

Screening Report for Appropriate
Assessment of amendments to a
permitted residential development at
Citywest Shopping Centre,
Fortunestown, Dublin 24

Compiled by OPENFIELD Ecological Services

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Introduction

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It provides food, building materials, fuel and clothing while maintaining clean air, water, soil fertility and the pollination of crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011). A third plan was published in 2017 while a fourth is in preparation.

The main EU legislation for conserving biodiversity are Directive 2009/147/EC of the European Parliament and of the Council of November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). Among other things, these require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. The Birds and Habitats Directives have been transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 and Part XAB of the Planning and Development Act 2000. A report into the economic benefits of the Natura 2000 network concluded that "there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself" (EU, 2013).

Unlike traditional nature reserves or national parks, Natura 2000 sites are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'good conservation status' exists for their SPAs and SACs and specifically that Article 6(3) of the Habitats Directive is met.

Screening for Appropriate Assessment

Article 6(3) of the Habitats Directive states:

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

The purpose of Stage 1 Screening for Appropriate Assessment is to determine whether it is necessary to carry out a Stage 2 full Appropriate Assessment (AA). In accordance with the provisions of Part XAB of the Planning and Development Act 2000, as amended, South Dublin County Council is required to carry out a screening for appropriate assessment in respect of a proposed development.

Section 177U(1) provides that a screening for appropriate assessment of a proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

Section 177U(4) provides that the competent authority shall determine that an appropriate assessment of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

South Dublin County Council's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and must be recorded.

Where an Appropriate Assessment is required, an applicant for planning permission must prepare and submit a Natura Impact Statement.

This Appropriate Assessment Screening Report (AASR) has been prepared in accordance with the provisions of Article 6(3) of the Habitats Directive and Section 177U of the 2000 Act.

The Purpose of this document

This document provides a screening report of a proposed amendment to a permitted residential development at Citywest Shopping Centre, Fortunestown, Dublin 24, and its potential effects in relation to Natura 2000 sites (SACs and SPAs).

Under the Planning and Development Act 2000 (as amended), and the Birds and Natural Habitats Regulations 2011, the planning authority cannot grant planning permission where significant effects may arise to a Natura 2000 site. In order to make that decision the development must be screened for AA. This report provides the necessary information to allow South Dublin County Council to carry out this screening.

About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 25 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EclA) in Ireland. Since its inception in 2007 OPENFIELD has carried out numerous EclAs for Environmental Impact Assessment (EIA), Appropriate Assessment in accordance with the EU Habitats Directive, as well as individual planning applications. Pádraic is a full member of the Institute of Environmental Management and Assessment (IEMA).

Guidance

This AA Screening Report has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2001);
- *Communication from the Commission on the precautionary principle* (European Commission, 2000); and,
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019).
- *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021).

Methodology

The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura 2000 sites 'Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes University, 2001). Chapter 3, part 1, of this document deals specifically with screening while Annex 2 provides the template for the screening/finding of no significant effects report matrices to be used.

In accordance with this guidance, the following methodology has been used to produce this screening statement:

Step 1: Management of the Site

This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Project

This step describes the aspects of the project that may have an impact on the Natura 2000 site.

Step 3: Characteristics of the Site

This process identifies the conservation aspects of the site and determines whether negative impacts can be expected as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service (NPWS). All potential effects are identified including those that may act alone or in combination with other projects or plans.

Using the precautionary principle, and through consultation and a review of published data, it is normally possible to conclude at this point whether potential impacts are likely. Deficiencies in available data are also highlighted at this stage.

Step 4: Assessment of Significance

Assessing whether an effect is significant or not must be measured against the conservation objectives for the Natura area in question.

If this analysis shows that significant effects are likely then a full AA will be required.

The steps are compiled into a screening matrix, a template of which is provided in Appendix II of the EU methodology.

Mitigation measures cannot be taken into account in an AA screening assessment

A full list of literature sources that have been consulted for this study is given in the References section to this report while individual references are cited within the text where relevant.

Screening Template as per Annex 2 of EU methodology:

This plan is not necessary for the management of any SAC or SPA and so Step 1 as outlined above is not relevant.

Brief description of the proposed project

Description of the proposed development

The **permitted** strategic housing development (ABP reference: ABP-305556-19) is described here as per the planning permission:

The proposed development will consist of a mixed-use residential scheme (total gross floor area 26,929 square metres) comprising six number blocks with balconies / terraces to be provided on all elevations at all levels for each block, to provide 290 number apartment units and associated residential amenity facilities, a childcare facility, four number retail units and two number café / restaurant units.

- Block A will be six storeys in height comprising 26 number one-bed units, 20 number two-bed units and 11 number three-bed units with a resident amenity facility (circa 246 square metres) at ground floor level.*
- Block B will be four to five storeys in height comprising 31 number one-bed units, 26 number two-bed units and nine number three-bed units.*
- Block C will be five to six storeys in height comprising 12 number one-bed units, 38 number two-bed units and 11 number three-bed units. Block D will be five storeys in height comprising seven number one-bed units 31 number two-bed units and nine number three-bed units, with a childcare facility (circa 265 square metres) at ground floor level and ancillary outdoor play area (circa 385 square metres).*
- Block E will be six storeys in height comprising 10 number one-bed units and 20 number two-bed units with resident amenity facility (circa 93 square metres), three number retail units (circa 76.4 square metres, circa 54.3 square metres and circa 76.3 square metres) at ground floor level.*
- Block F will be five to seven storeys in height comprising 20 number one-bed units and nine number two-bed units with communal roof terrace accessed at fifth floor level of circa 200 square metres, and one number retail unit (circa 78 square metres) and two number café / restaurant units (circa 187.7 square metres and circa 18.1 square metres) at ground floor level.*

The **subject proposal** is to amend this permission:

The development will consist of amendments to the Strategic Housing Development permitted under An Bord Pleanála Reference TA06S.305556. The proposed amendments comprise the provision of photovoltaic panels on the roofs of all 6 no. blocks, the provision of roof plant at Blocks A, B, C and D, the provision of an ESB substation at Block D that requires the relocation of no. 1 carparking space, and the reconfiguration of the ground floor of Block E to

provide an enlarged plant room. These amendments are necessary to service the permitted blocks, improve the energy efficiency of the development, and to meet the requirements of ESB to serve the site.

At Block A it is proposed to provide the following: 21 no. photovoltaic panels arranged in 3 no. rows; and a screen plant area accommodating an internal plant room of 13.24 sqm and an external plant area of 34.72 sqm surrounded. The proposed screened plant rises approx. 1 metre above the permitted lift overruns.

At Block B it is proposed to provide the following: 21 no. photovoltaic panels arranged in 3 no. rows on the 5-storey section of the permitted building; a red brick internal plant room of 10.3 sqm on the 4-storey section of the building; and a screened external plant area of 29.2 sqm on the 4-storey section of the building. The proposed roof plant rises approx. 1 metre above the permitted lift over run.

At Block C it is proposed to provide the following: 21 no. photovoltaic panels arranged in 3 no. rows on the 6-storey section of the permitted building; a red brick internal plant room of 10.3 sqm on the 5-storey section of the building; and a screened plant area of 32 sqm on the 5-storey section of the building. The proposed roof plant rises approx. 1 metre above the permitted lift over run.

At Block D it is proposed to provide the following: 21 no. photovoltaic panels arranged in 3 no. rows; a screened with an internal plant room of 13.5 sqm and an external plant area of 24.33 sqm; a c. 3-metre-high red brick ESB substation with LV switchroom to the southwest of the Block D, and the ancillary relocation of 1 no. car parking space. The proposed screened plant rises approx. 2 metre above the permitted parapet level.

