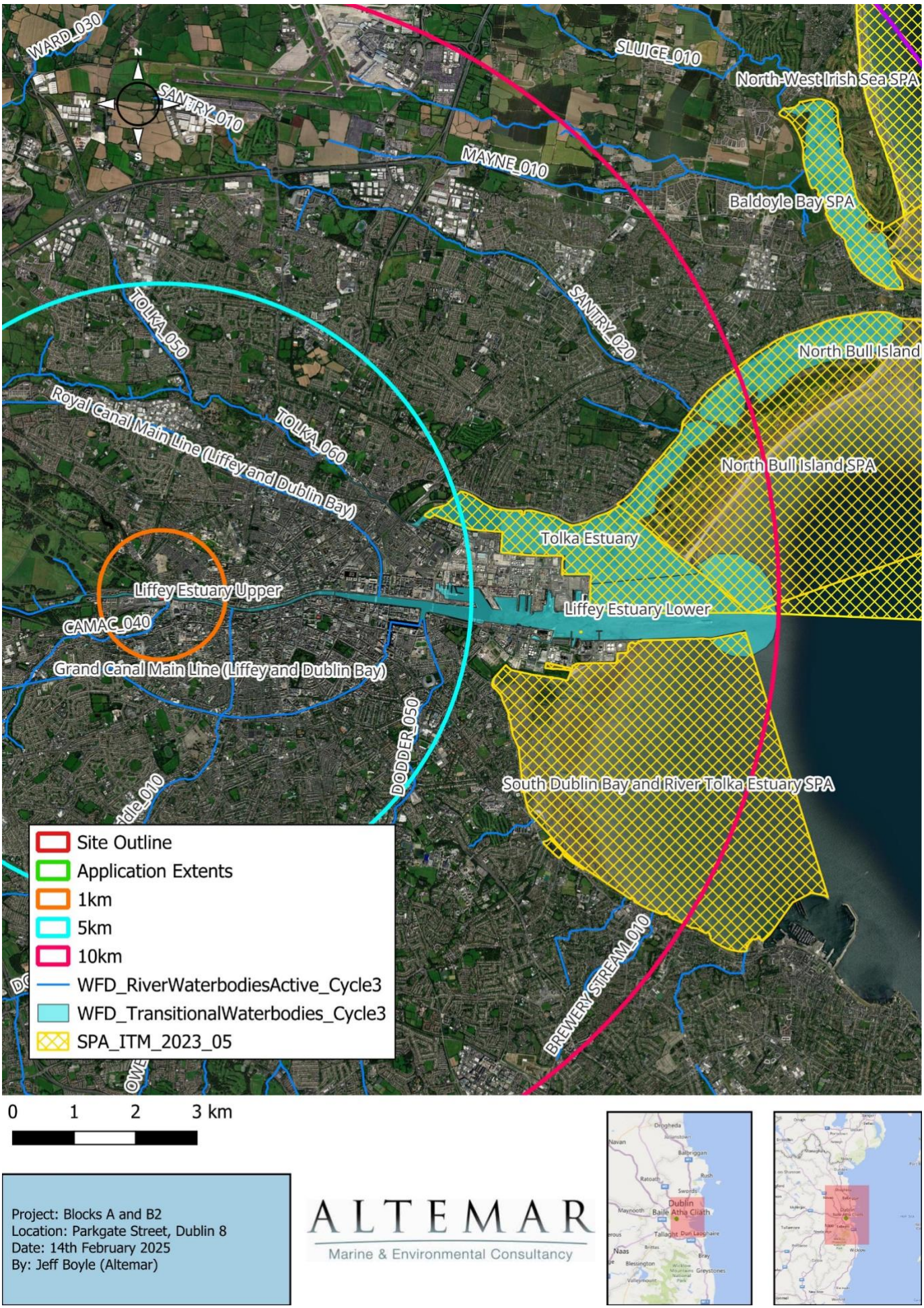


Figure 12. *Watercourses and SPAs near the subject site*

In-Combination Effects

There are several granted developments located in the area immediately surrounding the subject site. The following is a list of planning applications in close proximity to the subject site as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal[2],:

Table 3. In-combination effects considered

Ref. No.	Address	Proposal
2730/19	3 & 4, Conyngham Road, Phoenix Park, Dublin 8	PROTECTED STRUCTURE: Permission is sought for works to Nos. 3 and 4 Conyngham Road, Phoenix Park, Dublin 8, Protected Structures (RPS no. 2035 and 2036), to consist of the following: Change of use of no. 4 from residential (other) to office use (318m2); Demolition of single storey rear extension to no. 3 (12m2), demolition of external boiler house to No. 4 (2m2) and removal of existing external steel stair at the rear of No. 4; Construction of separate single storey extensions to the rear of both No. 3 (11m2) and No. 4 (50m2) and construction of a new three storey mews building (172m2) to rear lane (Eaves Height 7.1m from external ground level), consisting of two-storey office accommodation over car parking (four spaces including one disabled space), on the footprint of the original mews building. Internal works: includes material alterations, repairs and services internally, to both properties with an interconnecting doorway on the first floor and the provision of an internal lift at No. 4. External works: replacement of windows to include new vertical sliding timber sash windows to the front of No. 4, details to match the existing windows at No. 3, formation of new ope in garden wall between properties, new hard and soft landscaping proposal, new covered pergola walkway linking the three buildings within the garden area, ten new sheltered bicycle parking spaces and all associated site services. The proposal will result in office use throughout No. 3, No. 4 and the new mews building, catering for 69 persons, including auxiliary facilities.
3067/22	26, Montpelier Hill, Arbour Hill, Dublin 7, D07 R821	PROTECTED STRUCTURE: The development will consist of the change of use from commercial to residential, including: 1) The removal of internal modern partitions at ground and first floor levels; 2) The removal of 2 nos. modern WCs and provision of new stairs from basement to half-landing and reinstatement of existing stairs from half-landing to ground floor; 3) The provision of 1 no. new kitchen services and 1 no. new tea-station for home office at ground floor; 4) The provision of 2 nos. new bathrooms and services at first floor; 5) The reinstatement of 15 nos. sash windows and provision of 2 nos. new windows at closed up openings on rear elevation.
4563/23	32 Infirmary Road (corner of Infirmary Road and Montpelier Hill), Dublin 7, D07 X628	Permission sought for the demolition of an existing two storey building plus site clearance and the erection of a part five storey /part six storey building, containing 11 no 1 & 2 bed apartments communal open space at roof level, office unit on two levels, bicycle and bin storage with yard and associated site works.
4281/24	19, Conyngham Road, Dublin 8 , D08CH92	The development will consist of a change of use of petrol filling station to provide bus parking and all associated site works including new boundary treatment to the Northern side of the site adjacent to Conyngham Road. This proposal also seeks to remove the hoarding to the boundary facing Conyngham Road. The site at present is derelict and has not been used as a petrol filling station since 2019. Vehicular access and egress will be by existing dished kerb entrance to the eastern side of the site. A new pedestrian entrance from Conyngham Road will also be created.
2522/19	43-53 Montpelier Hill, Dublin 7	PROTECTED STRUCTURE: Planning permission for permanent building signage at the site of the Student Accommodation development, 43-53 Montpelier Hill, Dublin 7, granted permission under Reg. Ref. nos. 3772/16, 3896/17 and 4760/18. The 0.46ha site is located adjacent to two Protected Structures, nos. 41 and 55 Montpelier Hill. The site is accessed from Montpelier Hill. The

[2] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

Ref. No.	Address	Proposal
		development consists of permanent illuminated signage to be mounted to the front face of Block A entrance canopy at first floor level on Montpelier Hill. Proposed sign, 390 mm (h) x 4373mm (l) x 70mm (d), comprises halo illuminated lettering and logo. All lettering to be built up PPC aluminium and translucent opal acrylic backplate to allow for halo illumination using long life LEDs housed within letters. All to be mounted to canopy using translucent opal spacers to allow for halo illumination.
3060/18	Cambridge House, 41, Montpelier Hill, Dublin 7	PROTECTED STRUCTURE: Development will consist of repair and modifications to new and historic doors and windows, including: Expansion of 1 no. window opening at rear into basement door opening and the installation of slim-profile double glazing.

Following an analysis of development proposals proximate to the subject site, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites are likely as a result of the proposed development in combination with other projects. No in combination effects are foreseen.

No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

Conclusions

An initial screening of the proposed works, using the precautionary principle (without the use of any mitigation measures) and the Source/Pathway/Receptor links between the proposed works and Natura 2000 sites with the potential to result in significant effects on the conservation objectives and qualifying interests of the Natura 2000 sites was carried out in Table 1. Based on best scientific knowledge and objective information and assessment, the possibility of significant effects caused by the proposed project was excluded for the following Natura 2000 sites:

Special Areas of Conservation

(000199) Baldoyle Bay SAC
(003000) Rockabill to Dalkey Island SAC
(000202) Howth Head SAC
(002122) Wicklow Mountains SAC
(001209) Glenasmole Valley SAC
(000205) Malahide Estuary SAC
(001398) Rye Water Valley/Carton SAC

Special Protection Areas

(004016) Baldoyle Bay SPA
(004040) Wicklow Mountains SPA
(004025) Malahide Estuary SPA

Given the nature of the proposed construction and demolition works and the distance between the subject site to the nearest watercourse (River Liffey), it is considered that the potential ZOI of the proposed works extends beyond the site outline to include the River Liffey and Natura 2000 sites located within Dublin Bay. In the absence of mitigation measures, there is the potential for dust, petrochemicals or silt laden material to enter the marine environment at South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC, North Bull Island SPA and North-West Irish Sea SPA during construction and operation.

Acting on a strictly precautionary basis, NIS is required in respect of the effects of the project on South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA because it cannot be excluded on the basis of best objective scientific information following screening, in the absence of control or mitigation measures in relation to pollution (silt, dust, potential contamination and runoff) during construction and operation, that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.

An NIS or Stage 2 Appropriate Assessment is not required for the effects of the project on all other listed Natura sites above because it can be excluded based on the best objective scientific information following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the European Site/s.

NIS is required for South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA.

Stage 2: Natura Impact Statement

A Natura Impact Statement (NIS) is Stage 2 of the Appropriate Assessment process. In the case of the proposed construction (site clearance works are permitted under ABP-310567-21 (as amended), demolition works are permitted under LRD6074/24-S3) at 42A Parkgate Street, acting on a strictly precautionary basis, an NIS is required in respect of the effects of the project on South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA (due to the potential for contaminated surface water, dust or silt laden material to enter the River Liffey and marine environment downstream of the works), because it cannot be excluded on the basis of best objective scientific information, in the absence of control or mitigation measures, following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.

A Stage 2 Appropriate Assessment or NIS is not required for the effects of the project on all other listed Natura sites within, and sites beyond, 15km because, it can be excluded, on the basis of the best objective scientific information following screening, that the plan or project, individually and/or in combination with other plans or projects, will have not a significant effect on the European Site/s.

The NIS evaluates the potential for direct, indirect effects, alone or in combination with other plans and projects having taken into account the use of mitigation measures. The NIS is informed by the accompanying EIAR including biodiversity chapter, and the proposed mitigation measures that are outlined in the Outline Construction Waste Management Plan & Waste Management Plan to reduce the potential effects of the proposed project on species/habitats of conservation importance and the surrounding environment.

A further review of the Conservation Objectives and qualifying interests is necessary to determine if significant effects are likely to impact the identified Natura 2000 sites.

South Dublin Bay SAC (Site code: 000210)

As outlined in the South Dublin Bay SAC Site Synopsis[3] (NPWS, version date 10.12.2015):

'*This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake.*

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (= priority; numbers in brackets are Natura 2000 codes):*

[1140] Tidal Mudflats and Sandflats
[1210] Annual vegetation of drift lines
[1310] Salicornia and other annuals colonising mud and sand
[2110] Embryonic shifting dunes

The bed of Dward Eelgrass (Zostera noltii) found below Merrion Gates is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum and Pelvetia canaliculata.

Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/ Booterstown. The formation at Booterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (Cakile maritima), Frosted Orache (Atriplex laciniata), Spear-leaved Orache (A. prostrata), Prickly Saltwort (Salsola kali) and Fat Hen (Chenopodium album). Also occurring is Sea Sandwort (Honkenya peploides), Sea Beet (Beta vulgaris subsp. maritima) and Annual Sea-blite (Suaeda maritima). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of saltmarsh development is here

[3] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000210.pdf

characterised by the presence of pioneer stands of glassworts (Salicornia spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat.

Lugworm (Arenicola marina), Cockles (Cerastoderma edule) and annelids and other bivalves are frequent throughout the site. The small gastropod Hydrobia ulvae occurs on the muddy sands off Merrion Gates.

South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur.

Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.

At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.

This site is a fine example of a coastal system, with extensive sand and mudflats, and incipient dune formations. South Dublin Bay is also an internationally important bird site.'

