# SCREENING STATEMENT IN SUPPORT OF APPROPRIATE ASSESSMENT FOR RESDIENTIAL DEVELOPMENTS AT SITES 3, 4 AND 5 KISHOGUE, CLONBURRIS PLANNING SCHEME SOUTH DUBLIN COUNTY COUNCIL

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This report has been prepared by Minogue Environmental Consulting Ltd with all reasonable skill, care and diligence. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is prepared for South Dublin County Council and we accept no responsibility to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



# 1 SCREENING STATEMENT FOR APPROPRIATE ASSESSMENT

MEC Ltd has been commissioned by South Dublin County Council to undertake an Appropriate Assessment Screening Report of a proposed residential development across three sites in the Kishogue area of the Clonburris Planning Scheme. See Figure 1.1 for location of project site and a current aerial view of the project site). This Screening Report for Appropriate Assessment forms Stage 1 of the Habitats Directive Assessment process and is being undertaken in order to comply with the requirements of the Habitats Directive Article 6(3). The function of this Screening Report is to identify the potential for the project to result in likely significant effects to European Sites and to provide information so that the competent authority can determine whether a Stage 2 Appropriate Assessment is required for the project.



FIGURE 1-1 PROJECT LOCATION AND RED LINE BOUNDARY

# 1.1 LEGISLATIVE CONTEXT

This Screening Report for Appropriate Assessment has been prepared in order to enable the competent authority to comply with Article 6(3) of Council Directive 92/43/EEC (the Habitats Directive). It has been prepared to assess whether or not the project alone or in combination with other plans and projects is likely to have a significant effect on any European Site in view of best scientific knowledge and in view of the conservation objectives of the European Sites and specifically on the habitats and species for which the sites have been designated.

The definition of a 'project' is that under the EIA Directive, i.e. 'the execution of construction works or of other installations or schemes, other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources<sup>1</sup>'.

- 1.1.1 REQUIREMENT FOR AN ASSESSMENT UNDER ARTICLE 6 OF THE HABITATS DIRECTIVE According to Ss.177U and 177V in Part XAB of the Planning and Development Act 2000, the competent authority has a duty to:
  - Determine whether the Project is directly connected to or necessary for the management of one of more European Sites; and, if not;
  - Determine if the Project, either individually or in combination with other plans or projects, would be likely to have a significant effect on the European Site(s) in view of best scientific knowledge and the Conservation Objectives of the site(s).

This Report contains a Screening for Appropriate Assessment and is intended to assess and address all issues regarding the construction and operation of the Project and to inform and assist the competent authority to comply with the Habitats Directive (as already defined). A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site. This requirement is transposed into Irish Law by Part 5 of the Habitats Regulations and Part XAB of the Planning and Development Act, 2000 (as amended).

# 1.2 STAGE 1 SCREENING METHOD

This Screening Report has been prepared in order to comply with the legislative requirements outlined in Section 1.1 above and aims to establish whether or not the project, alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the Site's conservation objectives. In this context "likely" means a risk or possibility of effects occurring that **cannot** be ruled out based on objective information and "significant" means an effect that would undermine the conservation objectives

<sup>&</sup>lt;sup>1</sup> OPR Practice Note PN01 Appropriate Assessment Screening for Development Management 2021

of the European Sites, either alone or in-combination with other plans and projects (Office of the Planning Regulator (OPR), 2021).

The nature of the likely interactions between the project and the Conservation Objectives of European Sites will depend upon:

• the ecological characteristics of the species or habitat, including their structure, function, conservation status and sensitivity to change; and/or

• the character, magnitude, duration, consequences and probability of the impacts arising from land use activities associated with the plan, in combination with other plans and projects.

This Screening Report for Appropriate Assessment has been undertaken with reference to respective National and European guidance documents: A guide for competent authorities. Environment and Heritage Service, Sept 2002. Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2010). DEHLG.

• The EC (2021) Guidelines: Assessment of Plans and Projects Significantly Affecting European Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EEC.

• Managing European Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European commission (2018).