At Block E it is proposed to provide the following; 18 no. photovoltaic panels arranged in 3 no. rows; and the reconfiguration of the ground floor to replace 1 no permitted retail unit with an enlarged Plant Room (117.15 sqm), ESB substation (13.6 sqm), a Generator Room (21.82 sqm), and a Low Voltage (LV) switchroom (13.71 sqm). These works require the removal of existing windows and doors at the permitted retail unit.

At Block F it is proposed to provide 18 no. photovoltaic panels arranged in 2 no. rows.

The development site is located in City West which is located in the western portion of County Dublin and less than 1.5km east of the village of Saggart.

The development lands, which are divided across two plots, are currently unused and are surrounded on all sides by built development. Historic mapping shows that this general area was in agricultural use until relatively recently however significant land use change has occurred since the 1990s

(www.osi.ie). Environmental Protection Agency (EPA) maps show a small water course, referred to as the Baldonnell Stream, running close to the northern part of the site, while a tributary of the Corbally Stream flows through a portion of the southern site. These both flow to the north to join the Camac River. The Camac is a tributary of the River Liffey which in turn enters the Irish Sea at Dublin Bay. Dublin Bay is subject to a number of Natura 2000 designations.

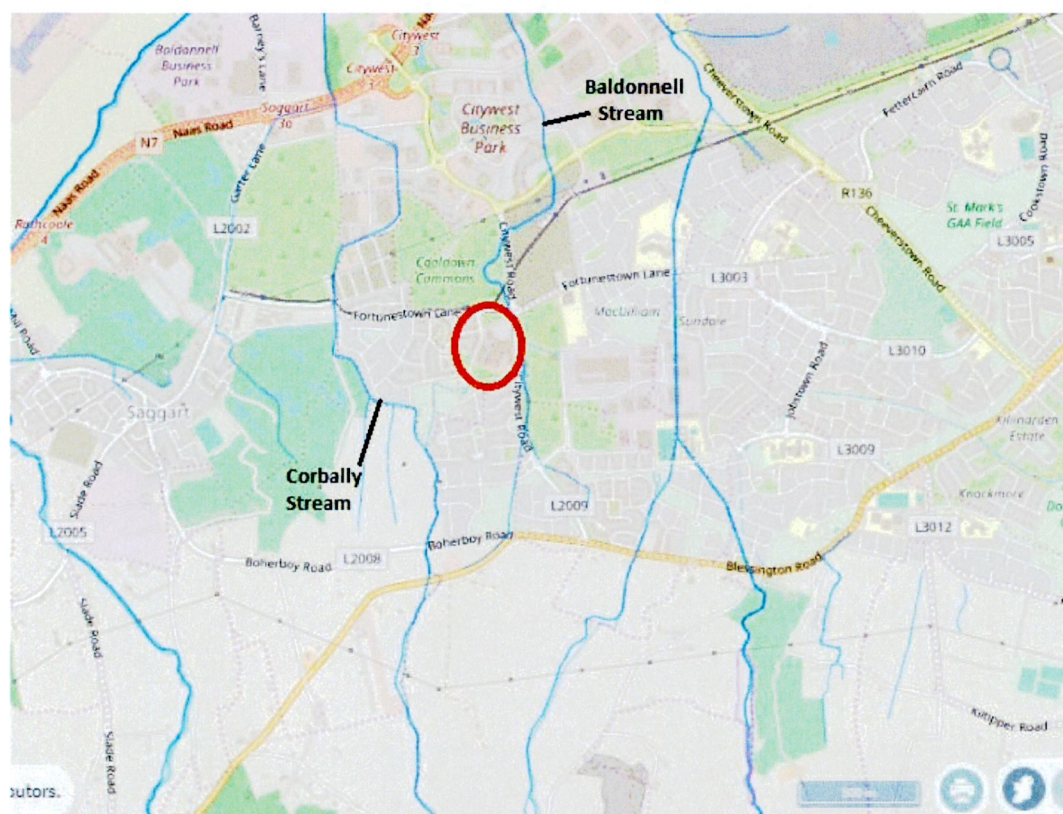


Figure 1 – Site location. Note there are no Natura 2000 sites in this view (from www.epa.ie)

Survey methodology

The lands were visited as part of this study on March 2nd 2022. This is outside the optimal period for general habitat survey however all habitats were identifiable to Fossitt level 3. Of key importance is that linkages between the development site and Natura 2000 sites be identified and in this regard a full assessment was possible. The site was surveyed in accordance with best practice standards (Smith et al., 2010) and habitats were classified in accordance with standard methodology (Fossitt, 2000).

Survey results

The northern portion of the site is entirely composed of **amenity grassland – GA2** which is a habitat of low biodiversity value. There are a small number of Birch *Betula sp.* and Laurel shrubs *Prunus sp.* in this area which have been planted for decorative purposes. There are no water courses on this land and the Baldonnell Stream is culverted (and beyond the site boundary) in this location.

The southern portion of the site is a large area of **dry meadow – GS2** with Creeping Bent *Agrostis stolonifera*, Creeping Thistle *Cirsium arvense*, Docks *Rumex sp.*, Creeping Buttercup *Ranunculus repens* and Vetches *Vicia sp.* There are occasional patches of **scrub – WS1** with Gorse *Ulex europaeus*, Snowberry *Symphoricarpos albus* and Butterfly-bush *Buddleja davidii*. The latter two are non-native species. To the south-east there is an area of amenity grassland.

There are a number of stretches of linear woodland in the southern portion. One to the east, parallel to the public road, is a line of recently planted Alder *Alnus glutinosa*. Transecting a small part of the site to the south there is a **hedgerow – WL1** of older provenance (likely to be part of an original field boundary) composed of Grey Willow *Salix cinerea*, Field Bindweed *Convolvulus arvensis*, Hawthorn *Crataegus monogyna*, Ivy *Hedera helix* and Sycamore *Acer pseudoplatanus*. This is accompanied by a **drainage ditch – FW4**.

Along the western boundary there is also a hedgerow and some of this is also accompanied by a drainage ditch. The hedgerow along this boundary is not continuous and part of it is composed of non-native horticultural shrubs. Using methodology from the Heritage Council these hedgerows are of 'lower significance' due to their age, non-native component, low species diversity and lack of connections to the wider countryside (Foulkes et al., 2013).

Remaining habitats are **artificial surfaces – BL3** such as roads, footpaths etc. There are occasional trees in this area (along footpaths) including Birch and Mountain Ash *Sorbus aucuparia*.

Monitoring by Inland Fisheries Ireland do not record Atlantic Salmon *Salmo salar* from the Camac although they are present along the River Liffey¹. The most recent fish sampling on the Camac, from 2011, indicated that there are populations of Brown Trout *Salmo trutta* and Three-spined Stickleback *Gasterosteus aculeatus*. Drainage ditches on the site are not suitable for salmonid fish.

Survey conclusions

The survey undertaken on the 2nd March 2022 found no plants which are listed as alien invasive under Schedule 3 of SI No. 477. This survey found no examples of any habitat listed on Annex I of the Habitats Directive or habitats suitable for species listed on Annex II'

¹ www.wfdfish.ie

Aspects of the project examined for potential effects to Natura 2000 sites

The subject proposal is for amendments to the Strategic Housing Development (SHD) permitted under ABP reference: ABP-305556-19 (discussed above). All of the proposed amendments are within the footprint of the permitted scheme. Figure 3 shows the permitted site layout, and Figure 4 shows the locations of the proposed amendments'.