The Natura 2000 Standard Data Form (2020)[4] states that:

'*This intertidal site extends from the South Wall at Dublin Port to the West Pier at Dun Laoghaire, a distance of c. 5 km. At their widest, the intertidal flats extend for almost 3 km. The seaward boundary is marked by the low tide mark, while the landward boundary is now almost entirely artificially embanked. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. A number of small streams and drains flow into the site. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.*

Site possesses a fine and fairly extensive example of intertidal flats. Sediment type is predominantly sand, with muddy sands in the more sheltered areas. A typical macro-invertebrate fauna exists. Has the largest stand of Zostera on the east coast. Supports part of the important wintering waterfowl populations of Dublin Bay. Regularly has an internationally population of Branta bernicila horta, plus nationally important numbers of at least a further 6 species, including Limosa lapponica. Regular autumn roosting ground for significant numbers of Sterna terns, including S. dougallii. The scientific interests of the site have been well documented.'

As outlined in the Conservation objectives supporting document[5] (NPWS, 2013), it is an objective:

'*To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC, which is defined by the following list of attributes and targets.''*

Target 1: *''The permanent habitat area is stable or increasing, subject to natural processes.''*

Target 2: *''Maintain the extent of the Zostera-dominated community, subject to natural processes.''*

Target 3: *''Conserve the high quality of the Zostera-dominated community, subject to natural processes.''*

Target 4: *''Conserve the following community type in a natural condition: Fine sands with Angulus tenuis community complex.'*

[4] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF000210.pdf

[5] https://www.npws.ie/sites/default/files/publications/pdf/000210_South%20Dublin%20Bay%20SAC%20Marine%20Supporting%20Doc_V1.pdf

Figure 1. Extent of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC

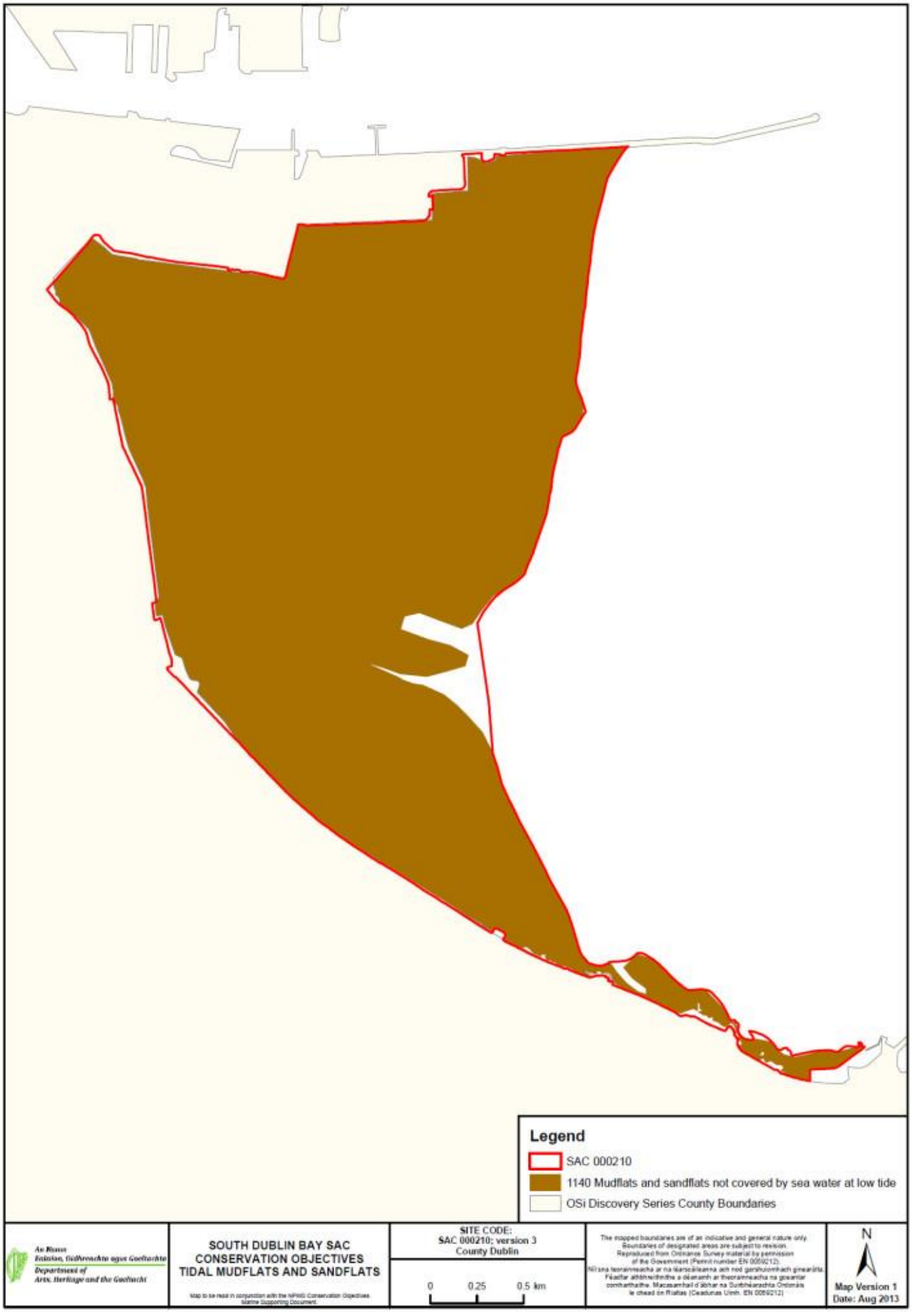
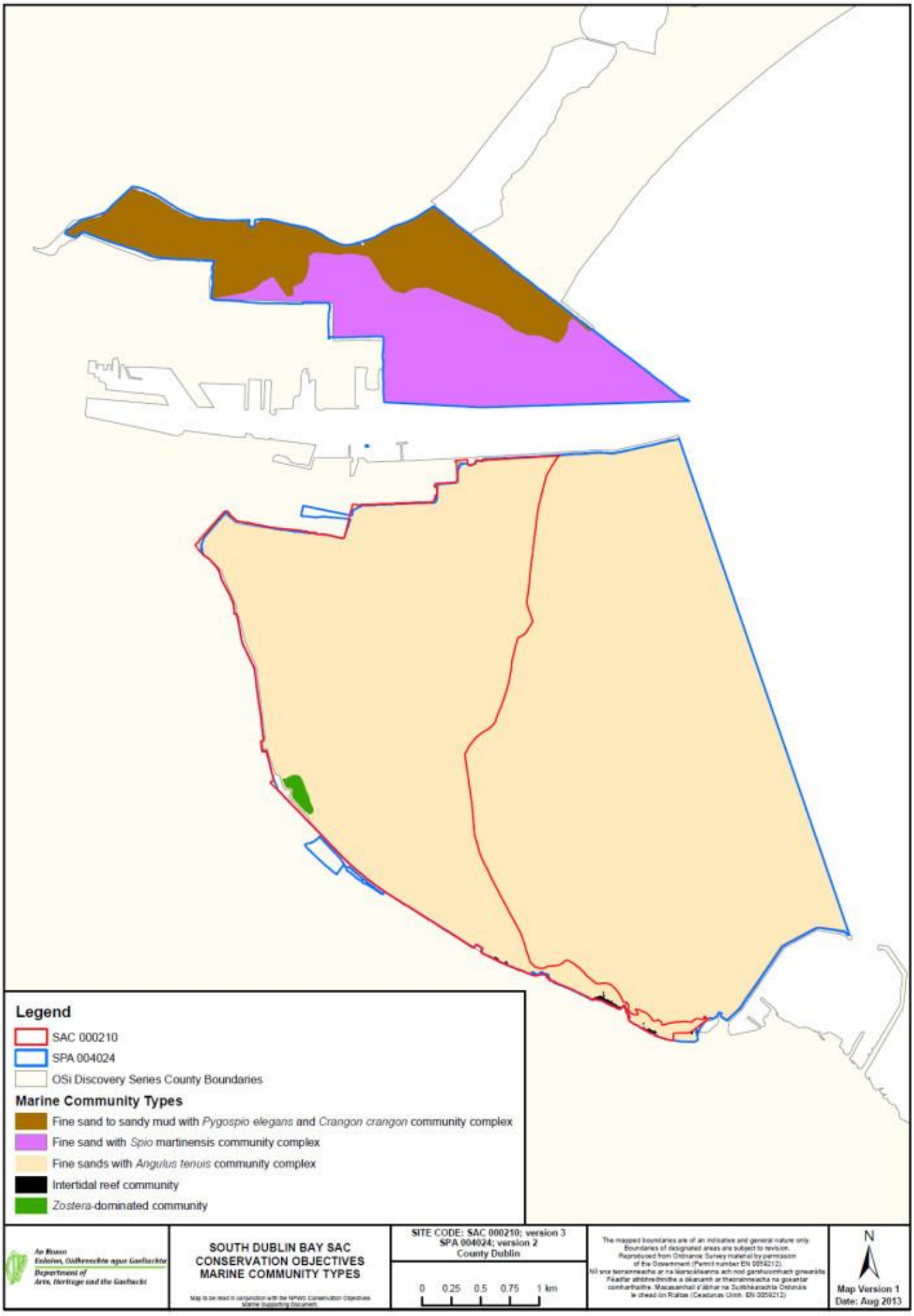


Figure 2. Distribution of community types in South Dublin Bay SAC



North Dublin Bay SAC (Site code: 000206)

As outlined in the North Dublin Bay SAC Site Synopsis[6] (NPWS, version date 12.08.2013):

'*This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site.*

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (= priority; numbers in brackets are Natura 2000 codes):*

[1140] Tidal Mudflats and Sandflats
[1210] Annual Vegetation of Drift Lines
[1310] Salicornia Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
*[2130] Fixed Dunes (Grey Dunes)**
[2190] Humid Dune Slacks
[1395] Petalwort (Petalophyllum ralfsii)

North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (Ammophila arenaria) is dominant on the outer dune ridges, with Lyme-grass (Leymus arenarius) and Sand Couch (Elymus farctus) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (Viola tricolor), Kidney Vetch (Anthyllis vulneraria), Common Bird's-foot-trefoil (Lotus corniculatus), Common Restharrow (Ononis repens), Yellow-rattle (Rhinanthus minor) and Pyramidal Orchid (Anacamptis pyramidalis). In these grassy areas and slacks, the scarce Bee Orchid (Ophrys apifera) occurs.

About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (Alnus glutinosa). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (Juncus maritimus) is the dominant species, with Meadowsweet (Filipendula ulmaria) and Devil's-bit Scabious (Succisa pratensis) being frequent. The orchid flora is notable and includes Marsh Helleborine (Epipactis palustris), Common Twayblade (Listera ovata), Autumn Lady's-tresses (Spiranthes spiralis) and Marsh Orchids (Dactylorhiza spp.).

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (Salicornia europaea), Common Saltmarsh-grass (Puccinellia maritima), Annual Sea-blite (Suaeda maritima) and Greater Sea-spurrey (Spergularia media) are the main species. Higher up in the middle marsh Sea Plantain (Plantago maritima), Sea Aster (Aster tripolium), Sea Arrowgrass (Triglochin maritima) and Thrift (Armeria maritima) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (Cochlearia officinalis) and Sea Milkwort (Glaux maritima) are found, while on the extreme upper marsh, the rushes Juncus maritimus and J. gerardi are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The habitat 'annual vegetation of drift lines' is found in places, along the length of Dollymount Strand, with species such as Sea Rocket (Cakile maritima), Oraches (Atriplex spp.) and Prickly Saltwort (Salsola kali).

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by Salicornia dolichostachya, a pioneer glasswort species, and covers about 25 ha. Beaked Tasselweed (Ruppia maritima) occurs in this area, along with some Narrow-leaved Eelgrass

[6] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000206.pdf

(Zostera angustifolia). Dwarf Eelgrass (Z. noltii) also occurs in Sutton Creek. Common Cordgrass (Spartina anglica) occurs in places but its growth is controlled by management. Green algal mats (Enteromorpha spp., Ulva lactuca) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (Arenicola marina) in parts of the north lagoon. Mussels (Mytilus edulis) occur in places, along with bivalves such as Cerastoderma edule, Macoma balthica and Scrobicularia plana. The small gastropod Hydrobia ulvae occurs in high densities in places, while the crustaceans Corophium volutator and Carcinus maenas are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three rare plant species which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (Centaurium pulchellum), Red Hemp-nettle (Galeopsis angustifolia) and Meadow Saxifrage (Saxifraga granulata). Two further species listed as threatened in the Red Data Book, Wild Clary/Sage (Salvia verbenaca) and Spring Vetch (Vicia lathyroides), have also been recorded. A rare liverwort, Petalophyllum ralfsii, was first recorded from the North Bull Island in 1874 and has recently been confirmed as still present. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Goose 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Black-tailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling and Dunlin).

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island

The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera).

The main land uses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site.

This site is an excellent example of a coastal site with all the main habitats represented. The site holds good examples of nine habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.'