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

The EC (2021) guidelines outline the stages involved in undertaking a Screening Report for Appropriate Assessment for projects. The methodology adopted during the preparation of this Screening Report is informed by these guidelines and was undertaken in the following stages:

1. Describe the project and determine whether it is necessary for the conservation management of European Sites;

2. Identify European Sites that could be influenced by the project;

3. Where European Sites are identified as occurring within the zone of influence of the project identify potential effects arising from the project and screen the potential for such effects to negatively affect European Sites identified under Point 2 above; and

4. Identify other plans or projects that, in combination with the project, have the potential to affect European Sites.

### 1.2.1 DESKTOP SURVEYS

Information relied upon included the following information sources, which included maps, ecological and water quality data as preliminary insights:

• Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie;

• Online data available on European Sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie;

- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government http://www.myplan.ie/en/index.html;
- Information on water quality in the area available from www.epa.ie;
- Information on catchment management and water quality from https://www.catchments.ie/
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on the status of EU protected habitats in Ireland (National Parks & Wildlife Service, 2019 Volumes 1-3);
- Natura Impact Report for the South Dublin County Development Plan 2022-2028 and NIR for the Clonburris Strategic Development Zone 2015.

### 1.2.2 Scientific investigations

A range of scientific site investigations have been completed for the project by JBA Ireland Ltd and these are relied upon in this AASR. A detailed description of methods to undertake these scientific investigations is set out in accompanying Environmental Impact Assessment Report (Chapter 6 Biodiversity)<sup>2</sup> over 2023 to 2024 and relevant chapters of the EIAR including Chapter 7 Land, Soils and Geology and Chapter 8 Water<sup>3</sup>, plus Engineering Services Reports<sup>4</sup> provided in full under separate cover with the planning application.

The surveys aim to provide up to date information for habitats occurring at and bounding the project site as well as providing up to date information for rare and protected species that may be supported by the project site and adjacent sites. The following surveys were completed by JBA Ireland:

- Habitat Surveys
- Breeding Bird Surveys

<sup>4</sup> Cronin Sutton Engineers 2025 and DBFL Consulting Engineers 2025, RPS Consulting 2025

<sup>&</sup>lt;sup>2</sup> Ch 6 Biodiversity EIAR prepared by JBA Ireland Ltd 2025

<sup>&</sup>lt;sup>3</sup> DBFL Consulting Engineers 2025

- Winter Bird Surveys
- Bat Surveys
- Aquatic Surveys

#### 1.2.3 STATEMENT OF AUTHORITY

Ruth Minogue, BscSci, MA, MCIEEM prepared this AA Screening Report. Ruth has over twenty years in the field of environmental assessment and has been involved in the completion of environmental and ecological impact assessments since 2002. She is a full member of the Chartered Institute of Ecology and Environmental Management, holds a diploma in Field Ecology (UCC), Advanced Diploma in Planning and Environmental Law (Kings Inn) and undertakes ongoing CDP training through approved training providers including CIEEM.

This AASR has been reviewed by Mr. Pat Doherty BSc., MSc, MCIEEM, of DEC Ltd. Mr. Doherty is a consultant ecologist with over 20 years' experience in completing ecological impact assessments and environmental impact assessments. Pat has been involved in the completion of assessment reports for proposed developments and land use activities under the EIA Directive and Article 6 of the Habitats Directive since 2003 and 2006 respectively. He has extensive experience completing such reporting for projects located in a variety of environments and has a thorough understanding to the biodiversity issues that may arise from proposed land use activities. Pat was responsible for completing one of the first Appropriate Assessment reports for large scale infrastructure developments in Ireland when he prepared the Appropriate Assessment for the N25 New Ross Bypass in 2006/07. Since then Pat has completed multiple examinations of both plans and projects in Ireland. He has completed Natura Impact Statements for national scale plans such as Ireland's CAP Strategic Plan and National Seafood Development Plan and regional and county scale plans including County Development Plans, Local Area Plans, Tourism Strategies and Climate Action Plans. Pat has completed multiple Natura Impact Statements for a range of development types that include large scale infrastructure developments in sectors such as transport and energy as well as industrial, commercial and residential developments.