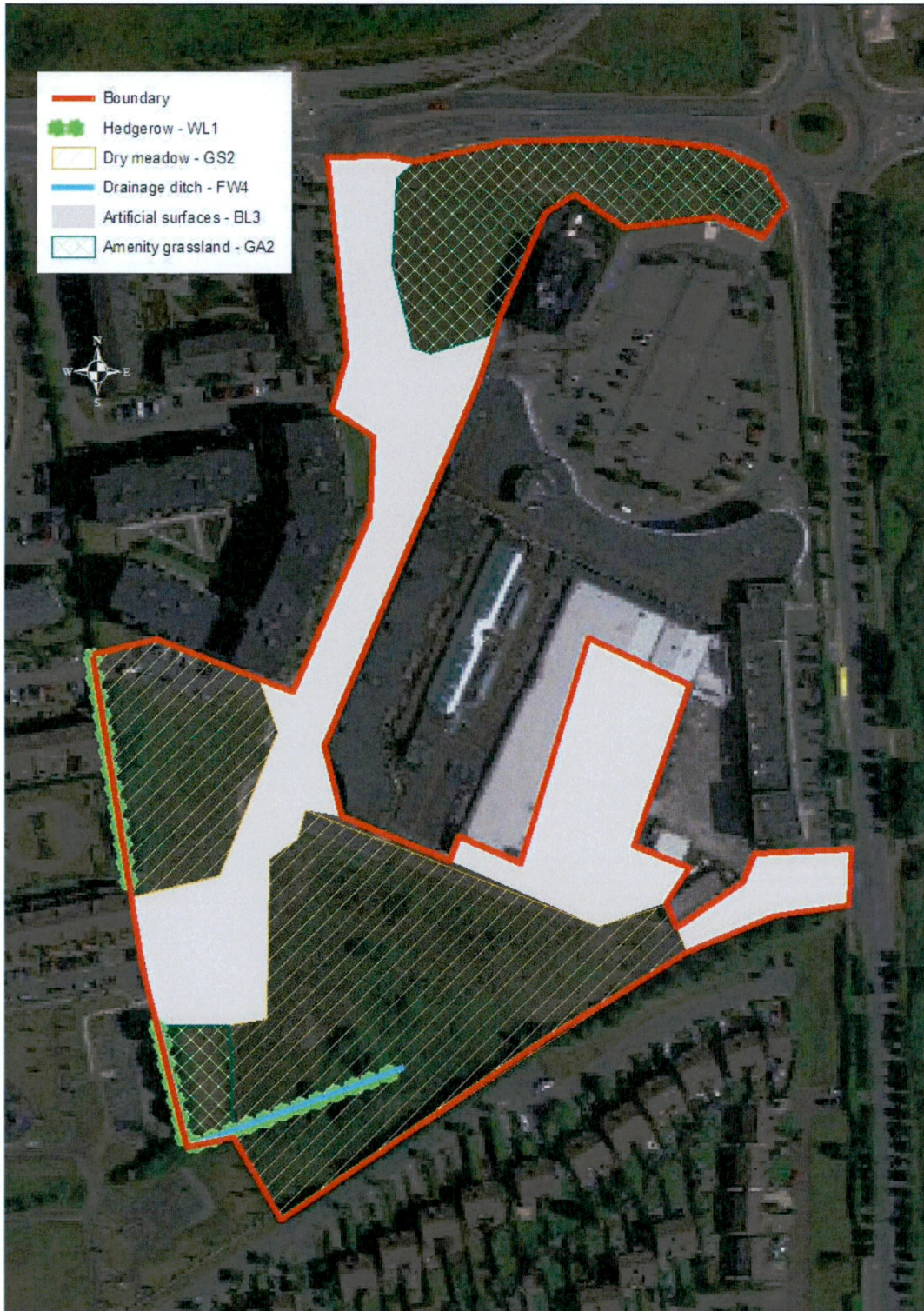


Figure 2 – Indicative site boundary (in red line).



Figure 3 – Permitted site layout

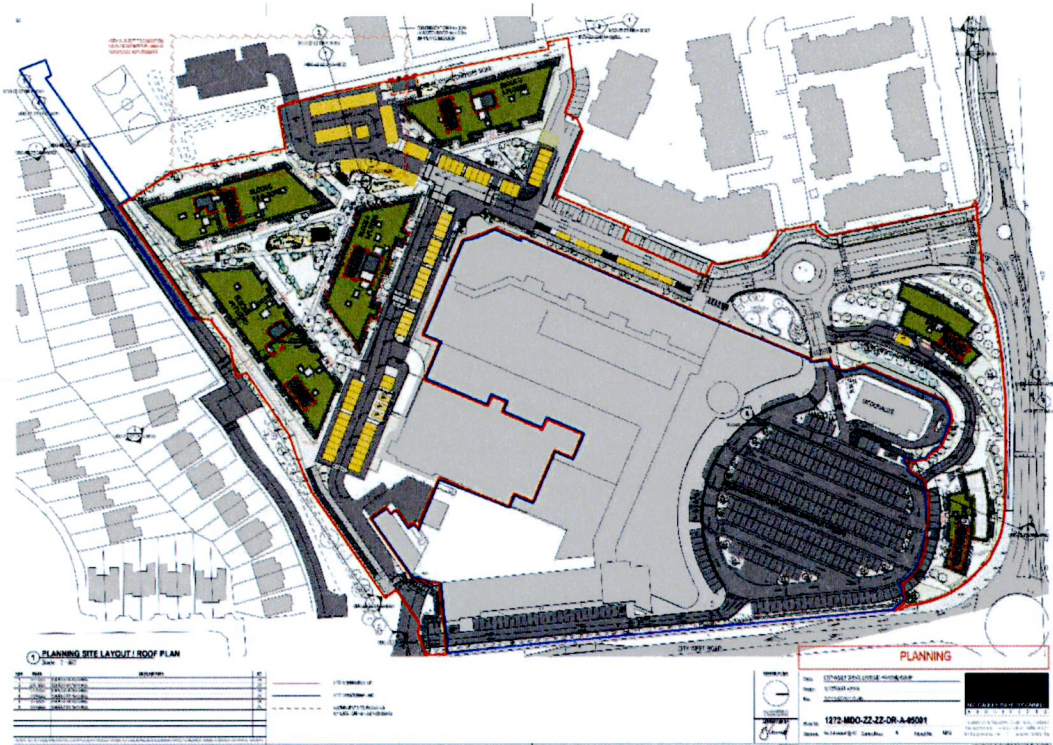


Figure 4 – Proposed site layout

As part of the construction of the permitted development, the site will be levelled and any construction and demolition waste will be removed by a licenced contractor'. **The proposed amendments will not result in any change to the footprint of the permitted development.**

Foul wastewater from the permitted development will be sent to the wastewater treatment plant at Ringsend in Dublin. Emissions from the plant are currently not in compliance with the Urban Wastewater Treatment Directive. In February 2018 Irish Water announced proposals to upgrade the Ringsend plant and apply for planning permission for a new plant in north County Dublin. This will see improved treatment standards and will increase network capacity by 50%, with a target completion date of 2023. **The proposed amendments will result in no changes to the volume of wastewater discharging to the foul sewer under the permitted scheme.**

There are no other discharges from the operation of the permitted SHD. Fresh water supply for the development will be via a mains supply. This originates in the Poulaphouca Reservoir. **The proposed amendments will result in no change to the level of demand for freshwater.**

There are no point air emissions from the site while some dust and noise can be expected during the construction phase. **The proposed amendments will result in no appreciable change to the scale or manner of construction works over and above the permitted development.**

Currently there is no attenuation of rain run-off at the undeveloped parts of the subject site, and it is likely rain water is soaking through open ground or entering water courses via drainage ditches or into the public sewer. In accordance with the Greater Dublin Strategic Drainage Study, the permitted SHD project incorporates sustainable drainage systems (SUDS) including attenuation storage and controlled flow release via an oil/grit interceptor. The use of permeable paving in parking areas and green roofs will further reduce the volumes entering the system. Under the permitted SHD, discharge will be to an existing surface water sewer and so ultimate outfall will be to the River Camac. **The proposed amendments will result in no change to the area of hard surfacing and so no changes to the quality or quantity of surface water run-off over and above the permitted scheme.**

Once the permitted SHD is constructed, the site is to be landscaped with a variety of native trees and new amenity open space.