The Natura 2000 Standard Data Form (2020)[7] states that:

'*The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. Between the island and the mainland there occurs two sheltered intertidal areas which are*

[7] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF000206.pdf

separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the site as it has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.

Site possesses an excellent diversity of coastal habitats. The North Bull Island dune system is one of the most important systems on the east coast and is one of the few in Ireland that is actively accreting. It possesses extensive and mostly good quality examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Both Atlantic and Mediterranean salt marshes are well represented and a particularly good marsh zonation is shown. The salt marshes grade into mudflats and sandflats, some of which are dominated by annual Salicornia species. Petalophyllum ralfsii occurs at its only known station away from the western seaboard. The site has five Red Data Book vascular plant species and four Red Data Book bryophyte species. This is one of the most important sites for wintering waterfowl in Ireland, with internationally important populations of Branta bernicla horta, Calidris canutus and Limosa lapponica, plus nationally important numbers of a further 14 species. 20% of the national total of Pluvialis squatarola occurs here. Formerly it had important colony of Sterna albifrons. North Dublin Bay is nationally important for three insect species. The scientific interests of the site have been well documented and future prospects are good owing to the various designations assigned to site.'

As outlined in the Conservation objectives supporting document (NPWS, 2013):

'*North Dublin Bay SAC (site code: 206) is designated for a range of coastal habitats, including mudflats and salt flats, saltmarsh and sand dunes. The following eight coastal habitats are included in the qualifying interests for the site (* denotes a priority habitat):*

- *Salicornia and other annuals colonising mud and sand (1310)*
- *Atlantic salt meadows (Glauco-Puccinellietalia maritimae) (ASM) (1330)*
- *Mediterranean salt meadows (Juncetaliea maritimi) (MSM) (1410)*
- *Annual vegetation of drift lines (1210)*
- *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)*

The first three are saltmarsh habitats and the last five are associated with sand dune systems, although all eight of these habitats are found in close association with each other (McCorry, 2007; Ryle et al., 2009; Delaney et al., 2013).

This backing document sets out the conservation objectives for the eight coastal habitats listed above in North Dublin Bay SAC, which are defined by a list of parameters, attributes and targets. The main parameters are (a) Range (b) Area and (c) Structure and Functions, the last of which is broken down into a number of attributes, including physical structure, vegetation structure and vegetation composition.

The targets set for the saltmarsh habitats are based primarily on the results of the Saltmarsh Monitoring Project (SMP) (McCorry, 2007; McCorry & Ryle, 2009) and this document should be read in conjunction with those reports.'

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 3:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
TIDAL MUDFLATS AND SANDFLATS

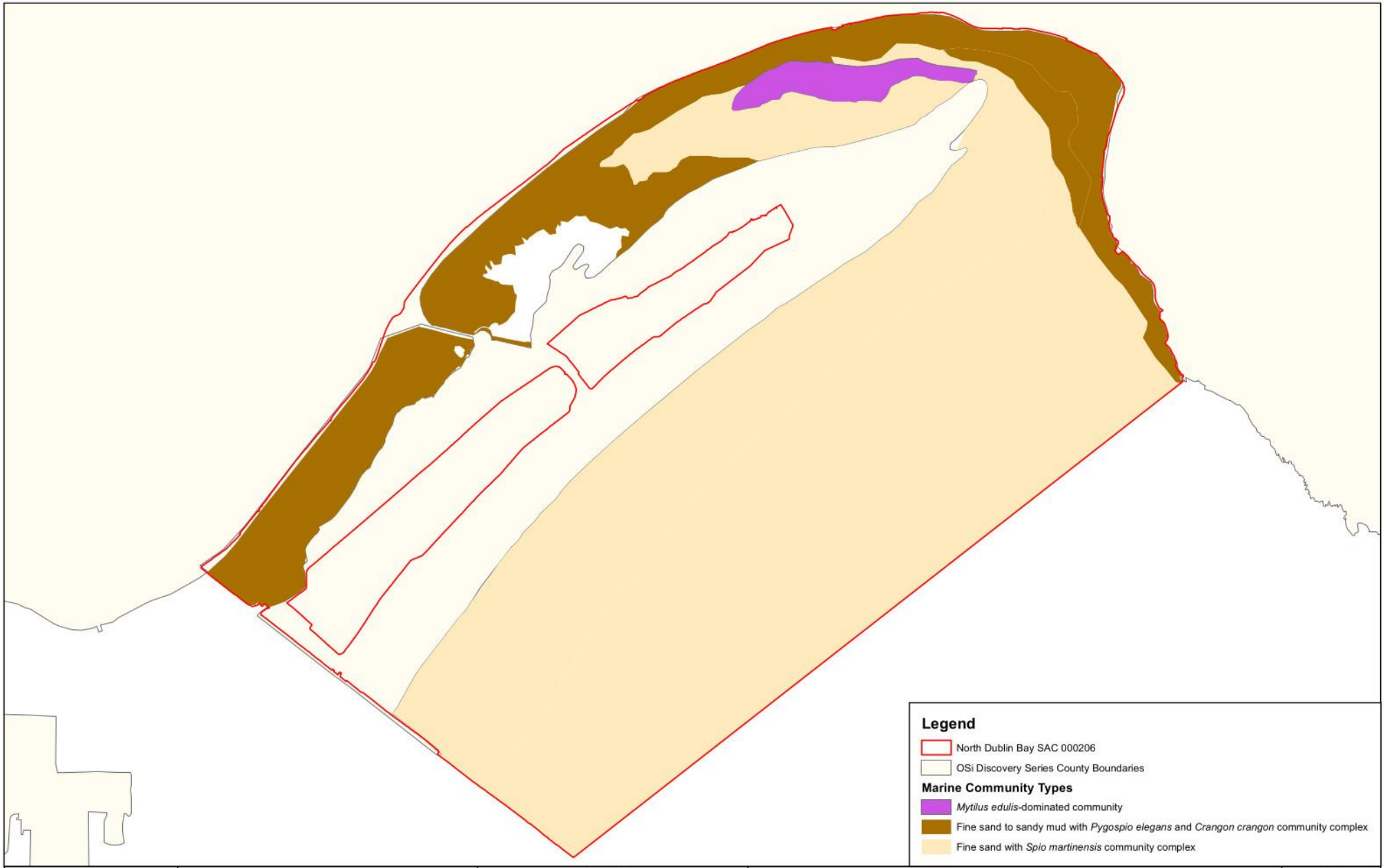
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000206; version 3.
CO. DUBLIN

0 0.5 1 km

N

Map Version 1
Date: Sept 2013



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MAP 4:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
MARINE COMMUNITY TYPES

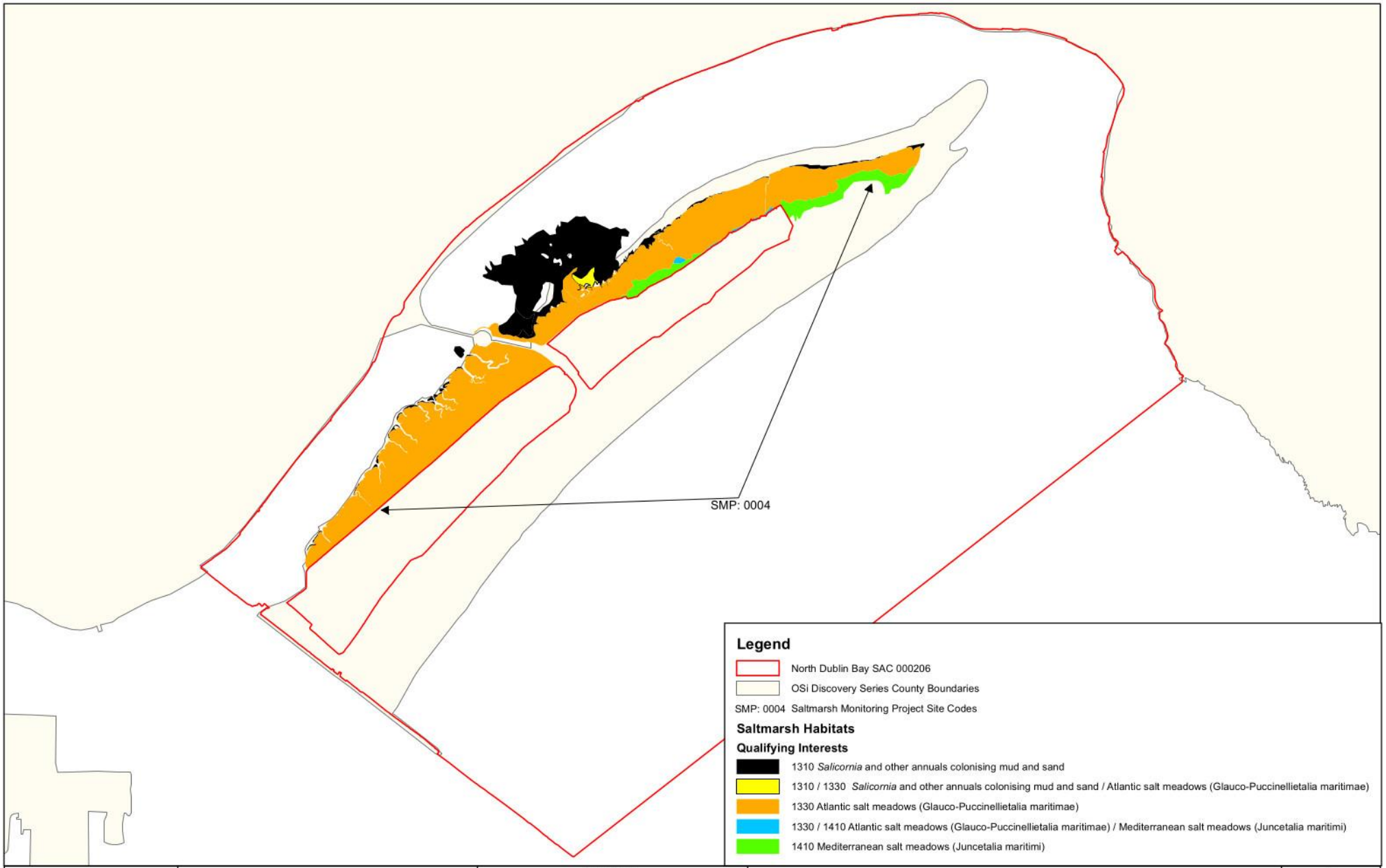
Map to be read in conjunction with the NPWS Conservation Objectives Document.

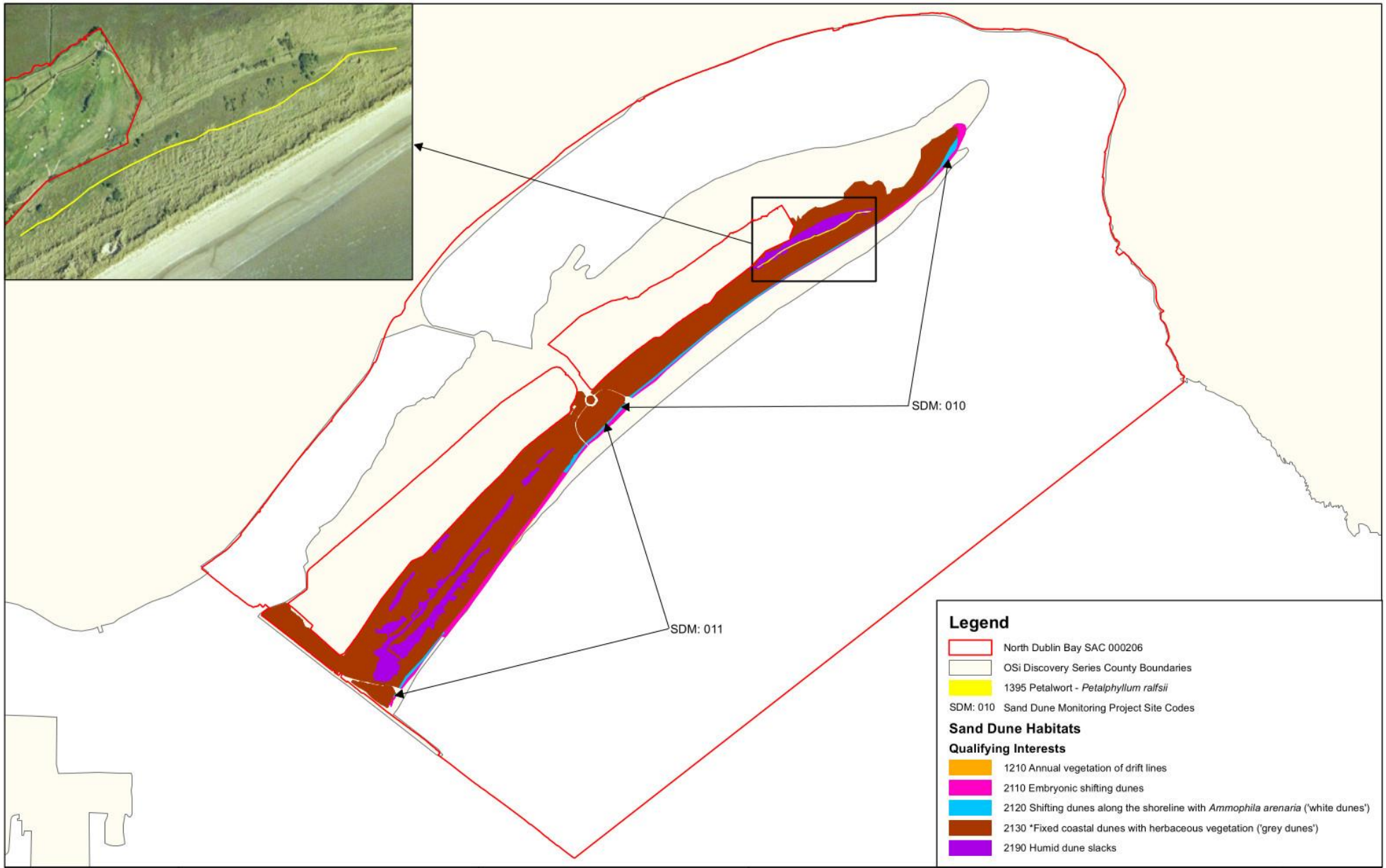
SITE CODE:
SAC 000206; version 3.
CO. DUBLIN