# 2 PROJECT DESCRIPTION

# 2.1 OVERVIEW OF THE PROJECT

Site 3- Summary Description of Development

The proposed development comprises 580no. residen5al units in a mix of house, apartment, duplex and triplex units comprising 1-bedroom, 2-bedroom and 3-bedroom typologies; 2-storey childcare facility; All associated and ancillary site development and infrastructural works including surface level car parking, bicycle parking, hard and soft landscaping and boundary treatment works, including public, communal and private open space, public lighting, bin stores and foul and water services. Vehicular access to the site will be from Adamstown Avenue and the Northern Link Street, permitted under Reg. Ref. SDZ24A/0033W.

Site 4- Summary Description of Development

The proposed development comprises 436no. residential units in a mix of house, apartment, duplex and triplex units comprising 1-bedroom, 2-bedroom, 3-bedroom and 4-bedroom typologies; a childcare facility on the ground floor of Block F; retail unit; community building; employment uses and All associated and ancillary site development and infrastructural works including surface level car parking, bicycle parking, hard and soft landscaping and boundary treatment works, including public, communal and private open space, public lighting, bin stores and foul and water services. Vehicular access to the site will be via the Southern Link Road permitted under SDZ20A/0021

Site 5- Summary Description of Development

The proposed development comprises 236 no. residential units including 55 no. social housing units, 113 no. affordable purchase units and 68 no. cost rental units. The scheme provides for a mix of 1, 2 and 3-bedroom units in a range of dwelling typologies, as follows: 35 no. houses; 110 no. duplex units; 33 no. triplex units, and 58 no. apartments. The proposal also includes all associated and ancillary site development and infrastructural works including a total of 219 no. car parking spaces at undercroft and surface level, bicycle parking, hard and soft landscaping and boundary treatment works, public, communal and private open space, public lighting, waste storage areas and foul and water services. Vehicular access to the site will be from Thoms Omer Way and the Northern Link Street (NLS) proposed under concurrent application Reg. Ref. SDZ24A/0033W.

# 2.2 CONSTRUCTION PHASE AND WORKING<sup>5</sup>

Subject to planning permission before the end of 2025- the aim is for a Q3/Q4 start on site for each of the three schemes.

It is anticipated that there will be a 28-month programme for site 5, a 36-month programme for site 4 and a 40-month programme for site 3.

### 2.2.1 EXISTING AND PROPOSED SURFACE WATER

Existing surface water runoff generated on site discharged towards the west via the existing drainage ditches. These ditches will be made redundant with the construction of the new surface water network for the development. Surface water runoff from the new roads, footpaths and buildings will be collected in a new gravity sewer network within the roads and footpaths of the new development.

**Site 3**:As set out in the Surface Water Management Plan and the Infrastructure Design Report for SDZ23A/0033W, attenuation volumes for the SDZ are generally provided on a regional basis (with the exception of urban centre and school sites). The regional attenuation pond that will serve the subject site is to be constructed as part of the Clonburris Northern Link Street (NLS) in advance of the proposed development. The proposed development is located in Catchment 1, within the Clonburris SDZ. The proposed development lies within Catchment 1 of the overall Clonburris SDZ. The proposed site has 7no separate surface water sub-catchments

The proposed site will benefit from trunk surface water infrastructure proposed as part of the Clonburris Infrastructure Development for which planning was granted under reference SDZ24A/0033W. The planning application included trunk surface water sewers and regional attenuation to serve the subject site, this strategic infrastructure aligns with the SWMP proposals and allows for a treatment train of SuDS measures within individual sites and within the regional features. It is intended that the stormwater run-off generated from the proposed development will be collected in a new gravity sewer and discharged to the regional attenuation systems constructed as part of the NLS. The subject site is in Catchment 1 within the SWMP and will discharge to attenuation pond ATN 03 as shown in Figure below. The downstream regional attenuation system ATN 03 will consist of an open attenuation pond. Outflow from the attenuation structure within the SDZ limits flow to a rate of 3.1 l/s/ha as detailed in the SWMP for the SDZ.