This development site is not located within any Natura 2000 site (SAC or SPA). Figure 1 shows that there are no such areas within site vicinity. However, there is a hydrological connection to Natura 2000 sites in Dublin Bay. This places the South Dublin Bay and Tolka Estuary SPA and the South Dublin Bay SAC within the zone of influence of this project.

This permitted development occurs in an area that is already heavily built-up and urbanised in character. Activities in the locality are of residential and transport nature and these developments are associated with a degree of noise

and artificial lighting. There are no habitats on the development site that are associated with habitats or species for which SACs or SPAs are generally designated. The Camac River is of fisheries value however, supporting a run of Brown Trout and other fish, according to Inland Fisheries Ireland.

During the construction phase of the permitted SHD there will be use of concrete (which is highly toxic to aquatic life) as well as the release of sediment to surface waters. These activities have the potential to temporarily threaten fish habitat. The proposed amendments will result in no appreciable change to the scale, character or duration of the construction phase.

Brief description of Natura 2000 sites

In assessing the zone of impact of this project upon Natura 2000 sites the following factors must be considered:

- Potential impacts arising from the project
- The location and nature of Natura 2000 sites
- Pathways between the development and the Natura 2000 network

It has already been stated that the site is not located within or directly adjacent to any Natura 2000 area. For projects of this nature an initial 15km radius is normally examined (IEA, 1995). This is an arbitrary distance however and impacts can occur at distances greater than this. This indicative area is shown in figure 5.

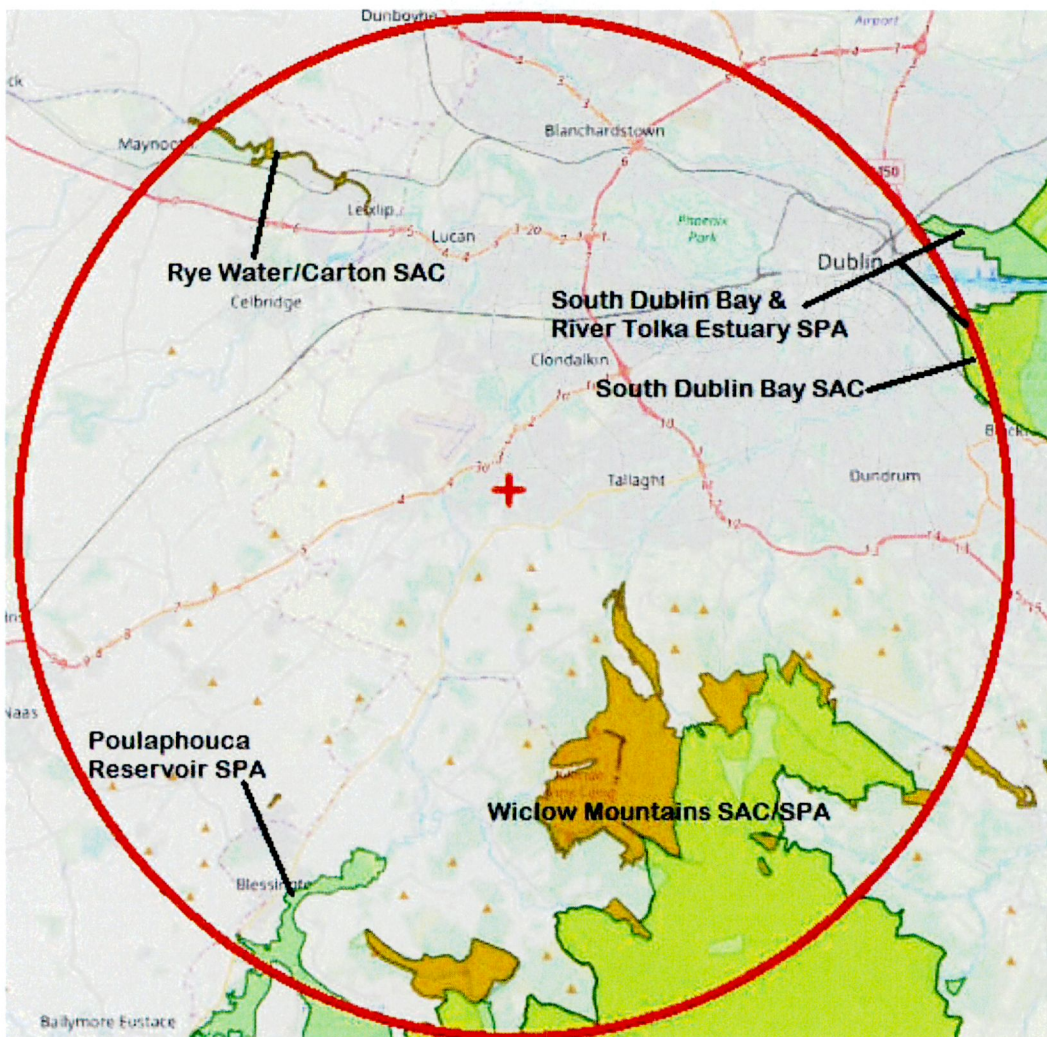


Figure 5 – Indicative 15km radius from the subject site showing SACs (tan) and SPAs (lime green) (from www.epa.ie).

As can be seen, there are a number of Natura areas within this radius. In addition, there are hydrological connections to the **South Dublin Bay and River Tolka Estuary SPA (site code: 4024)**, the **South Dublin Bay SAC (0210)**, the **North Dublin Bay SAC (site code: 0206)**, the **North Bull Island SPA (site code: 4006)** and the **Poulaphouca Reservoir SPA (site code: 4063)**. These are considered to be the only Natura 2000 areas within the zone of influence of the development as pathways do not exist to other areas.

South Dublin Bay and Tolka Estuary SPA (side code: 4024)

This SPA is largely coincident with the South Dublin Bay SAC boundary with the exception of the Tolka Estuary. These designations encompass all of the intertidal areas in Dublin Bay from south of Bull Island to the pier in Dun Laoghaire. Wintering birds in particular are attracted to these areas in great number as they shelter from harsh conditions further north and avail of the available food supply within sands and soft sediments. Table 1 lists the features of interest.

Table 1 – Features of interest for the South Dublin Bay & River Tolka Estuary SPA (EU code in square parenthesis)

South Dublin Bay and Tolka Estuary SPA
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Ringed Plover (<i>Charadrius hiaticula</i>) [A137]
Grey Plover (<i>Pluvialis squatarola</i>) [A140]
Knot (<i>Calidris canutus</i>) [A143]
Sanderling (<i>Calidris alba</i>) [A144]
Dunlin (<i>Calidris alpina</i>) [A149]
Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]
Redshank (<i>Tringa totanus</i>) [A162]
Black-headed Gull (<i>Croicocephalus ridibundus</i>) [A179]
Roseate Tern (<i>Sterna dougallii</i>) [A192]
Common Tern (<i>Sterna hirundo</i>) [A193]
Arctic Tern (<i>Sterna paradisaea</i>) [A194]
Wetlands & Waterbirds [A999]

- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.
- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Bar-tailed Godwit.** These wetland wading birds do not breed in Ireland but are found throughout the littoral zone during winter months. They prefer estuaries where there are areas of soft mud and sediments on which to feed.
- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable.
- **Roseate Tern.** This tern breeds at only a few stations along Ireland's east coast. Most of these are in decline although at Dublin their colony is increasing.
- **Common Tern.** This summer visitor nests along the coast and on islands in the largest lakes. Its breeding range has halved in Ireland since the 1968-1972 period.
- **Arctic Tern.** These long-distance travellers predominantly breed in coastal areas of Ireland. They have suffered from predation by invasive mink and are declining in much of their range.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.