0 0.5 1 km

N

Map Version 1
Date: Sept 2013


SMP: 0004
Legend
North Dublin Bay SAC 000206
OSi Discovery Series County Boundaries
SMP: 0004 Saltmarsh Monitoring Project Site Codes
Saltmarsh Habitats
Qualifying Interests
1310 Salicornia and other annuals colonising mud and sand
1310 / 1330 Salicornia and other annuals colonising mud and sand / Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
1330 / 1410 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) / Mediterranean salt meadows (Juncetalia maritimi)
1410 Mediterranean salt meadows (Juncetalia maritimi)
An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht
MAP 5:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
SALTMARSH HABITATS
Map to be read in conjunction with the NPWS Conservation Objectives Document.
SITE CODE:
SAC 000206; version 3.
CO. DUBLIN
0
0.5
1 km
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).
Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. EN 0059212)
N
Map Version 1
Date: Sept 2012


SDM: 010
SDM: 011
Legend
North Dublin Bay SAC 000206
OSi Discovery Series County Boundaries
1395 Petalwort - Petalphyllum ralfsii
SDM: 010 Sand Dune Monitoring Project Site Codes
Sand Dune Habitats
Qualifying Interests
1210 Annual vegetation of drift lines
2110 Embryonic shifting dunes
2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes')
2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')
2190 Humid dune slacks
An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht
MAP 6:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
SAND DUNE HABITATS &
PETALWORT
Map to be read in conjunction with the NPWS Conservation Objectives Document.
SITE CODE:
SAC 000206; version 3.
CO. DUBLIN
0
0.5
1 km
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).
Nil sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. EN 0059212)
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Map Version 1
Date: Sept 2013

South Dublin Bay and River Tolka (Site code: 004024)

As outlined in the South Dublin Bay SAC Site Synopsis[8]. (NPWS, version date 30.05.2015):

'*The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.*

In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Ulva spp.) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (Arenicola marina), Nephthys spp. and Sand Mason (Lanice conchilega), and bivalves, especially Cockle (Cerastoderma edule) and Baltic Tellin (Macoma balthica). The small gastropod Spire Shell (Hydrobia ulvae) occurs on the muddy sands off Merrion Gates, along with the crustacean Corophium volutator. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are five year mean peaks for the period 1995/96 to 1999/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (368) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. At the time of designation the site supported nationally important numbers of a further nine species: Oystercatcher (1,145), Ringed Plover (161), Grey Plover (45), Knot (548), Sanderling (321), Dunlin (1,923), Bar-tailed Godwit (766), Redshank (260) and Black-headed Gull (3,040). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (127) and Turnstone (52). Little Egret, a species which has recently colonised Ireland, also occurs at this site.

South Dublin Bay is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and again in late summer into winter.

Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey in 1995 recorded nationally important numbers of Common Tern nesting here (52 pairs). The breeding population of Common Tern at this site has increased, with 216 pairs recorded in 2000. This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007.

South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the

[8] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004024.pdf

Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996).

The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site.'

The Natura 2000 Standard Data Form (2020)[9] states that:

'*This site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay, as well as much of the Tolka Estuary to the north of the River Liffey. A portion of the shallow bay waters is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. The sands support the largest stand of Zostera noltii on the East Coast. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well aerated sands off the Bull Wall. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.*

The site possesses extensive intertidal flats which support wintering waterfowl which are part of the overall Dublin Bay population. It regularly has an internationally important population of Branta bernicla hrota, which feeds on Zostera noltii in the autumn. It has nationally important numbers of a further 6 species: Haematopus ostralegus, Charadrius hiaticula, Calidris canutus, Calidris alba, Calidris alpina and Limosa lapponica. It is an important site for wintering gulls, especially Larus ridibundus and Larus canus. South Dublin Bay is the premier site in Ireland for Larus melanocephalus, with up to 20 birds present at times. Is a regular autumn roosting ground for significant numbers of terns, including Sterna dougallii, S. hirundo and S. paradisaea.'

According to the conservation Objectives Supporting Document[10] (NPWS 2014) for the South Dublin Bay and River Tolka Estuary SPA:

'*The overarching Conservation Objective for North Bull Island Special Protection Area, and for South Dublin Bay and River Tolka Estuary Special Protection Area, is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity.*

The site should contribute to the maintenance and improvement where necessary, of the overall favourable status of the national resource of waterbird species, and continuation of their long-term survival across their natural range.

Conservation Objectives for North Bull Island Special Protection Area, and for South Dublin Bay and River Tolka Estuary Special Protection Area, based on the principles of favourable conservation status, are described below and summarised in Table 3.1. Note that these objectives should be read and interpreted in the context of information and advice provided in additional sections of this report.

[9] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004024.pdf

[10] *Note that 'population' refers to site population (numbers wintering at the site) rather than the species biogeographic population.*
https://www.npws.ie/sites/default/files/publications/pdf/South%20Dublin%20Bay%20and%20River%20Tolka%20Estuary%20SPA%20(004024)%20Conservation%20objectives%20supporting%20document%20-%20[Version%201].pdf

Objective 1: To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest species listed for North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA.

This objective is defined by the following attributes and targets:

- *To be favourable, the long term population trend for each waterbird Special Conservation Interest species should be stable or increasing[11]. Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis.*
- *To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.*

Factors that can adversely effect the achievement of Objective 1 include:

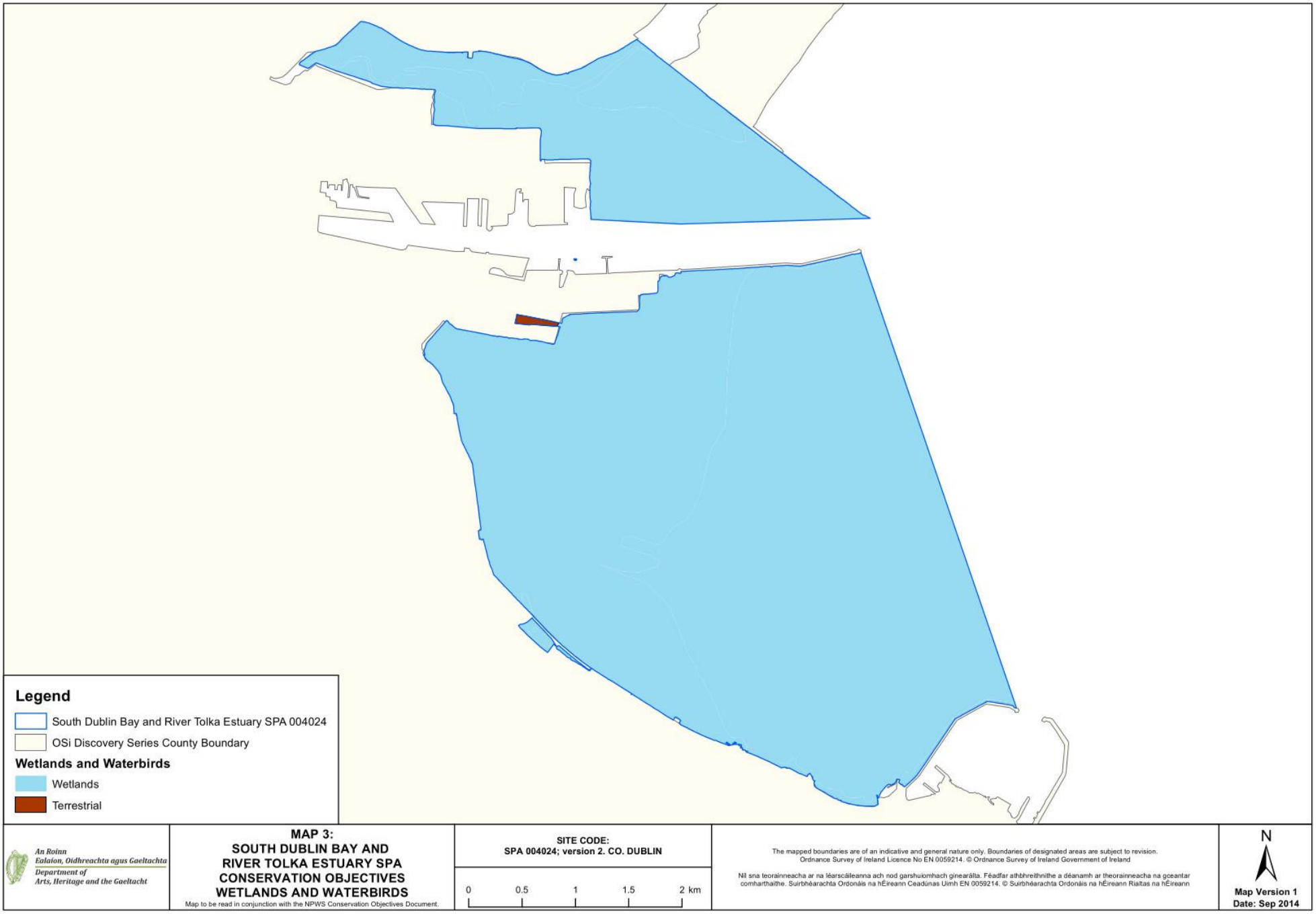
- *Habitat modification: activities that modify discreet areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers (for further discussion on this topic please refer to Section 5.4).*
- *Disturbance: anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers (for further discussion on this topic please refer to Section 5.4).*
- *Ex-situ factors: several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat change or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers (for further information on this topic please refer to Section 5.2).*

Objective 2. To maintain the favourable conservation condition of the wetland habitat at North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas.

This objective is defined by the following attributes and targets:

- *To be favourable, the permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 3,904 ha, other than that occurring from natural patterns of variation.*

This objective seeks to maintain the permanent extent of the wetland habitats that are contained within the boundary of these two SPAs, and which constitute an important resource for regularly-occurring migratory waterbirds (note that the total designated area also contains some non-wetland habitat).


Legend
South Dublin Bay and River Tolka Estuary SPA 004024
OSi Discovery Series County Boundary
Wetlands and Waterbirds
Wetlands
Terrestrial
An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht
MAP 3:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA CONSERVATION OBJECTIVES WETLANDS AND WATERBIRDS
Map to be read in conjunction with the NPWS Conservation Objectives Document.
SITE CODE:
SPA 004024; version 2. CO. DUBLIN
0 0.5 1 1.5 2 km
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
Ordnance Survey of Ireland Licence No EN 0059214. © Ordnance Survey of Ireland Government of Ireland
Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059214. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann
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Map Version 1
Date: Sep 2014

North Bull Island SPA (Site code: 004006)

As outlined in the North Bull Island SPA Site Synopsis[12] (NPWS, version date 25.03.2014)

'*This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses.*

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (Ulva spp.) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (Arenicola marina) and Ragworm (Hediste diversicolor).

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.

The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter.

The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.

The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive,

[12] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004006.pdf

notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.'

The Natura 2000 Standard Data Form (2020)[13] states that:

'*The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-developed dune system runs the length of the island, with good examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.*

The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of Branta bernicila hrota and Limosa lapponica and is the top site in the country for both of these species. A further 14 species have populations of national importance, with particular notable numbers of Tadorna tadorna (8.5% of national total), Anas acuta (11.6% of national total), Pluvialis squatarola (6.9% of national total), Calidris canutus (10.5% of national total). North Bull Island SPA is a regular site for passage waders such as Philomachus pugnax, Calidris ferruginea and Tringa erythropus. The site supports Asio flammeus in winter. Formerly the site had an important colony of Sterna albifrons but breeding has not occurred in recent years. The site provides both feeding and roosting areas for the waterfowl species. Habitat quality for most of the estuarine habitats is very good. The site has a population of the rare Petalophyllum ralfsii which is the only known station away from the western seaboard as well as five Red Data Book vascular plant species and four bryophyte species. It is nationally important for three insect species. Wintering bird populations have been monitored more or less continuously since the late 1960s, and the other scientific interests of the site have also been well documented. Future prospects are good owing to various designations assigned to site.'