FIGURE 2-1 SITE 3 3 REGIONAL ATTENUATION & RECEIVING SURFACE WATER SEWER

**Site 4<sup>6</sup>** Within the Clonburris SDZ masterplan area, a local surface water drainage network was designed and is under construction under the masterplan permission (Reg. Ref. SDZ20A/0021); this is shown on DBFL drawing nos. 190113B-DBFL-0500-SP-DR-C-1004 and 190113B-DBFL-0500- SP-DR-C-1005. These local surface water sewers are not yet fully constructed. All runoff collected by this network drains to the Clonburris regional attenuation ponds, which are located adjacent to the SLR and approximately 100m from the western boundary of the subject development site. These attenuation ponds discharge to the Kilmahuddrick Stream at a controlled rate of 209 l/s, as permitted under the Clonburris SDZ permission. The regional attenuation pond area was designed and sized to accommodate rainfall events exceeding a 1% Annual Exceedance Probability (i.e. a 1-in-100-year storm event), increased by 20% for predicted climate change effects and limit stormwater discharge to the greenfield discharge rate.

As discussed above, the CIL works, proposed under permission (Reg. Ref. SDZ20A/0021) include the SLR, drainage and its associated services. It is intended to discharge at an unrestricted rate to this surface water network from the development site into the proposed 300mm diameter to 600mm diameter spurs, proposed under the SDZ planning permission. From there is shall continue to the regional attenuation ponds and D116 Engineering Services Report | Kishoge/Clonburris, Lot 2, Site 4

<sup>&</sup>lt;sup>6</sup> Engineering Services Report CS Consulting 2025

15 outfall to the Kilmahuddrick Stream (as described in sub-section 5.4). Integration of the proposed development with this existing infrastructure ensures that stormwater runoff from the development site shall not flow into neighbouring sites but shall instead be collected and subsequently released in a controlled manner after the peak storm duration has passed. It is proposed to discharge surface water run-off from the proposed development by gravity via new connections to the 300mm diameter to 600mm diameter surface water spurs along the SLR extent. At each connection, the manholes shall be in accordance with SDCC requirements and standard details, and accessible for maintenance purposes. The proposed stormwater drainage arrangements have been designed in accordance with Part H of the Building Regulations 2010 (Building Drainage), the Greater Dublin Regional Code of Practice for Drainage Works (Version 6), British Standard BS EN 752:2008 (Drains and Sewer Systems Outside Buildings), and the Greater Dublin Strategic Drainage Study (GDSDS).

The proposed development includes SuDS measures in accordance with the requirements of South Dublin City Council and Objective GI01 of the South Dublin County Council Development Plan 2022-2028, to provide on-site first stage interception of surface water runoff, improving its overall quality prior to ultimate discharg

The Surface Water Management Plan agreed with SDCC includes several potential SuDS features to be implemented on individual sites within the SDZ.

The Kilmashuddrick Stream flows south to north then east to west along the southern and northern boundaries of the site. This stream shall be retained, and a Riparian Corridor shall be provided to ensure ecological considerations are maintained. The stream has been referred to and incorporated into the Surface Water Management Plan (SWMP).

**Site 5**: By the time construction commences on the proposed works at Site 5, new water services, including watermain, foul, and surface lines designed by others as part of the Clonburris Infrastructure Upgrade and Northern Link Street works packages, are expected to be installed. These newly installed lines have been incorporated into the RPS design and drawings as part of the existing network.

The site in its entirety is approximately 6.2ha and has a total impermeable area of 2.161ha which is to drain to the new proposed surface water systems. Site 5A has an impermeable area of 1.3072ha to be drained into the planned surface water infrastructure (designed by others as part of the Northern Link Street works). Site 5B has an impermeable area of 0.8538ha to be drained into an existing network north of the site. All proposed developments must ensure that SuDS are incorporated into the equivalent to, or lower than, the pre-development run-off levels. Thus, the development must be able to retain, within its boundaries, surface water volumes from extreme surface events up to and including a design for a 1 in 100-year surface event, more commonly expressed as a 1.0% AEP (Annual Exceedance Probability), while also allowing for climate change factors. Any new development must

have the physical capacity to retain surface water volumes as directed under the Greater Dublin Strategic Drainage Study (GDSDS) and, if necessary, release this attenuated surface water runoff before it enters a natural watercourse or into a public sewer, which ultimately discharges to a water body. This is to ensure the highest possible standard of surface water quality. In this instance, on-site attenuation storage will be provided for Site 5B, designed to drain the site for surface events up to and including a 1 in 100-year event, including 20% for climate change, while Site 5A will be discharged into the planned surface water infrastructure which is attenuated further upstream towards the Griffeen River (designed by others)