Bird counts from BirdWatch Ireland are taken from Dublin Bay as a whole and are not specific to any particular portion of the Bay. Dublin Bay is recognised as an internationally important site for water birds as it supports over 20,000 individuals. Table 2 shows the most recent count data available (Lewis et al., 2016).

Table 2 – Annual count data for Dublin Bay from the Irish Wetland Birds Survey (IWeBS)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	27,931	30,725	30,021	35,878	33,486	31,608

There were also internationally important populations of particular birds recorded in Dublin Bay (i.e. over 1% of the world population): Light-bellied brent geese *Branta bernicula hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

Site specific conservation objectives have been published for this SPA (NPWS, 2015) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)

Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

South Dublin Bay SAC (side code: 0210)

This SAC is concentrated on the intertidal area of Sandymount Strand. It has four 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) and Embryonic shifting dunes (2110).

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110)**. As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Tidal mudflats (1140)**. This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Salicornia mudflats (1310)**: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica*. Erosion can be destructive but in many cases this is a natural process.

Site specific conservation objectives have been set out for mudflats in this SAC (NPWS, 2013) and are summarised as:

Mudflats (code 1140)

Permanent habitat area stable or increasing (estimated at 720 hectares); Maintain the extent of the *Zostera*-dominated community, subject to natural processes; Conserve the high quality of the *Zostera*-dominated community, subject to natural processes; Conserve the following community type in a natural condition: Fine sands with *Angulus tenuis* community complex

For other qualifying interests, only generic conservation objectives are available.

Whether significant effects are likely to occur to an SAC or SPA must be measured against its conservation objectives. Where site specific conservation objectives have not been set out, generic conservation objectives have been published by the NPWS and are stated as “*to maintain or restore the favourable conservation condition of the Annex I habitat or Annex II species for which the SAC has been selected*” (NPWS, 2018a-g).

North Dublin Bay SAC(site code: 0206)

The North Dublin Bay SAC is focussed on the sand spit on the North Bull island. The qualifying interests for it are shown in table 3. The status of the habitat is also given and this is an assessment of its range, area, structure and function, and future prospects on a national level and not within the SAC itself.

Table 3 – Qualifying interests for the North Dublin Bay SAC

Code	Habitat/Species	Status
1140	Mudflats and sandflats not covered by seawater at low tide	Favourable
1320	Salicornia and other annuals colonizing mud and sand	Inadequate
1330	Atlantic salt meadows	Inadequate
1410	Mediterranean salt meadows	Inadequate
1210	Annual vegetation of drift lines	Inadequate
2110	Embryonic shifting dunes	Inadequate
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Inadequate
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Bad
2190	Humid dune slacks	Inadequate
1395	<i>Petalophyllum ralfsii</i> Petalwort	Favourable

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110)**. As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120)**. These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat)**. These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune habitat types and are under pressure from built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.
- **Humid dune slacks (2190)**. These are wet, nutrient enriched (relatively) depressions that are found between dune ridges. During winter months or wet weather these can flood and water levels are maintained by a soil layer or saltwater intrusion in the groundwater. There are found around the coast within the larger dune systems.
- **Petalwort (1395)**. There are 30 extant populations of this small green liverwort, predominantly along the Atlantic seaboard but also with one in Dublin. It grows within sand dune systems and can attain high populations locally.

Site specific conservation objective are available for this SAC (NPWS, 2013) and are summarised as:

Annual vegetation of drift lines (code: 1210)

Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Atlantic/Mediterranean Salt Meadows (1330/1410)

Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica*.

Embryonic shifting dunes (code: 2110)

Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Salicornia and other annuals colonising mud and sand (code: 3110)

Habitat area stable or increasing; no decline in habitat distribution; maintain physical and vegetation structure

Fixed Coastal Dunes/Shifting Dunes (2130/2120)

Maintain habitat area and distribution including physical structure (functionality and sediment supply, percentage of bare ground, sward height). Maintain vegetation structure as measured by zonation, vegetation cover, typical species and sub-communities. Absences of the invasive *Hippophae rhamnoides*.

Humid dune slacks (code: 2190)

Area increasing, subject to natural processes including erosion and succession; No decline or change in habitat distribution, subject to natural processes; Maintain the natural circulation of sediment and organic matter, without any physical obstructions; Maintain natural hydrological regime; Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground; Maintain structural variation within sward; Maintain range of subcommunities with typical species; Maintain less than 40% cover of creeping willow (*Salix repens*); Negative indicator species (including non-natives) to represent less than 5% cover;

Petalwort *Petalophyllum ralfsii* (code: 1395)

No decline in known populations. No decline in population, estimated at 5,824 thalli. No decline in area of suitable habitat. Maintain hydrological conditions; maintain open, low vegetation, with a high percentage cover of bryophytes (small acrocarps and liverwort turf) and bare ground.

North Bull Island SPA(site code: 0206)

The North Bull Island SPA is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 4 lists its features of interest

Table 4 – Features of interest for the North Bull Island SPA

North Bull Island SPA	National Status
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	Amber (Wintering)
Oystercatcher <i>Haematopus ostralegus</i>	Red
Teal <i>Anas crecca</i>	Amber (Breeding & Wintering)
Pintail <i>Anas acuta</i>	Amber (Wintering)
Shoveler <i>Anas clypeata</i>	Red
Shelduck <i>Tadorna tadorna</i>	Amber
Golden Plover <i>Pluvialis apricaria</i>	Red
Grey Plover <i>Pluvialis squatarola</i>	Red (Wintering)
Knot <i>Calidris canutus</i>	Red (Wintering)
Sanderling <i>Calidris alba</i>	Green (Wintering)
Dunlin <i>Calidris alpina</i>	Red
Black-tailed Godwit <i>Limosa limosa</i>	Red (Wintering)
Bar-tailed Godwit <i>Limosa lapponica</i>	Red (Wintering)
Curlew <i>Numenius arquata</i>	Red
Redshank <i>Tringa totanus</i>	Red
Turnstone <i>Arenaria interpres</i>	Amber (Wintering)
Black-headed Gull <i>Larus ridibundus</i>	Amber
Wetlands & Waterbirds	

- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Teal.** In winter this duck is widespread throughout the country. Land use change and drainage however have contributed to a massive decline in its breeding range over the past 40 years.
- **Pintail.** Dabbling duck wintering on grazing marshes, river floodplains, sheltered coasts and estuaries. It is a localised species and has suffered a small decline in distribution in Ireland for unknown reasons.

- **Shoveler.** Favoured wintering sites for this duck are inland wetlands and coastal estuaries. While there have been local shifts in population and distribution, overall their status is stable in Ireland.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increase substantially of late.
- **Curlew.** Still a common sight during winter at coastal and inland areas around the country it breeding population here has effectively collapsed. Their habitat has been affected by the destruction of peat bogs, afforestation, farmland intensification and land abandonment. Their wintering distribution also appears to be in decline.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.
- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.

Site specific conservation objectives have been published for this SPA (NPWS, 2015) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)

Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

Poulaphouca Reservoir SPA (site code: 4063)

At its nearest point this SPA is located approximately 25km from the site of the proposed development. Its 'features of interest' include the Greylag Goose *Anser anser* and the Lesser Black-backed Gull *Larus fuscus*.