The North Bull Island SPA Conservation Objectives Supporting Document[14] (NPWS, 2014) states the following:

'*North Bull Island lies roughly parallel to the shore and is a low-lying sandy spit, about 4.85 km long and 0.70 km wide (McCorry & Ryle, 2009a). It is a relatively recent geomorphological feature having emerged as a result of the build up of sediment over the last 200 years following the construction of the South and North Bull walls during the 18th and 19th centuries. The North Bull Wall marks the southern boundary of the island and is connected to the mainland by a wooden bridge. The island is actively accreting (Ryle et al. 2009a). A sandy beach, Dollymount Strand, occurs on the seaward side of the island and intertidal mudflats occur on the inner (mainland side) fringed by saltmarsh. A causeway built in 1965 provides the main access to the island and divides the intertidal flats into two areas known as the North and South Bull lagoons. Both of these are covered completely by most tides and are drained by permanent channels; the southern lagoon fills and empties beneath Bull Bridge, while water in the northern lagoon is channelled in and out through Sutton Creek (Harris, 1977). These lagoons provide the main feeding grounds for the wintering waterfowl while the fringing saltmarsh provides the main roost site for wintering birds in Dublin Bay. Macroalgal mats of filamentous Ulva spp. (formerly Enteromorpha spp.) 1 are prevalent.*

North Bull Island is one of the finest sand dune systems in Ireland and is internationally important in terms of conservation value (McCorry & Ryle, 2009a). It has several high quality examples of rare and threatened coastal habitats and a wealth of biodiversity, which includes several habitats and species listed in Annexes I and II of the

[13] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004006.pdf

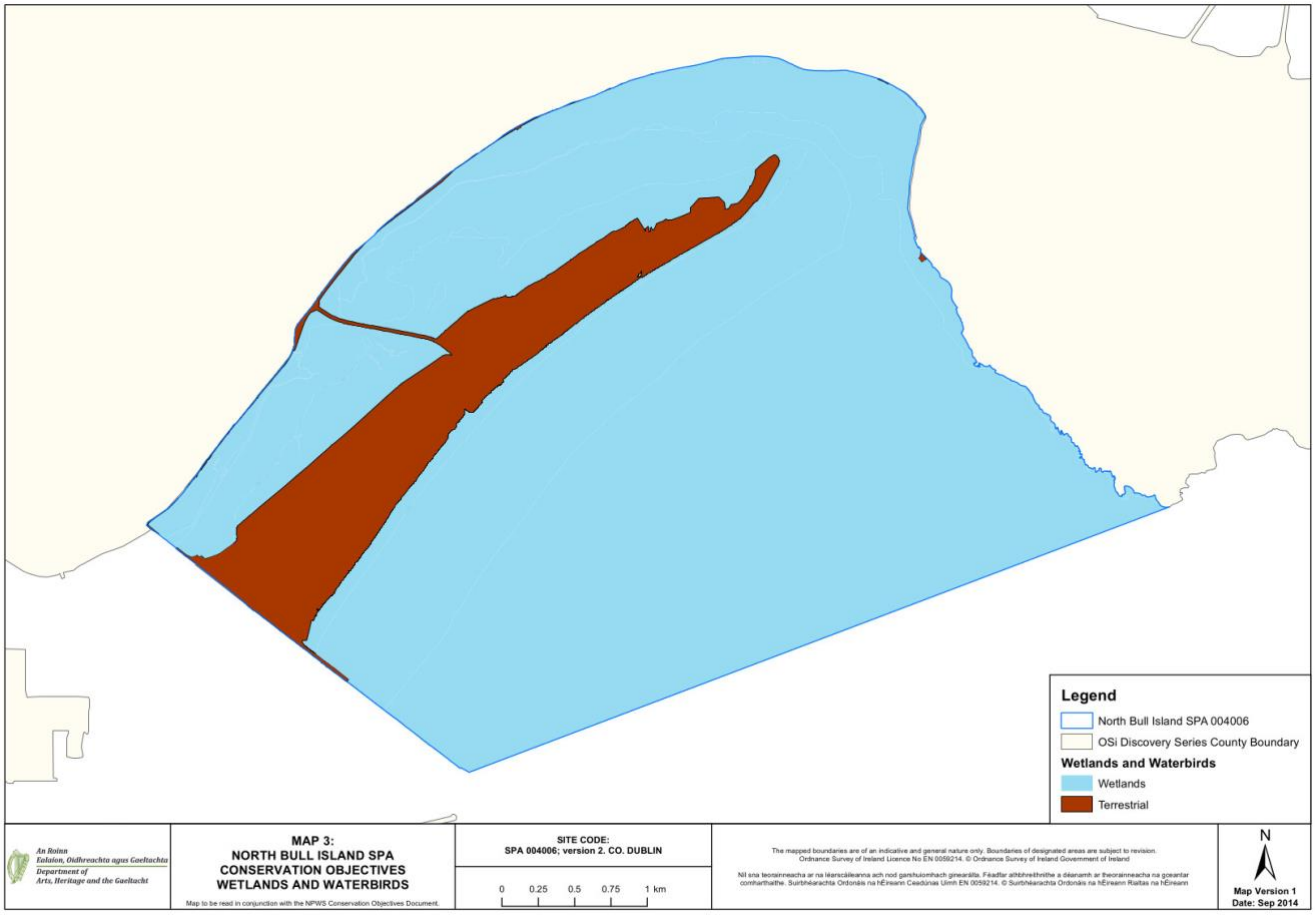
[14] https://www.npws.ie/sites/default/files/publications/pdf/North%20Bull%20Island%20SPA%20(004006)%20Conservation%20objectives%20supporting%20document%20-%20[Version%201].pdf

EU Habitats Directive. As a consequence, North Bull Island is afforded several other nature conservation designations alongside its status as a Special Protection Area. It was designated as an official bird sanctuary under the Wild Bird Protection Act, 1931, the first bird sanctuary in Ireland (McCorry & Ryle, 2009a), and was established as a National Nature Reserve in 1988 (two parts covered by S.I. 231 and S. I. 232 of 1988). The site has been designated as part of a Special Area of Conservation (North Dublin Bay SAC - NPWS site code 000206). North Bull Island is also a Biogenetic Reserve (Council of Europe) and a UNESCO World Biosphere Reserve.'

The following objectives have been identified:

'Objective 1: *To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest species listed for North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA*

Objective 2: *To maintain the favourable conservation condition of the wetland habitat at North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas.'*



North-West Irish Sea SPA (Site code: 004236)

As outlined in the North-West Irish Sea cSPA Site Synopsis[15] (NPWS Version date: 17.7.2023)

'The North-west Irish Sea cSPA constitutes an important resource for marine birds. The estuaries and bays that open into it along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. These areas, along with more pelagic marine waters further offshore, provide additional supporting habitats (for foraging and other maintenance behaviours) for those seabirds that breed at colonies on the north-west Irish Sea's islands and coastal headlands. These marine areas are also important for seabirds outside the breeding period.

This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km2 in area. This SPA is ecologically connected to several existing SPAs in this area.

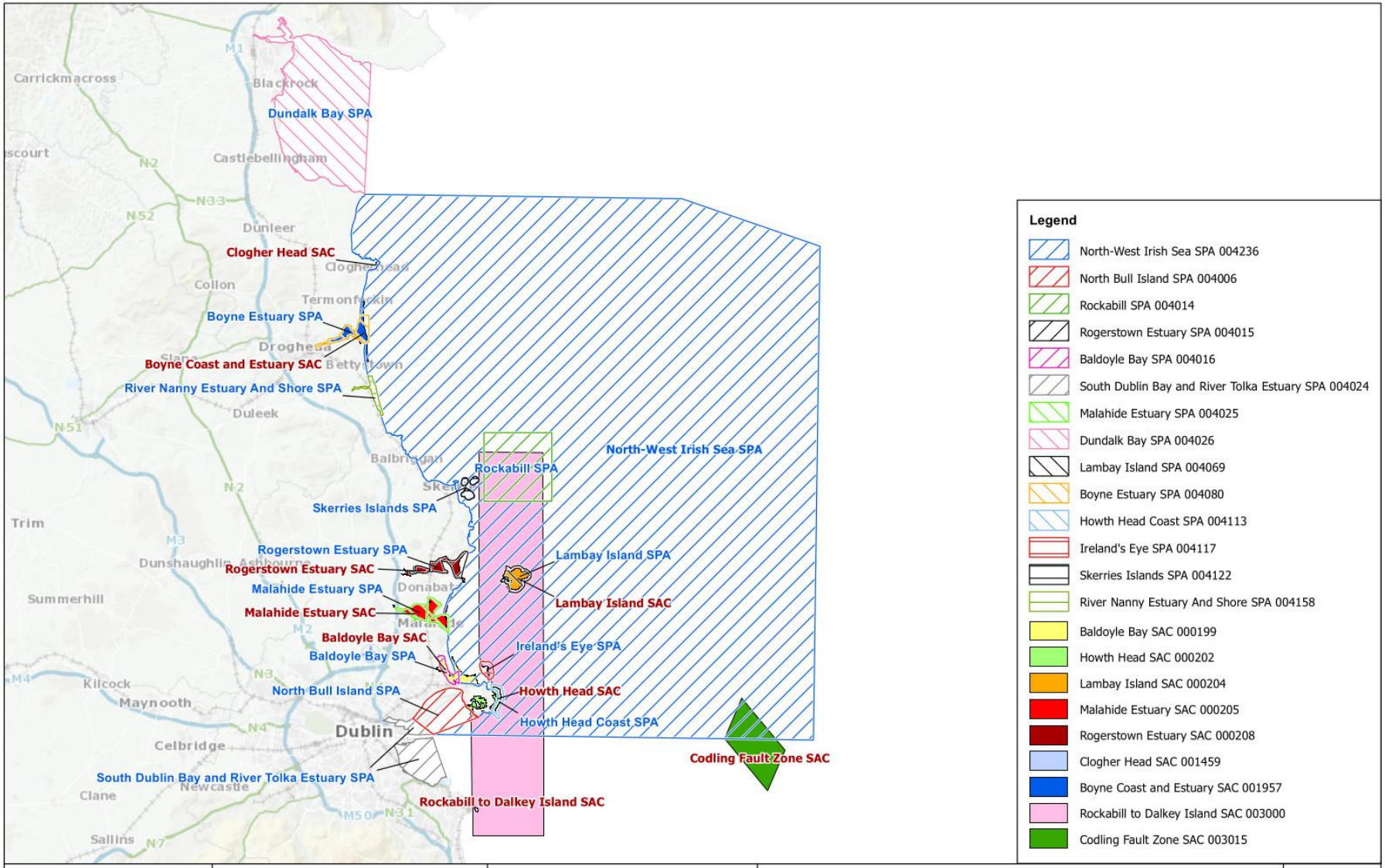
The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Common Scoter, Red-throated Diver, Great Northern Diver, Fulmar, Manx Shearwater, Shag, Cormorant, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot.

The breeding seabird species listed for those SPAs, which abut the North-West Irish Sea SPA are: Fulmar (Lambay Island SPA); Cormorant (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Shag (Skerries Island SPA; Lambay Island SPA); Lesser Black-backed Gull (Lambay Island SPA); Herring Gull (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Kittiwake (Lambay Island SPA; Ireland's Eye SPA; Howth Head SPA); Roseate Tern (Rockabill SPA); Common Tern (Rockabill SPA;); Arctic Tern (Rockabill SPA); Little Tern (Boyne Estuary SPA); Guillemot (Lambay Island SPA, Ireland's Eye SPA); Razorbill (Lambay Island SPA, Ireland's Eye SPA); and Puffin (Lambay Island SPA). The Common Tern population that is listed for the nearby South Dublin Bay and River Tolka Estuary SPA is also likely to use this SPA as a foraging resource.

Informed by two surveys of the western Irish Sea region in 2016 an estimated 120,232 and 34,626 individual marine birds occurred in this SPA during autumn and winter respectively. Those marine bird species whose estimated abundances equalled or exceeded 1% of the total estimated size of the winter assemblage are: Red-throated Diver (538), Fulmar (506), Little Gull (391), Kittiwake (944), Black-headed Gull (508), Common Gull (2,866), Herring Gull (6,893), Great Black-backed Gull (2,096), Razorbill (4,638) and Guillemot (13,914).

The estimated 2016 summer abundance of Manx Shearwater in the North West Irish Sea SPA is 13,010 and is of international importance. The estimated 2016 autumn and winter abundances of Great Northern Diver in the North West Irish Sea SPA is 248 and 230 respectively and are of international importance. The estimated abundances of Common Scoter over parts of this SPA can reach significant numbers (e.g. 14,567 in December 2018) which is also of international importance.