Surface water generated from new hard landscaping and roofs on site will be directed to an onsite infiltration tank. Prior to entering the infiltration tank, the proposed surface water collection networks will outfall to a hydrocarbon interceptor and silt trap manhole. Terraced housing and apartment buildings will incorporate appropriately sized soakaways to rear gardens to capture surface water runoff. The soakaways are to be designed to BRE365 specifications and will infiltrate to ground. Surface water from trafficked areas will be intercepted by a suitable petrol interceptor prior to entering the detention basins. In some instances, surface water from trafficked areas will enter tree pits before entering the drainage network.

## 2.2.2 FOUL WATER

**Site 3<sup>7</sup>**: Existing foul drainage runs along the northern side of Adamstown Avenue through the subject site. The existing site is predominantly greenfield and therefore has no foul loading at present. The planning application SDZ24A/0033W includes the trunk foul sewers which the subject site will connect into. The subject site's foul layout will be designed to connect into the trunk foul sewers.

The overall SDZ lands are relatively flat, therefore, the pumping of wastewater is required. Foul water has been split into 3no separate catchments. It is proposed that the foul water generated in Kishoge Site 3 Catchment A will discharge into the existing Oldbridge foul outfall. Foul water from Kishoge Site 3 Catchment B will be collected by sewers to be constructed as part of CIL works, discharged via gravity towards pumping station 3 and pumped east where it eventually discharges at the existing 9B trunk sewer on R113 Fonthill Road. Foul water from Kishoge Site 3 Catchment C will also be collected by the proposed NLS trunk sewer, discharged via gravity towards pumping station 3 and pumped east where it eventually discharges at the existing 9B trunk sewer on R113 Fonthill Road.

The proposed foul sewer design and layout complies with the Clonburris Water and Wastewater Report as agreed with SDCC and Irish Water

**Site 4**<sup>8</sup>: There are no Uisce Éireann foul sewers within the immediate vicinity of the subject development site. Within the Clonburris masterplan area, a local drainage network has been designed

<sup>&</sup>lt;sup>7</sup> Infrastructure Design Report DBFL 2024

<sup>&</sup>lt;sup>8</sup> Engineering Services Report CS Consulting 2025

and is under construction under the SLR permission (Reg. Ref. SDZ20A/0021). These local foul sewers are under construction and are not shown on Uisce Éireann records. All foul effluent collected by this network drains to the site of Pumping Station No.2 wastewater pumping station (WwPS); this is likewise under construction under the SLR permission and has not yet been transferred to Uisce Éireann's control. A foul rising main, also under construction and not under Uisce Éireann's ownership, shall convey the pumped effluent to the Uisce Éireann trunk foul sewer.

The development's maximum design population is therefore 1,490 people (1490 pe), and the maximum average effluent flow (dry weather flow or DWF) to be generated by the proposed development may be calculated as: DWF = 1490pe × 165l/day/pe = 245,850l/day = 2.845l/s For a population of between 1,001 and 5,000 people, the peak effluent flow (Design Flow) is calculated by applying a domestic peaking factor (PfDOM) of 3: Design Flow = DWF × Pf6 = 2.105l/s × 3 = 8.535l/s The effluent generated by the proposed development has negligible potential to impact negatively on the receiving foul drainage infrastructure. Surface water runoff from the proposed development shall be treated and attenuated within the Clonburris regional pond and shall not discharge to any foul sewer.