Generic conservation objectives only are available for this SPA (NPWS, 2022).

Glenasmole Valley SAC (code: 1209)

This SAC is the flooded valley of the Dodder river, dammed to provide drinking water for the city of Dublin, and covering an area of nearly 150ha. Woodland has developed around its margins while species-rich grassland is to be found on some of its slopes. A number of rare plants species, including a variety of orchids, are to be found here.

The SAC is designated only for protected habitat types and these are given in table 5.

Table 5 – Qualifying interests for the Glenasmole Valley SAC (from NPWS)

Code	Habitats	Status
6210	Orchid rich grassland/Calcareous grassland	Bad
6410	Molinea meadows	Bad
7220	Petrifying springs (priority habitat)	Intermediate

- **Orchid-rich grassland (6210)** This is a species rich grassland habitat found on well drained calcareous soils. It must be important for orchids in order to fall into this category. While there is evidence that an increased occurrence of flooding on some sites may be having a detrimental effect the principle threats listed are from agricultural intensification and ‘stock feeding’, i.e. overgrazing.
- **Molinea meadows (6410)** *Molinea caerulea*, the Purple Moor-grass, is typically associated with upland peatland habitats but this habit type occurs on lowland sites associated with traditional agricultural practices. The main threats that it faces are associated with changes in land use, e.g. land abandonment or intensification.
- **Petrifying Springs (7220):** These are very localised habitats that arise from the precipitation of excess calcium carbonate in supersaturated running water. They are associated with characteristic bryophytes. They are vulnerable to changes in water quality, flow regime and intensification of land use practices (NPWS, 2013). Determining if significant effects are likely to occur to any of these SACs or SPAs must be measured against their ‘conservation objectives’. Specific conservation objectives have been set for all of these areas with the exception of the Poulaphouca Reservoir.

Site specific conservation objectives have been published for this SAC (NPWS, 2021) and are summarised here.

Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) (important orchid sites – priority habitat) (6210)

Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); not more than 10% bare soil; less than 20m² showing signs of serious grazing or other disturbance.

***Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (6410)**

Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); not more than 10% bare soil; less than 20m² showing signs of serious grazing or other disturbance.

Petrifying springs – priority habitat (7220)

Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain appropriate hydrological regimes; maintain appropriate levels of tufa formation; maintain nitrate level at less than 10mg/l; restore phosphate level to less than 15µg/l; maintain variety of vegetation communities, subject to natural processes; at least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number; potentially negative indicator species should not be dominant or abundant; woody species should be absent in unwooded springs; invasive species should be absent; cover of algae less than 2%; field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm); no decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes.

Wicklow Mountains SAC & SPA (site codes: 2122 & 4040)

Wicklow Mountains is a large area and is designated as both an SAC and SPA as well as being a National Park. It is an upland area underlain with granite and is an important amenity and recreational area, as well as being of high conservation value. Its qualifying interests are shown in table 6 while its 'features of interest' are given as Merlin *Falco columbarius* (breeding) and Peregrine *Falco peregrinus* (breeding).

Table 6 – Qualifying interests for the Wicklow Mountains SAC (site code: 4040)

Habitats	Status
Active Blanket bog	Bad
Atlantic wet heath	Bad
European dry heath	Bad

Old oak woodland	Bad
Siliceous rocky slopes	Inadequate
Calcareous rocky slopes	Inadequate
Siliceous scree	Inadequate
Alpine and Boreal heath	Bad
Natural dystrophic lakes	Inadequate
Oligotrophic lakes	Inadequate
Species rich Nardus grassland	Bad
Calaminarian Grassland	Inadequate
Otter	Favourable

- **Active Blanket Bog (7130)** This is a very widespread habitat in Ireland found on uplands and lowlands along the Atlantic seaboard. Active blanket bog is peat forming, principally indicating the presence of *Sphagnum* sp. mosses but also other species. Degraded bog, where there is now forestry or bare peat, are excluded as they are not considered 'active'.
- **Atlantic wet heath (4010)** This is a heather dominant habitat that is intermediate between dry heath and blanket bog, and is frequently found in association with these two. Grazing and trampling by sheep is identified as the greatest threat to the status of the habitat but non-native invasive species such as *Rhododendron* and the moss *Campylopus introflexus* also impact negatively upon the habitat.
- **Dry heath (4030)**: This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.
- **Alpine and Boreal Heath (4060)** This habitat occurs on exposed mountain tops with acid substrate where stunted growths of heather are found. It is also found in the Burren, Co. Clare at low altitudes.
- **Siliceous Scree (8110)** This is a mountainous habitat characterised by expanses of shattered siliceous rock from small, mobile stones to stable boulders. Vegetation is sparse and frequently dominated by moss or lichen communities.
- **Calcareous or Siliceous Rocky Slopes (8210 & 8220)** These are vertical or near vertical slopes of calcareous or siliceous rock with cracks and fissures that are home to unique communities of plants. Climate change is considered to be the greatest threat where specialist arctic-alpine plants are to be found.
- **Upland Oligotrophic lakes (3130)**. These are naturally low nutrient status lakes that in Ireland are associated with expanses of blanket bog. They are threatened by eutrophication (excessive input of nutrients) and peatland drainage.
- **Dystrophic lakes (3160)** These are naturally low oxygen, nutrient poor, acid lakes that occur in association with peatland habitats. They have low species diversity but some of these species are uniquely associated with this habitat.

- **Camalinarian Grassland (6130).** This unusual grassland community is found in Ireland on the sites of previous extraction works such as old mines. Certain bryophyte and vascular plants, including some notable rarities, thrive in conditions of high heavy metal concentrations, such as copper, lead or zinc.
- **Otter (1355)** This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of 'good' status.

Generic conservation objectives only are available for this SPA (NPWS, 2022).

Site specific conservation objectives have been published for the SAC (NPWS, 2017) and are summarised as:

Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) (3110)

Habitat area stable or increasing, no decline in habitat distribution, typical species present and in good condition, vegetation composition correctly distributed and in good condition, Maintain appropriate natural hydrological regime necessary to support the habitat; Restore appropriate lake substratum type, extent and chemistry to support the vegetation; restore water transparency; Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species; Restore appropriate water quality to support the habitat, including high chlorophyll a status; Maintain appropriate water quality to support the habitat, including high phytoplankton composition status; Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status; Maintain high macrophyte status; Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes; Restore/maintain appropriate water colour to support the habitat; Restore/maintain appropriate organic carbon levels to support the habitat; Restore/maintain appropriate turbidity to support the habitat; Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3110.

Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* (3130)

Habitat area stable or increasing, no decline in habitat distribution, typical species present and in good condition, vegetation composition correctly distributed and in good condition, Maintain appropriate natural hydrological regime necessary to support the habitat; Restore appropriate lake substratum type, extent and chemistry to support the vegetation; restore water transparency; Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species; Restore appropriate water quality to support the habitat, including high chlorophyll a status; Maintain appropriate water quality to support the habitat, including high phytoplankton composition status; Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos

status; Maintain high macrophyte status; Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes; Restore/maintain appropriate water colour to support the habitat; Restore/maintain appropriate organic carbon levels to support the habitat; Restore/maintain appropriate turbidity to support the habitat; Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3130.

European Wet Heaths (4010)

Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain soil nutrient status within natural range; maintain vegetation composition and structure (including negative indicator species and absence of burning); less than 10% disturbed/bare ground.

European Dry Heaths (4030)

Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain soil nutrient status within natural range; maintain vegetation composition and structure (including negative indicator species and absence of burning); less than 10% disturbed/bare ground.