[15] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004236.pdf



NPWS

MAP 2:
NORTH-WEST IRISH SEA SPA
CONSERVATION OBJECTIVES
OVERLAPPING AND ADJACENT SITES

Map to be read in conjunction with the NPWS Conservation Objectives Document

SITE CODE:
SPA 004236; version 3

0 2.5 5 10 Kilometres

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Map version 1
Date: September 2023

Status of Qualifying Interests & Conservation Objectives

The Qualifying Interests (QI) (Features of Interest), Special Conservation Interests (SCIs) for the SAC and SPA sites and the National conservation status of the Natura 2000 sites subject to the NIS are seen in Table 4. The site-specific conservation Objectives for Natura 2000 sites are seen in Table 5.

Table 4. Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for Natura 2000 sites

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
Special Areas of Conservation (SAC)		
South Dublin Bay SAC (000210)	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]	**Inadequate** **Inadequate** **Favourable** **Inadequate**
North Dublin Bay SAC (000206)	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] Petalwort (*Petalophyllum ralfsii*) [1395]	**Inadequate** **Inadequate** **Favourable** **Inadequate** **Inadequate** **Inadequate** **Inadequate** **Bad** **Inadequate** **Favourable**
Special Protection Areas (SPA)		
South Dublin Bay and River Tolka Estuary SPA (004024)	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]	**Amber** **Amber** **Green** **Amber** **Amber** **Green** **Red** **Amber** **Red** **Red**

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
	Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Wetland and Waterbirds [A999]	**Amber** **Amber** **Amber** **N/A**
North Bull Island SPA (004006)	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] 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] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999]	**Amber** **Amber** **Amber** **Red** **Red** **Amber** **Red** **Amber** **Amber** **Green** **Red** **Amber** **Amber** **Red** **Red** **Green** **Red** **N/A**
North-West Irish Sea SPA (004236)	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] Little Gull (*Larus minutus*) [A177] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182]	**Amber** **Amber** **Amber** **Amber** **Amber** **Amber** **Red** **Amber** **Amber** **Amber**

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
	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] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	**Amber** **Amber** **Green** **Red** **Amber** **Amber** **Amber** **Amber** **Amber** **Red** **Red**

Table 5. Site-specific conservation objectives for Natura 2000 sites

South Dublin Bay SAC (000210)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Zostera*-dominated community, subject to natural processes
Community structure: *Zostera* density	Shoots/m^2	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sands with *Angulus tenuis* community complex

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Mytilus edulis*-dominated community, subject to natural processes
Community structure: *Mytilus edulis* density	Individuals/m^2	Conserve the high quality of the *Mytilus edulis* -dominated community, subject to natural processes
Community distribution	Hectares	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
Annual vegetation of drift lines [1210] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	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.)
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover
Salicornia and other annuals colonizing mud and sand [1310] (Restore the favourable conservation condition of Salicornia and other annuals colonizing mud and sand)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 29.10 ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Atlantic salt meadows [1330] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 81.84ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Mediterranean salt meadows [1410] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 7.98ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Embryonic shifting dunes [2110] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.64ha; South Bull – 3.43ha.

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of foredune grasses	Percentage Cover	More than 95% of sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*) should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*)
Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.20ha; South Bull – 0.97ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of dune grasses	Percentage Cover	95% of marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*) should be healthy (i.e. green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*)
Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull – 40.29ha; South Bull – 64.56ha.

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: negative indicator species (including *Hippophae rhamnoides*)	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Humid dune slacks [2190] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: North Bull – 3.96ha; South Bull – 9.15ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: hydrological and flooding regime	Water table levels; groundwater fluctuations (metres)	Maintain natural hydrological regime
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: cover of *Salix repens*	Percentage cover; centimetres	Maintain less than 40% cover of creeping willow (*Salix repens*)
Vegetation composition: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Petalwort (*Petalophyllum ralfsii)* [1395] (Maintain the favourable conservation condition)		
Distribution of populations	Number and geographical spread of populations	No decline
Population size	Number of individuals	No decline
Age of suitable habitat	Hectares	No decline
Hydrological conditions: soil moisture	Occurrence	Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but not subject to prolonged inundation by flooding in winter
Vegetation structure: height and cover	Centimetres and percentage	Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground

South Dublin Bay and River Tolka Estuary SPA (004024)		
Attribute	Measure	Target
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina alpina*) [A149], Bar-tailed Godwit (*Limosa lapponica*) [A157], Redshank (*Tringa totanus*) [A162], Black-headed Gull (*Chroicocephalus ridibundus*) [A179] (Maintain the favourable conservation condition) Note: Grey Plover (*Pluvialis squatarola*) [A141] is proposed for removal from the list of SCI's for the site so no site specific conservation objective is included for the species		
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 and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation
Roseate Tern *Sterna dougallii* [A192]		
Passage population: individuals	Passage population: individuals	Passage population: individuals
Distribution: roosting areas	Distribution: roosting areas	Distribution: roosting areas

South Dublin Bay and River Tolka Estuary SPA (004024)		
Attribute	Measure	Target
Prey biomass available	Prey biomass available	Prey biomass available
Barriers to connectivity	Barriers to connectivity	Barriers to connectivity
Disturbance at roosting site	Disturbance at roosting site	Disturbance at roosting site
Common Tern *Sterna hirundo* [A193]		
Breeding population abundance: apparently occupied nests (AONs)	Breeding population abundance: apparently occupied nests (AONs)	Breeding population abundance: apparently occupied nests (AONs)
Productivity rate: fledged young per breeding pair	Productivity rate: fledged young per breeding pair	Productivity rate: fledged young per breeding pair
Passage population: individuals	Passage population: individuals	Passage population: individuals
Distribution: breeding colonies	Distribution: breeding colonies	Distribution: breeding colonies
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]		
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 Arctic tern among the post-breeding aggregation of terns
A999 Wetlands - To maintain the favourable conservation condition of the wetland habitat		
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192ha, other than that occurring from natural patterns of variation

North Bull Island SPA (004006)		
Attribute	Measure	Target
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Anas clypeata*) [A056], 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 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], Black-headed Gull (*Chroicocephalus ridibundus*) [A179] (Maintain the favourable conservation condition)		
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 and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation
A999 Wetlands - To maintain the favourable conservation condition of the wetland habitat		
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713ha, other than that occurring from natural patterns of variation

North-West Irish Sea SPA		
Attribute	Measure	Target
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], Little Gull (*Larus minutus*) [A177], 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], Little Tern (*Sterna albifrons*) [A195], Guillemot (*Uria aalge*) [A199], Razorbill (*Alca torda*) [A200], Puffin (*Fratercula arctica*) [A204]		
Breeding/Non-breeding population size (depending on species)	Number	No significant decline
Spatial distribution	Hectares, time 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, areas 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

Analysis of Potential Impacts on Natura 2000 Sites

Impacts of the Proposed Works

The proposed development is not within a designated conservation site. The nearest Natura 2000 sites are South Dublin Bay SAC (5.5km) and South Dublin Bay and River Tolka Estuary SPA (4.4km). Given the nature of the demolition, site clearance, excavation and construction work and recognising that the proposed development site is located directly adjacent to the River Liffey, it is considered that there is a direct hydrological pathway to South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC, North Bull Island SPA and North-West Irish Sea SPA. Out of an abundance of caution, it is considered that, in the absence of mitigation measures, there is the potential for dust, contaminated surface water runoff and other construction pollutants to enter the River Liffey during construction and operation and effect the integrity of Natura 2000 sites located within Dublin Bay.

The potential impacts on Natura 2000 sites are seen in Table 6. The proposed construction works would impact on the existing ecology of the site and the surrounding area. In the absence of mitigation, this could lead to the transportation of dust and surface water runoff to the proximate River Liffey, with the potential for downstream impacts on the integrity of marine based Natura 2000 sites located within the Dublin Bay.

Demolition, construction and operational phase mitigation measures are required on site particularly as clearance of the site is proposed which will remove all existing terrestrial habitats and in the absence of mitigation would lead to dust and silt laden and contaminated runoff entering the River Liffey. Mitigation measures are required to prevent adverse effects on Natura 2000 sites screened in for NIS.

Mitigation Measures

Mitigation measures to prevent significant adverse effects on downstream Natura 2000 sites are outlined in Table 7. These measures include the measures outlined in the accompanying EcIA and Construction Environmental Management Plan by ARUP.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site	Qualifying Interests	Potential for Adverse Effects
South Dublin Bay SAC	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]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Liffey with potential for downstream impacts on South Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the species that are of conservational interest do not extend into the proposed development site, but are located downstream of the proposed works. In the absence of mitigation, construction, excavation and demolition works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt, dust and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the adjacent river. Surface water runoff on site during construction may lead to silt or contaminated materials from site entering the River Liffey with downstream impacts on the SAC. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying 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] Mitigation measures are required to remove the potential of impacts on the SAC from direct pathways via the River Liffey.
North Dublin Bay SAC	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]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Liffey with potential for downstream impacts on North Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the species that are of conservational interest may extend into the proposed development site, and are located downstream of the proposed works. In the absence of mitigation, construction, excavation and demolition works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering adjacent river. Surface water runoff on site during demolition may lead to silt or contaminated materials from site entering the River Liffey with downstream impacts on the SAC. If on-site

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site	Qualifying Interests	Potential for Adverse Effects
	Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort (*Petalophyllum ralfsii*) [1395]	concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying 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] • Petalwort (*Petalophyllum ralfsii*) [1395] Mitigation measures are required to remove the potential of impacts on the SAC from direct pathways via the River Liffey.
South Dublin Bay and River Tolka Estuary SPA	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]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Liffey with potential for downstream impacts on South Dublin Bay and River Tolka Estuary SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are conservation interests would potentially be downstream of the proposed works. Construction, excavation and demolition works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering adjacent river. Surface water runoff on site during construction may lead to silt or contaminated materials from site entering the River Liffey with downstream impacts on the SPA. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests:

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site	Qualifying Interests	Potential for Adverse Effects
	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]	• 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] Mitigation measures are required to remove the potential of impacts on the SPA from direct pathways via the River Liffey.
North Bull Island SPA	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] 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]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Liffey with potential for downstream impacts on North Bull Island SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are conservation interests would potentially be downstream of the proposed works. Construction, excavation and demolition works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering adjacent river. Surface water runoff on site during demolition may lead to silt or contaminated materials from site entering the River Liffey with downstream impacts on the SPA. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site	Qualifying Interests	Potential for Adverse Effects
	Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Turnstone (*Arenaria interpres*) [A169] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999]	• Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052] • Pintail (*Anas acuta*) [A054] • Shoveler (*Anas clypeata*) [A056] • 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] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Wetland and Waterbirds [A999] Mitigation measures are required to remove the potential of impacts on the SPA from direct pathways via the River Liffey.
North-West Irish Sea SPA	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] Little Gull (*Larus minutus*) [A177]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Liffey with potential for downstream impacts on North Bull Island SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are conservation interests would potentially be downstream of the proposed works. Construction, excavation and demolition works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering adjacent river. Surface water runoff on site during demolition may lead to silt or contaminated materials from site entering the River Liffey with downstream impacts on the SPA. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site	Qualifying Interests	Potential for Adverse Effects
	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] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • 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] • Little Tern (*Sterna albifrons*) [A195] • Guillemot (*Uria aalge*) [A199] • Razorbill (*Alca torda*) [A200] • Puffin (*Fratercula arctica*) [A204] Mitigation measures are required to remove the potential of impacts on the SPA from direct pathways via the River Liffey.