It is proposed to discharge all foul effluent from the proposed development by gravity to the foul sewers in the SLR. Throughout the development site and at each connection, the manholes within the site shall be in accordance with SDCC and Uisce Éireann taken in charge requirements, and accessible for maintenance purposes. A Pre-Connection Enquiry (PCE) was submitted to Uisce Éireann on the basis of a 436-unit residential development on the subject site. A Confirmation of Feasibility was received in response on the 12th of August 2024, stating that connection of such a development to the public wastewater network (via the SLR wastewater infrastructure) would be feasible without infrastructure upgrade by Uisce Éireann.

**Site 5**<sup>9</sup>: In the area surrounding the proposed parcels, two existing (one planned) foul lines are set to serve the development: a 225mm line along Foxborough Court to the north and a 300mm line along Lynches Park/ Northern link street to the south of Thomas Omer Way. Although not yet installed, the water service and drainage networks facilitating Site 5A are anticipated to be in place prior to construction. Additionally, a planned 180mm diameter polyethylene (PE) watermain is scheduled to run parallel to the south of Thomas Omer Way. An existing watermain running along the north of Thomas Omer Way will be used to serve the proposed development. The proposed development plan includes connecting new foul and water infrastructure to these utilities, with the new foul line and watermain designed to tie into the planned/existing infrastructure around the proposed site.

The maximum foul flow from the proposed development has been calculated as 6.3 litres/sec and 1.9 litres/sec for Site 5A and 5B respectively. 6.

<sup>9</sup> RPS 2025

#### 2.2.3 WATER SUPPLY

**Site 3**: There is an existing 400mm diameter watermain running along Adamstown Avenue which will serve the proposed site. The proposed site will also benefit from trunk watermain infrastructure proposed as part of the Clonburris Infrastructure Development for which was granted permission under planning reference SDZ24A/0033W. The proposed watermain design and layout is in accordance with the Irish Water 'Code of Practice for Water Infrastructure' and The Irish Water 'Water Infrastructure Standard Details'. 5.4 Compliance with Clonburris Water and Wastewater Report A confirmation of feasibility for the overall SDZ lands has been received from Uisce Éireann (ref: CDS2512559856). The proposed watermain design and layout complies with the Clonburris Water and Wastewater Report as agreed with SDCC and Irish Water. A further Confirmation of Feasibility application for the subject Kishoge Site 3 development (ref: CDS24003031) was completed and received in May 2024

**Site 4**<sup>10</sup>: There is an existing 100mm diameter watermain runs within Lynch's Lane located along the southern boundary of the subject development site. It currently services the SDCC Parks Depot, Grange House and the existing traveller accommodation.

Site 4 has a design population of 1,490 people (1490 pe), and the average potable water demand of the proposed development may be calculated as:

#### *Avg*. *Demand* = 1490*pe* × 150*l/day/pe* = 223,500*l/day* = 2.586*l/s*

The peak potable water demand is calculated by applying a domestic peaking factor (PfDOM) of 5, in accordance with the Uisce Éireann Code of Practice for Water Infrastructure: P

#### Peak Demand = Avg. Demand $\times Pf$ $\mathfrak{m}$ = 2.586 $l/s \times 5 = 12.930l/s$

It is proposed to provide 150mm and 200mm internal diameter mains to service this development. These mains shall be interconnected and fed by new connections to the 150mm diameter and 200mm diameter spurs provided along in the SLR.

**Site 5:** In the area surrounding the proposed parcels, two existing (one planned) foul lines are set to serve the development: a 225mm line along Foxborough Court to the north and a 300mm line along Lynches Park/ Northern link street to the south of Thomas Omer Way. Although not yet installed, the water service and drainage networks facilitating Site 5A are anticipated to be in place prior to construction. Additionally, a planned 180mm diameter polyethylene (PE) watermain is scheduled to run parallel to the south of Thomas Omer Way. An existing watermain running along the north of Thomas Omer Way will be used to serve the proposed development. The proposed development plan includes connecting new foul and water infrastructure to these utilities, with the new foul line and watermain designed to tie into the planned/existing infrastructure around the proposed site