Alpine and Boreal Heaths (4060)

Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); less than 10% disturbed/bare ground; indicators of local distinctiveness maintained.

Calaminarian grasslands of the *Violetalia calaminariae* (6130)

No decline in habitat area subject to natural processes; no decline in habitat distribution; Maintain adequate open ground; Maintain high copper (Cu) levels in soil; Maintain low and open vegetation; Maintain diversity and populations of metallophyte bryophytes.

Species-rich *Nardus* grasslands (6230)

No decline in habitat area subject to natural processes; no decline in habitat distribution; Maintain soil nutrient status within natural range; Maintain variety of vegetation communities, subject to natural processes; Number of positive indicator species present at each monitoring stop is at least seven; At least two high quality indicator species for base rich examples of the habitat and at least one for base-poor examples of the habitat; Species richness at each monitoring stop at least 25; Cover of non-native species less than or equal to 1%; Cover of negative indicator species individually less than or equal to 10% and collectively less than or equal to 20%; Cover of *Sphagnum* species less than or equal to 10%; Cover of *Polytrichum* species less than or equal to 25%; Cover of shrubs, bracken (*Pteridium aquilinum*) and heath collectively less than or equal to 5%; Forb component of forb:graminoid ratio is 20- 90%; Proportion of the sward between 5cm and 50cm tall is at least 25%; Cover of litter less than or equal to 20%;

Cover of disturbed bare ground less than or equal to 10%; Area of the habitat showing signs of serious grazing or disturbance less than 20m²; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Blanket bogs (7130)

Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; At least 99% of the total Annex I blanket bog area is active; Natural hydrology unaffected by drains and erosion; Maintain variety of vegetation communities, subject to natural processes; Number of positive indicator species present at each monitoring stop is at least seven; Cover of bryophytes or lichens, excluding *Sphagnum fallax*, at least 10%; Cover of each of the potential dominant species less than 75%; Total cover of negative indicator species less than 1%; Cover of non-native species less than 1%; Cover of scattered native trees and shrubs less than 10%; Less than 10% of the *Sphagnum* cover is crushed, broken and/or pulled up; Last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) showing signs of browsing collectively less than 33%; No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning; Cover of disturbed bare ground less than 10%; Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%; Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Siliceous scree (8110)

Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Cover of bryophytes and non-crustose lichen species at least 5%; Proportion of vegetation composed of negative indicator species less than 1%; Proportion of vegetation composed of non-native species less than 1%; At least one positive indicator species present in vicinity of each monitoring stop in block scree; Total cover of grass species and dwarf shrubs less than 20%; Total cover of bracken (*Pteridium aquilinum*), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; Ground disturbed by human and animal paths, scree running, vehicles less than 10%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Calcareous rocky slopes with chasmophytic vegetation (8210)

Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Number of ferns and *Saxifraga* indicators at each monitoring stop is at least one; Number of positive indicator species at each monitoring stop is at least three; Proportion of vegetation composed of non-native species less than 1%; Total cover of bracken (*Pteridium aquilinum*), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat

Siliceous rocky slopes with chasmophytic vegetation (8220)

Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Number of ferns and *Saxifraga* indicators at each monitoring stop is at least one; Number of positive indicator species at each monitoring stop is at least three; Proportion of vegetation composed of non-native species less than 1%; Total cover of bracken (*Pteridium aquilinum*), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat

Old sessile oak woods (91A0)

No decline in native tree cover; variety of native species present; negative indicator species absent, i.e. Beech *Fagus sylvatica*, *Rhododendron Rhododendron ponticum* and Cherry Laurel *Prunus laurocerasus*.

Otter

No significant decline in distribution; no significant decline in terrestrial/estuarine/freshwater/lake habitat; no significant decline in couching sites or holts; no decline in available fish biomass;

Rye Water Valley/Carnton SAC (site code: 1398)

The Rye Water is a tributary of the Liffey and the SAC boundary stretches from east of Maynooth as far as Leixlip village. It flows through the Carton demesne which is wooded with specimen native and non-native trees. The river is dammed in a number of locations and this has created a series of small lakes. The SAC covers an area of nearly 73 ha.

The reasons why this area falls under the SAC designation are set out in the qualifying interests. They are either habitat types listed in Annex I or species listed in Annex II of the Habitats Directive. This information is provided by the National Parks and Wildlife Service (NPWS) and is shown in Table 7 below. The status provided refers to the status of the habitat or species at a national level and not necessarily within the SAC.

Table 7 – Qualifying interests for the Rye Water/Carlton SAC

Code	Habitats/Species	Status
7220	Petrifying springs with Tufa formation	Intermediate
1014	Narrow-mouthed whorl snail <i>Vertigo angustior</i>	Intermediate
1016	Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Intermediate

- **Petrifying Springs (7220 – priority habitat):** These are very localised habitats that arise from the precipitation of excess calcium carbonate in supersaturated running water. They are associated with characteristic bryophytes. They are vulnerable to changes in water quality, flow regime and intensification of land use practices.
- **Narrow-mouthed Whorl Snail (1014).** This whorl snail is present in a wide variety of habitats from dunes and coastal grasslands, to fens, salt-marshes and floodplains. The principle threats to its habitat derives from undergrazing and overgrazing.
- **Desmoulin's Whorl Snail (1016)** is a tiny mollusc that is particularly sensitive to changes in water level. It occurs in swamps, fens and marshes. The greatest threats have been drainage of wetlands and riparian management of canals.

Whether effects are likely to occur to the SAC must be measured against its 'conservation objectives'. Site specific conservation objectives have been published (NPWS, 2021a) and are summarised here.

Petrifying springs – priority habitat (7220)

Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain appropriate hydrological regimes; maintain appropriate levels of tufa formation; maintain nitrate level at less than 10mg/l; restore phosphate level to less than 15µg/l; maintain variety of vegetation communities, subject to natural processes; at least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number; potentially negative indicator species should not be dominant or abundant; woody species should be absent in unwooded springs; invasive species should be absent; cover of algae less than 2%; field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm); no decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes.

Narrow-mouthed Whorl Snail (1398)

Population restored to baseline; restore to self-sustaining population; restore area of suitable habitat, subject to natural processes; restore suitable hydrological regime, subject to natural processes;

Desmoulin's Whorl Snail (code: 7230)

No decline in distribution, occurrence in suitable habitat, density with habitat, subject to natural processes; area of suitable habitat stable or increasing,

subject to natural processes; no less than 0.2ha of at least suboptimal habitat; no decline in habitat quality, subject to natural processes;

Generic conservation objectives have been published by the NPWS for the Poulaphouca Reservoir SPA and the Wicklow Mountains SPA and are stated as:

To maintain or restore the favourable conservation condition of the Annexed species for which the SPA has been selected.

In a generic sense 'favourable conservation status' of a habitat is achieved when:

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

While the 'favourable conservation status' of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long - term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long - term basis.

Data collected to carry out the assessment

The site survey undertaken on the 2nd March 2022 and the desktop reviews described above have found that the habitats on the development site are not associated with either habitats or species which are qualifying interests of any Natura 2000 site.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015, or by 2027 with exemptions. This includes estuarine waters and Dublin Bay was originally located within the Eastern Region. In 2009 the first River Basin Management Plan (RBMP) was published to address pollution issues and included a 'programme of measures' which were to be completed. This plan was approved in 2010 (ERBD, 2010) while a second RBMP was published in 2018. The lower Liffey Estuary has most recently (2014) been assessed by the EPA 'good status'. The coastal water beyond the estuary is also assessed as 'good status' (from www.epa.ie). These classifications indicate that water quality downstream of the Custom

House is currently meeting the requirements of the WFD. The Tolka Estuary is 'moderate'.