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
River Liffey South Dublin Bay SAC North Dublin Bay SAC South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA North-West Irish Sea SPA	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on the aquatic environment, aquatic species and qualifying interests.	As outlined in the Construction Environmental Management Plan by ARUP, the following mitigation measures will be in place: ***'Mitigation Measures*** ***Traffic & Transport*** *A Construction Traffic Management Plan has been included as Section 7 of this CEMP. The contractor will develop this CEMP and Construction Traffic Management Plan (CTMP) in order to implement the requirements of the CEMP prepared as part of this application. This will be developed by the appointed contractor in advance of the works and will be agreed with Dublin City Council and An Garda Síochána.* *Air Quality* *The assessment of likely significant effects during construction includes for the implementation of 'standard mitigation', as stated in the TII guidance6. The measures which are appropriate to the proposed development and which will be implemented include:* *• Spraying of exposed earthwork activities and site haul roads during dry weather;* *• Provision of wheel washes at exit points;* *• Covering of stockpiles;* *• Control of vehicle speeds, speed restrictions and vehicle access; and* *• Sweeping of hard surface roads.* *In addition, the following measures will be implemented for during the construction phase of the proposed development:* *• Facades of buildings will be covered and sprayed with water while being demolished;* *• A c. 1.8m hoarding will be provided around the site works to minimise the dispersion of dust from the working areas;* *• Any generators will be located away from sensitive receptors in so far as practicable; and* *• Stockpiles will be located as far as possible from sensitive receptors and covered and/or dampened during dry weather.* *Employee awareness is also an important way that dust may be controlled on any site. Staff training and the management of operations will ensure that all dust suppression methods are implemented and continuously inspected.* *During the construction phase of the proposed development it is possible that disturbance of ACMs on site could cause asbestos fibres to be released into the ambient environment. An asbestos audit will be carried out on the buildings scheduled for demolition prior to demolition works. Any asbestos discovered will be removed by a Specialist Contractor in accordance with Safety, Health, and Welfare at Work (exposure to Asbestos) Regulations 2006/20137, and disposed of by specialist contractors to an appropriately licensed facility. Traceable records of this activity, including the disposal licence, will be kept.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		Noise & Vibration ***Noise*** *The impact assessment conducted for the construction activity during the construction phase has highlighted that the predicted construction noise levels are above the adopted criteria at distances of 20m or less, and that a negative impact on nearby receivers will occur.* *The following mitigation measures will be implemented during construction activities in order to reduce the noise and vibration impact to nearby noise sensitive areas. The contractor will provide proactive community relations and will notify the public and vibration sensitive premises before the commencement of any works forecast to generate appreciable levels of noise or vibration, explaining the nature and duration of the works. The contractor will distribute information circulars informing people of the progress of works and any likely periods of significant noise and vibration.* *With regard to potential mitigation measures during construction activities, the standard planning condition typically issued by Dublin City Council states:* *"During the construction and demolition phases, the proposal development shall comply with British Standard 5228 "Noise Control on Construction and open sites Part 1. Code of practice for basic information and procedures for noise control."* *BS5228 includes guidance on several aspects of construction site mitigation measures, including, but not limited to:* • •*selection of quiet plant;* • •*control of noise sources;* • •*screening;* • •*hours of work, and;* • •*liaison with the public.* *Thus, the following noise mitigation will be adhered to during construction:* ***Selection of Quiet Plant*** *The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item should be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action should be to identify whether or not said item can be replaced with a quieter alternative.* ***Noise Control at Source*** *If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.* *Referring to the potential noise generating sources for the works under consideration, the following best practice migration measures should be considered:*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		•Site compounds will be located away from noise sensitive receptors within thesite constraints. The use lifting bulky items, dropping and loading of materialswithin these areas will be restricted to normal working hours. *•Mobile plant should be switched off when not in use and not left idling.* *•For piling plant, noise reduction can be achieved by enclosing the drivingsystem in an acoustic shroud. For steady continuous noise, such as thatgenerated by diesel engines, it may be possible to reduce the noise emitted byfitting a more effective exhaust silencer system or utilising an acoustic canopyto replace the normal engine cover.* *•For concrete mixers, control measures will be employed during cleaning toensure no impulsive hammering is undertaken at the mixer drum.* *•For all materials handling ensure that materials are not dropped fromexcessive heights, lining drops chutes and dump trucks with resilientmaterials.* *•Demountable enclosures can also be used to screen operatives using handtools and will be moved around site as necessary.* *•All items of plant will be subject to regular maintenance. Such maintenancecan prevent unnecessary increases in plant noise and can serve to prolong theeffectiveness of noise control measures.* ***Piling*** *Piling is the construction activity which is most likely to cause disturbance. Mitigation in relation to piling is outlined in the following paragraphs.* *Piling programmes will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. If piling works are in progress on a site at the same time as other works of construction or demolition that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.* *During consultation the planner, developer, architect and engineer, as well as the local authority, should be made aware of the proposed method of working of the piling contractor. The piling contractor will in turn have evaluated any practicable and more acceptable alternatives that would economically achieve, in the given ground conditions, equivalent structural results.* *Noise reduction will be achieved by enclosing the driving system in an acoustic shroud.* *Screening by barriers and hoardings is less effective than total enclosure but can be a useful adjunct to other noise control measures. For maximum benefit, screens should be close either to the source of noise (as with stationary plant) or to the listener. Removal of a direct line of sight between source and listener can be advantageous both physically and psychologically. In certain types of piling works there will be ancillary mechanical plant and equipment that may be stationary, in which case, care should be taken in location, having due regard also for access routes. When appropriate, screens or enclosures will be provided for such equipment.* *Contributions to the total site noise can also be anticipated from mobile ancillary equipment, such as handling cranes, dumpers, front end loaders etc. These machines may only have to work intermittently, and when safety permits, their engines will be switched off (or during short breaks from duty reduced to idling speed) when not in use.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		Screening *Screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. Construction site hoarding will be constructed around the site boundaries as standard. The hoarding will be constructed of a material with a mass per unit of surface area greater than 7 kg/m2 to provide adequate sound insulation.* *In addition, careful planning of the site layout will also be considered. The placement of site buildings such as offices and stores will be used, where feasible, to provide noise screening when placed between the source and the receiver.* ***Liaison with the Public*** *A designated environmental liaison officer will be appointed to site during construction works. Any noise complaints should be logged and followed up in a prompt fashion by the liaison officer. In addition, where a particularly noisy construction activity is planned or other works with the potential to generate high levels of noise, or where noisy works are expected to operate outside of normal working hours etc., the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.* ***Monitoring*** *Construction noise monitoring will be undertaken at periodic sample periods at the nearest noise sensitive locations to the development works to check compliance with the construction noise criterion.* *Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.* ***Project Programme*** *The phasing programme will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. During excavation/ piling or other high noise generating works are in progress on a site at the same time as other works of construction that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.* ***Vibration*** *Any construction activities undertaken on the site will be required to operate below the recommended vibration criteria set out in BS 7385-2 (1993).* *Biodiversity* ***Terrestrial Environment*** *Mammals* *The buildings on site present roosting potential to bats. However, none were recorded in two separate surveys at the appropriate time of the year. There are no proposed mitigation measures for bats with regard to the demolition of buildings.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		There will be no direct lighting of the river during the construction period. All arc or flood lighting will be directed into the site and away from the river to reduce potential effects on commuting otters and bats during night time hours. *Birds* *There are no specific measures required for birds during construction.* ***Aquatic Environment*** *Surface Water* *Surface water from the proposed development will discharge to the River Liffey. A foreshore consent will be sought for this discharge. Mitigation measures relating to the protection of surface water quality and status are described in* ***Chapter 14****, Water and Hydrology and are summarised below.* *"The employment of good construction management practices will minimise the risk of pollution of soil, surface water and groundwater. The following site-specific measures will be implemented for the proposed development which will include:* *•Earthworks operations shall be carried out such that surfaces shall bedesigned with adequate falls, profiling and drainage to promote safe run-offand prevent ponding and flooding;* *•Run-off will be controlled to minimise the water effects in outfall areas;* *•All concrete mixing and batching activities will be located in areas away fromwatercourses and drains; and* *•Good housekeeping (site clean-ups, use of disposal bins, etc.) will beimplemented on the site.* *In order to prevent the accidental release of hazardous materials (fuels, cleaning agents, etc.) during construction site activity, all hazardous materials will be stored within secondary containment designed to retain at least 110% of the storage contents. Temporary bunds for oil/diesel storage tanks will be used on the site during the construction phase of the project. Safe materials handling of all potentially hazardous materials will be emphasised to all construction personnel employed during this phase of the proposed development. The contractor's sanitary facilities will discharge into the existing combined sewer on Parkgate Street or as otherwise agreed with Dublin City Council."* ***Water*** *The employment of good construction management practices will minimise the risk of pollution of soil, surface water and groundwater. The following site-specific measures will be implemented for the proposed development which will include:* *•Earthworks operations shall be carried out such that surfaces shall be designedwith adequate falls, profiling and drainage to promote safe run-off and preventponding and flooding; and* *•Run-off will be controlled to minimise the water effects in outfall areas; and* *•All concrete mixing and batching activities will be located in areas away fromwatercourses and drains; and* *•Good housekeeping (site clean-ups, use of disposal bins, etc.) will beimplemented on the site.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		In order to prevent the accidental release of hazardous materials (fuels, cleaning agents, etc.) during construction site activity, all hazardous materials will be stored within secondary containment designed to retain at least 110% of the storage contents. Temporary bunds for oil/diesel storage tanks will be used on the site during the construction phase of the project. Safe materials handling of all potentially hazardous materials will be emphasised to all construction personnel employed during this phase of the proposed development. The contractor's sanitary facilities will discharge into the existing combined sewer on Parkgate Street or as otherwise agreed with Dublin City Council. ***Land & Soils*** ***General*** *Precautionary measures will be taken to contain any areas within the planning boundary at risk of contaminated run-off.* *•Potential pollutants shall be adequately secured against vandalism and will beprovided with proper containment according to the relevant codes of practice.Any spillages will be immediately contained, and contaminated soil shall beremoved from the proposed development and properly disposed of in anappropriately licensed facility;* *•Dust generation shall be kept to a minimum through the wetting down of haulroads as required and other dust suppression measures;* *•Any stockpiles of earthworks and site clearance material shall be stored onimpermeable surfaces and covered with appropriate materials;* *•Silt traps shall be placed in gullies to capture any excess silt in the run-offfrom working areas;* *•Soil and water pollution will be minimised by the implementation of goodhousekeeping (daily site clean-ups, use of disposal bins, etc.) and the properuse, storage and disposal of these substances and their containers as well asgood construction practices; and* *This CEMP includes good housekeeping and emergency response measures to be implemented during the construction phase of the project, including actions for dealing with any potential pollution incidents, in accordance with the following measures which are detailed in CIRIA Guidance 37:* *•Containment measures;* *•Emergency discharge routes;* *•List of appropriate equipment and clean-up materials;* *•Maintenance schedule for equipment;* *•Details of trained staff, location and provision for 24-hour cover;* *•Details of staff responsibilities;* *•Notification procedures to inform the EPA or Environmental Department ofthe Dublin City Council;* *•Audit and review schedule;* *•Telephone numbers of statutory water consultees; and* *•List of specialist pollution clean-up companies and their telephone numbers.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		Compression of Substrata *•Excavations shall be kept to a minimum, using shoring or trench boxes whereappropriate. For more extensive excavations, a temporary works designer shallbe appointed to design excavation support measures in accordance with allrelevant guidelines and standards.* ***Loss of Overburden*** *•All excavated material will, where possible, be reused as construction fill. Theappointed contractor will ensure acceptability of the material for reuse for theproposed development with appropriate handling, processing and segregationof the material. This material would have to be shown to be suitable for suchuse and subject to appropriate control and testing according to the EarthworksSpecification(s);* *•These excavated soil materials will be stockpiled using an appropriate methodto minimise the impacts of weathering. Care will be taken in reworking thismaterial to minimise dust generation, groundwater infiltration and generationof runoff; and* *•Any surplus suitable material excavated that is not required elsewhere for theproposed development, shall be used for other projects where possible, subjectto appropriate approvals/notifications.* ***Earthworks Haulage*** *•Earthworks haulage will be along agreed predetermined routes along existingnational, regional and local routes. Where compaction occurs due to truckmovements and other construction activities on unfinished surfaces,remediation works will be undertaken to reinstate the ground to an acceptablecondition. Where practicable, compaction of any soil or subsoil which is toremain in situ will be avoided; and* *•Earthworks operations shall be carried out such that surfaces shall be designedwith adequate falls, profiling and drainage to promote safe runoff and preventponding and flooding. Runoff will be controlled through erosion and sedimentcontrol structures appropriate to minimise the possible impacts.* ***Impact on surrounding ground:*** *•Ground settlement, horizontal movement and vibration monitoring will beimplemented during construction activities to ensure that the construction doesnot exceed the design limitations; and* *•Ground settlements will be controlled through the selection of a foundationtype and construction methods which are suitable for the particular groundconditions.* ***Hydrogeology*** ***Pollution from Construction Activities*** *The employment of good construction management practices will minimise the risk of pollution of soil, storm water run-off, adjacent watercourses and groundwater. The construction management of the site will take account of the recommendations*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		of the CIRIA guidance Control of Water Pollution from Construction Sites – Guidance for consultants and contractors (Masters-Williams et al., 2001) to minimise as far as possible the risk of soil, groundwater and surface water contamination. *Measures that will be implemented to minimise the risk of spills and contamination of soils and waters, will include:* *•Where feasible all excavated spoil will be treated to remove excess fluid priorto stockpiling and transportation;* *•Where feasible transfer of excess soil materials from stockpile areas off-sitewill be undertaken during dry periods;* *•Stockpile and transfer of excess soil material will be restricted to specified andimpermeable areas that are isolated from the surrounding environment;* *•Wheel washes will be provided at site entrances to clean vehicles prior toexiting the work site;* *•All staff will be trained and follow vehicle cleaning procedures. Details ofthese procedures will be posted in all work sites for easy reference; and* *•The implementation of the above measures will ensure that the risk ofpollution of groundwater and nearby water bodies resulting from theconstruction activities will be minimised.* *•Training of site managers, foremen and workforce, including allsubcontractors, in pollution risks and preventative measures;* *•Careful consideration will be given to the location of any fuel storagefacilities. These will be designed in accordance with guidelines produced byCIRIA, and will be fully bunded;* *•All vehicles and plant will be regularly inspected for fuel, oil and hydraulicfluid leaks. Suitable equipment to deal with spills will be maintained on site;* *•Ensure that all areas where liquids are stored, or cleaning is carried out are indesignated impermeable areas that are isolated from the surrounding area e.g.by a roll-over bund, raised kerb, ramps or stepped access;* *•Minimise the use of cleaning chemicals; and* *•Use trigger-operated spray guns, with automatic water-supply cut-off.* ***Air Quality*** *Dust monitoring will be undertaken at a range of nearest sensitive receptors during the demolition and construction phases. The TA Luft dust deposition limit values of 350 mg/m2/day (averaged over one year) will be applied as a 30-day average* ***Noise & Vibration*** *Where required, construction noise monitoring will be undertaken at periodic sample periods at the nearest noise sensitive locations to the development works to check compliance with the construction noise criteria. Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics –Description, measurement and assessment of environmental noise.* *Vibration monitoring will be implemented during construction activities to ensure that vibration levels are in accordance with criteria set out in Section 9.2.7.2. Monitoring will be more rigorous in the proximity of any protected structures; including more frequent monitoring and additional monitoring points. Monitoring points will be located on the face of the structures and centred every 1m.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		Biodiversity *During the construction phase when and if dewatering of excavations is required, the Contractor will be responsible for monitoring the suspended solids content of the adjacent River Liffey water. The discharge of treated surface water from construction activities will be monitored to ensure that the discharged treated water will be in accordance to the Dublin City Council Discharge Licence if required.* *The settlement tank and silt bag will be monitored by a Site Environmental Manager who will direct the control of settlement and whether a silt bag needs to be changed.* ***Water*** ***Hydrology, Water Quality and Drainage*** *Visual monitoring will be undertaken as part of the regular site audits during the construction of the proposed development to ensure existing surface water runoff is draining from the site and is not exposed to any contaminants.* ***Wastewater*** *The contractor will be required to ensure that the sanitary facilities for the site personnel are maintained and effluent storage is regularly emptied and disposed of.* ***Water Supply*** *The contractor will be required to ensure that the water supply to the site is maintained and free of contaminants.* ***Flood Risk*** *The contractor is required to monitor the weather forecasts to inform the programming of earthworks and stockpiling of materials.* ***Land & Soils*** *Excavations in made ground will be monitored by an appropriately qualified person to ensure that any contaminated material is identified, segregated and disposed of appropriately. Any identified hotspots shall be segregated and stored in an area where there is no possibility of runoff generation or infiltration to ground or surface water drainage. Care will be taken to ensure that the hotspot does not cross-contaminate clean soils elsewhere.* *Any excavation shall be monitored during earthworks to ensure the stability of side slopes and to ensure that the soils excavated for disposal are consistent with the descriptions and classifications according to the waste acceptance criteria testing carried out as part of the site investigations.* *Ground settlement, horizontal movement and vibration monitoring will be implemented during construction activities to ensure that the construction does not exceed the design limitations. Monitoring will be more rigorous in the proximity of any protected structures. This will include more frequent monitoring and additional monitoring points. Monitoring points will be located on the face of the structures and centred every 1m. Horizontal, vertical and rotational displacement in all directions will be monitored.*