Water quality along the River Camac is routinely assessed by the EPA. The Camac is a part of the Liffey Water Management Unit and one third of this river length was assessed as satisfactory (good or high) according to the Programme of Measures in the ERBD Management Plan (2010). This report suggested that pressures on water quality are from abstractions, agriculture, physical modifications and wastewater discharges. Downstream of Saggart the river has been classified as 'poor' or 'moderate' under the WFD reporting period 2013-18 (from www.epa.ie). These assessments are 'unsatisfactory' and so remedial measures will be required to restore 'good ecological status'.

Monitoring by Inland Fisheries Ireland do not record Atlantic Salmon *Salmo salar* from the Camac although they are present along the River Liffey². The most recent fish sampling on the Camac, from 2011, indicated that there are populations of Brown Trout *Salmo trutta* and Three-spined Stickleback *Gasterosteus aculaetus*.

Of the species listed as qualifying interests of SPAs in Dublin Bay eleven: Curlew, Dunlin, Redshank, Shoveler, Oystercatcher, Grey Plover, Knot, Golden Plover, Bar-tailed Godwit, Black-tailed Godwit and Black-headed Gull are listed as of high conservation concern, and on BirdWatch Ireland's red list (Gilbert et al., 2021).

In 2020 the NPWS published a report entitled 'The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats' (Scally & Hewett, 2020). This report specifically assessed the status of the habitat: mudflats and sandflats not covered by seawater at low tide (1140) which is a qualifying interest of the North Dublin Bay SAC and the South Dublin Bay SAC. Table 22 of this report assessed the status of this habitat within both SACs as 'favourable'.

Zone of Influence

There is no pathway between the development site and the Wicklow Mountains SAC/SPA, the Glenasmole Reservoir SAC or the Rye Valley/Carton SAC. These Natura 2000 sites lie outside the zone of influence of this development project. There are potential hydrological pathways between the development site and Natura 2000 sites in Dublin Bay as well as potentially the Poulaphouca Reservoir SPA. These are the only Natura 2000 sites which fall within the zone of influence of this project.

² www.wfdfish.ie

The Assessment of Significance of Effects

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

In order for an effect to occur there must be a pathway between the source (the development site) and the receptor (the SAC or SPA). Where a pathway does not exist an impact cannot occur.

The proposed development is not located within, or directly adjacent to, any SAC or SPA.

Habitat loss

At its closest point the development site is approximately 15km away (as the crow flies) from the boundary of the Natura 2000 sites within Dublin Bay. In reality however this distance is greater as the drainage pathway follows the course of streams leading to the Camac and Liffey rivers. Because of this distance separating the two areas there is no pathway for loss or disturbance of species or habitats which are qualifying interests of the Natura 2000 sites.

There are no likely significant effects to Natura 2000 sites arising from this amendment proposal from this source.

Pollution

There is a pathway from the development site via surface and wastewater water flows to Dublin Bay via the River Liffey and the Ringsend wastewater treatment plant respectively.

A. Pollution from wastewater

The plant at Ringsend is licenced to discharge treated effluent to the Irish Sea by the EPA (licence no.: D0034-01). The Annual Environmental Report (AER) for 2019 (the most recent) shows that the average loading was in excess this capacity while the standard of effluent was not compliant with emission limit values set under the Urban Wastewater Treatment Directive. Monitoring of the receiving water (the Irish Sea) takes place at points surrounding the discharge point. Water quality in Dublin Bay meanwhile is 'good'.

While the issues at Ringsend wastewater treatment plant are being dealt with in the medium-term evidence suggests that some nutrient enrichment is benefiting wintering birds for which SPAs have been designated in Dublin Bay (Nairn & O'Hallaran eds, 2012). Additional loading to this plant arising from the operation of the permitted SHD project are not considered to be significant as there is no evidence that pollution through nutrient input is affecting the conservation objectives of the South Dublin Bay and River Tolka Estuary SPA.

This amendment proposal will result in no change to the character of wastewater from the permitted scheme. No significant effects to Natura 2000 sites are likely to arise from this source.

B. Pollution from surface water

The installation of surface water attenuation measures as part of the permitted SHD scheme will ensure that there will be no negative impact to water quality or quantity arising from the permitted change in land use from agricultural to residential. This measure is not included in order to avoid or reduce potential impacts to Natura 2000 areas and so this is not considered to be a mitigation measure in an AA context.

This amendment proposal will result in no change to the character of surface water runoff from the permitted scheme. No significant effects to Natura 2000 sites are likely to arise from this source.

C. Pollution during construction

During the site clearance and construction phase of the permitted SHD scheme the risk of sediment entering water courses, entrained in rain run-off is low as there are no water courses in this vicinity. This effect is not significant. This is due to the fact that sediment is not a pollutant in coastal habitats in the way it is in rivers (where it can foul fish spawning beds).

This amendment proposal will result in no measurable change to the character of the construction phase over and above the permitted scheme. No significant effects to Natura 2000 sites are likely to arise from this source.

Disturbance to birds

The site is too far from bird roosting areas in Dublin Bay to result in impacts from noise or other forms of human disturbance. There is no evidence that disturbance effects of this nature are negatively affecting features of interest (i.e. bird species) from these sources. The site itself does not contain habitat which is suitable for roosting or foraging birds associated with SPAs in Dublin Bay.

No significant effects to Natura 2000 sites are likely to arise from this source.

Abstraction

There is no evidence that abstraction is affecting the conservation objectives of any SAC or SPA within the zone of influence of this project, including the reservoirs at Poulaphouca.

This amendment proposal will result in no measurable change to the demand for freshwater over and above the permitted scheme. No significant effects to Natura 2000 sites are likely to arise from this source.

Light and noise

The project will result in no measurable additional noise and artificial lighting over and above the permitted scheme. No significant effects to Natura 2000 sites are likely to arise from this source.

Are there other projects or plans that together with the project or plan being assessed could affect the site?

Individual impacts from one-off developments or plans may not in themselves be significant. However, these may become significant when combined with similar, multiple impacts elsewhere. These are sometimes known as cumulative impacts but in AA terminology are referred to as 'in combination' effects.

The EU's Water Framework Directive requires that all water bodies were to attain 'good ecological status' by 2015 (with some exceptions). The status of the Camac is currently unsatisfactory and a target of 2021 has been set to achieve good status.

Rainwater run-off from paved and impermeable surfaces can carry hydrocarbons and particulate matter into surface waters. These features can also accelerate the discharge of rainwater off land and so accentuate the effects of flash flooding (Mason, 1996). This impact is particularly pronounced in urban locations where significant areas can be paved or built on. As such, incremental increases in hard surfaces, such as when land use changes from agriculture to housing, can result in cumulative effects to water quality. In this case no impact from surface water is expected to occur.

Future planning in this area is provided for under the South Dublin County Development Plan 2016-2022, which is currently under review. Under the current and Draft Plan the site is zoned DC 'To protect, improve and provide for the future development of District Centres'. Both Plans have been screened for AA and it was concluded that significant effects to the Natura 2000 network would not arise from their implementation.

This project can be seen in combination with development of the lands in this vicinity either planned or underway. All development applications have been subject to AA Screening.

Given that negative effects are not considered likely to arise, there are no projects, which acting in combination with the current proposal, can result in significant effects to Nature 2000 areas.

Conclusion and Finding of No Significant Effects

Mitigation in an AA context is given as any measure which is introduced in order to avoid or reduce an impact to a Natura 2000 area. In this case no mitigation measures are suggested during either the construction or operation phases.

This project has been screened for AA under the appropriate methodology. It has found that significant effects are not likely to arise, either individually or in combination with other plans or projects to the Natura 2000 network. This conclusion is based on best scientific knowledge.

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