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		Movement monitoring shall be carried out during any activities which may result in ground movements or movements of any nearby structures. ***Hydrogeology*** *In relation to soils contamination a suitably experienced environmental consultant will be required to oversee the excavation works for the proposed development so that potential contamination can be segregated, classified and suitably disposed.* *The works will be monitored by a Resident Engineer.* *Visual monitoring will be undertaken as part of the regular site audits during the construction of the proposed development to ensure the groundwater resource is not impacted by the proposed development.'* **Additonal Mitigation Measures** In addition to the measures outlined above, the following mitigation will be implemented: • All demolition and site clearance works methodologies will have prior approval of a project ecologist. • Staging of project will be carried out to reduce risks or onsite drainage and the River Liffey. • Upon lifting of the concrete slab/hard standing and removal the building on site, the soils will be will be assessed for contamination prior to any site discharge. • Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works. • Local silt traps established throughout site. • All onsite drainage network connections will be blanked off and sealed at the first phase of the demolition works. • Upon the lifting of the hard standing on site additional inspections and hazardous material testing will be carried and appropriate decontamination of the site carried out in consultation with the project ecologist. • Staging of project will initially stabilise, isolate, fence and landscape the watercourse on site • No entry of solids or petrochemicals to the drainage network during the works • Full compliance with the water Pollution Acts will be carried out on site. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and consulted in relation to all onsite drainage during works. • Dewatering of excavations may be necessary. Appropriate monitoring of groundwater levels during site works will be undertaken. Standard construction phase filtering of surface water for suspended solids will be carried out. Unfiltered surface water discharges or runoff are not permitted from the site to surface water networks or the River Liffey.

Table 7. Mitigation measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on Natura 2000 sites
		• Contamination testing of surface water discharges will be carried out on a weekly basis so long as pumped discharges are required. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. • Environmental risks due to demolition and post demolition of the proposed development do potentially exist, particularly in relation runoff, drains that could lead to the River Liffey. Following the demolition of the site a watching brief will be put in place in relatio to potentiai contamination on site. The ecologist will be informaed of any potential areas of soil contamination on site. **Operational Mitigation** The project ecologist will inspect the petrochemical interceptors on site (post construction).
Birds (National Protection)	Destruction and/or disturbance to nests (injury/death).	Pre construction inspection in line with "Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present. NPWS will be informed if nesting birds are present.

Adverse Effects on the conservation objectives of Natura 2000 sites likely to occur from the project (post mitigation)

A robust series of mitigation measures are proposed. These would ensure that surface water runoff from the proposed works site is clean, uncontaminated and that dust from the works would not significantly impact on the River Liffey and downstream Natura 2000 sites. It should be noted that the early implementation of ecological supervision on site will be at the initial mobilisation and enabling works. This is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation strategies.

With the successful implementation of the mitigation measures to limit surface water impacts on the River Liffey, including mitigation/supervision, no significant impacts are foreseen from the demolition, construction & operation of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works and would not impact on the integrity of proximate Natura 2000 sites.

The construction phase mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA through the application of the mitigation measures and standard construction phase controls as outlined above. No significant adverse impacts on the conservation objectives of Natura 2000 sites are likely following the implementation of the mitigation measures outlined above.

It is essential that these measures outlined are complied with, to ensure that the proposed development does not have "downstream" environmental effects on Natura 2000 sites. These measures are to protect the River Liffey, which is the primary vector of impacts from the development site, and to ensure that downstream Natura 2000 are not impacted during demolition, excavation, construction and operation phases of the proposed development.

In-Combination Effects

There are several granted developments located in the area immediately surrounding the subject site. The following is a list of planning applications in close proximity to the subject site as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal[16],:

Table 8. In-combination effects considered

Ref. No.	Address	Proposal
3145/19	41, Parkgate Street, Dublin 8	Planning permission for demolition of existing two storey over double basement building (352 sq.m) at 41 Parkgate Street, Dublin 8 and the erection of a five storey over double basement apartment building (886 sq.m) containing 13 apartments, as follows: 2 no. one bed studios, 10 no. one bed units and one two bed unit, all with external terraces / balconies on south side of each unit (within central lightwell for unit nos: 2, 4, 6, 8, 10 and 12) with an additional one to the north of unit 13 and associated works.
2730/19	3 & 4, Conyngham Road, Phoenix Park, Dublin 8	PROTECTED STRUCTURE: Permission is sought for works to Nos. 3 and 4 Conyngham Road, Phoenix Park, Dublin 8, Protected Structures (RPS no. 2035 and 2036), to consist of the following: Change of use of no. 4 from residential (other) to office use (318m2); Demolition of single storey rear extension to no. 3 (12m2), demolition of external boiler house to No. 4 (2m2) and removal of existing external steel stair at the rear of No. 4; Construction of separate single storey extensions to the rear of both No. 3 (11m2) and No. 4 (50m2) and construction of a new three storey mews building (172m2) to rear lane (Eaves Height 7.1m from external ground level), consisting of two-storey office accommodation over car parking (four spaces including one disabled space), on the footprint of the original mews building. Internal works: includes material

[16] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

Ref. No.	Address	Proposal
		alterations, repairs and services internally, to both properties with an interconnecting doorway on the first floor and the provision of an internal lift at No. 4. External works: replacement of windows to include new vertical sliding timber sash windows to the front of No. 4, details to match the existing windows at No. 3, formation of new ope in garden wall between properties, new hard and soft landscaping proposal, new covered pergola walkway linking the three buildings within the garden area, ten new sheltered bicycle parking spaces and all associated site services. The proposal will result in office use throughout No. 3, No. 4 and the new mews building, catering for 69 persons, including auxiliary facilities.
3067/22	26, Montpelier Hill, Arbour Hill, Dublin 7, D07 R821	PROTECTED STRUCTURE: The development will consist of the change of use from commercial to residential, including: 1) The removal of internal modern partitions at ground and first floor levels; 2) The removal of 2 nos. modern WCs and provision of new stairs from basement to half-landing and reinstatement of existing stairs from half-landing to ground floor; 3) The provision of 1 no. new kitchen services and 1 no. new tea-station for home office at ground floor; 4) The provision of 2 nos. new bathrooms and services at first floor; 5) The reinstatement of 15 nos. sash windows and provision of 2 nos. new windows at closed up openings on rear elevation.
4563/23	32 Infirmary Road (corner of Infirmary Road and Montpelier Hill), Dublin 7, D07 X628	Permission sought for the demolition of an existing two storey building plus site clearance and the erection of a part five storey /part six storey building, containing 11 no 1 & 2 bed apartments communal open space at roof level, office unit on two levels, bicycle and bin storage with yard and associated site works.
4281/24	19, Conyngham Road, Dublin 8 , D08CH92	The development will consist of a change of use of petrol filling station to provide bus parking and all associated site works including new boundary treatment to the Northern side of the site adjacent to Conyngham Road. This proposal also seeks to remove the hoarding to the boundary facing Conyngham Road. The site at present is derelict and has not been used as a petrol filling station since 2019. Vehicular access and egress will be by existing dished kerb entrance to the eastern side of the site. A new pedestrian entrance from Conyngham Road will also be created.
2522/19	43-53 Montpelier Hill, Dublin 7	PROTECTED STRUCTURE: Planning permission for permanent building signage at the site of the Student Accommodation development, 43-53 Montpelier Hill, Dublin 7, granted permission under Reg. Ref. nos. 3772/16, 3896/17 and 4760/18. The 0.46ha site is located adjacent to two Protected Structures, nos. 41 and 55 Montpelier Hill. The site is accessed from Montpelier Hill. The development consists of permanent illuminated signage to be mounted to the front face of Block A entrance canopy at first floor level on Montpelier Hill. Proposed sign, 390 mm (h) x 4373mm (l) x 70mm (d), comprises halo illuminated lettering and logo. All lettering to be built up PPC aluminium and translucent opal acrylic backplate to allow for halo illumination using long life LEDs housed within letters. All to be mounted to canopy using translucent opal spacers to allow for halo illumination.
3060/18	Cambridge House, 41, Montpelier Hill, Dublin 7	PROTECTED STRUCTURE: Development will consist of repair and modifications to new and historic doors and windows, including: Expansion of 1 no. window opening at rear into basement door opening and the installation of slim-profile double glazing.

Following an analysis of development proposals proximate to the subject site, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites are likely as a result of the proposed development in combination with other projects. No in combination effects are foreseen.

No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

Conclusion

In a strict application of the precautionary principle, it has been concluded that significant effects on the integrity of South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA are likely from the proposed works in the absence of mitigation measures, primarily as a result of a direct hydrological connection to the site during construction and operation via dust and surface water runoff to the River Liffey. For this reason, an NIS was carried out to assess whether the proposed project, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European Site. All other Natura 2000 sites were screened out at initial screening.

Construction, excavation and demolition works will create localised light and noise disturbance that will not impact on Natura 2000 sites. There is potential for dust, pollution and silt laden material to enter the River Liffey during the works. Mitigation measures will be in place to ensure that there are no significant effects on the River Liffey that leads to European sites at Dublin Bay.

Following the implementation of the mitigation measures outlined, the construction, excavation and demolition works would not be deemed to have a significant impact on the River Liffey which is considered a direct pathway to five Natura 2000 sites in Dublin Bay. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures.

This report presents an Appropriate Assessment Screening and NIS for the proposed development. It outlines the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

Based on the content of this report, the competent authority is enabled to conduct an Appropriate Assessment and consider whether, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

No significant effects are likely on Natura 2000 sites, their features of interest or conservation objectives. The proposed project will not adversely affect the integrity of European sites.

Data used for the AA Screening/NIS Assessment

NPWS site synopses and Conservation objectives of sites within 15km were examined. There is no direct pathway to any Natura 2000 sites beyond 15km of the proposed development site. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on ESRI terrain maps and satellite imagery. Several site visits were carried out, including bat surveys, to determine if the site contained possible threats to a Natura 2000 site or any Natura 2000 species or habitats. An EcIA accompanies this AA Screening and NIS.

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