<sup>&</sup>lt;sup>10</sup> Engineering Services Report CS Consulting 2025

# 2.2.4 FLOOD RISK

As part of the Clonburris SDZ Draft Planning Scheme, South Dublin County Council commissioned a Strategic Flood Risk Assessment (SFRA) for the lands which was completed by JBA Consulting and is listed as a supporting document to the planning scheme

(https://clonburris.ie/wpcontent/uploads/2022/03/Clonburris-SDZ-SFRA.pdf). The subject sites land was accounted for in the Clonburris SDZ Strategic Flood Risk Assessment. It was predicted that the subject site was at low risk of flooding (Flood Zone C) for events up to the Q1000 event. The study also found there is no existing development within the subject site that is at potential risk of flooding

## 2.2.5 INCORPORATED DESIGN MITIGATION

The project layout has evolved in order that the design avoids conflict with the water environment. Design evolution to minimise environmental impact has been prioritised throughout the various design stages to prevent significant adverse impacts on the local environment.. These measures will seek to avoid or minimise potential effects in the main through the implementation of best practice construction methods and adherence to all relevant legislation.

All new foul drainage lines will be constructed in accordance with Uisce Éireann Standards. Foul sewers will be pressure tested and will be subject to a CCTV survey in order to identify any possible defects prior to being made operational.

The design of proposed sites levels (roads, buildings etc.) have been carried out in such a way as to replicate existing surface gradients where possible, therefore replicating existing overland flow paths, and not concentrating additional surface water flow in a particular location.

SuDS features such as permeable paving parking spaces, bioretention areas and brown roofs to provide additional storage and promote infiltration of and treatment of surface water run-off have been provided in landscaped areas.

All new surface water drainage on the proposed sites will be pressure tested and will have a CCTV survey carried out prior to being made operational. The site is attenuated to mimic the greenfield scenario as part of the overall SDZ.

The site layout has been designed to minimise impact on the land and soil environment. The design has evolved to minimise environmental impact throughout the various design stages.

The vertical and horizontal alignment of the road and development levels have been optimised to minimise cut and fill requirements and seek to obtain a balance of cut and fill materials (within constraints of road design criteria and landscape considerations).

Sufficient space has been provided within the works area for segregated spoil storage.

Pre-construction soils testing has been carried out to determine if any contamination exists.

### 2.2.6 LIGHTING

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The principal source of night-time lighting associated with the project will be public lighting along the roads. The proposed development will control the levels of light emitted by all public lighting associated with the development by implementing best practice approaches that aim to minimise light pollution.

# 3 DESCRIPTION OF THE PROJECT AREA

# 3.1 OVERVIEW

The subject Sites are spread across the Kishoge area within the Clonburris SDZ. They are located both sides of the Kildare/Cork railway line, with sites 3 & 5 north of the railway line and Site 4 south of the railway line.

- <u>Site 3:</u> The lands at Kishoge Phase 3, measuring approximately 34 acres, are currently characterised by transitional agricultural landscapes and border mature housing developments to the west and north.
- <u>Site 4:</u> The lands at Kishoge Phase 4, measuring approximately 26 acres, currently have both an emergency traveller accommodation site (Lynch's Lane) as well as a South Dublin County Council Parks Department depot. A plantation of semi-mature trees comprises much of the north of the site. The Dublin-Cork rail line forms the northern boundary with Lynch's Lane marking the southern extent.
- <u>Site 5:</u> The site comprises two separate plots on opposing sides of the E-W trending Thomas Omer Way (L1059). The plot to the south of the road measures almost 10 acres and is bound by the R136 to the west and by Lynch's Lane (L5218) to the east. The site tapers to the south where it meets the Dublin-Cork rail line at Kishoge rail station. North of Thomas Omer Way, a 3.5acre greenfield site is wedged between the L1059 to the south and Foxborough housing estate to the north. A new social housing development, Griffeen Court and Omer Walk, have recently been constructed east of the site.

### 3.1.1 TOPOGRAPHY

Overall, the topography of the site is relatively flat throughout with some localised gradients on all sites. On site 3 there is slight fall from the southeast with the lowest area on the northwest area of the site. Site 4 shows a steady fall from south to north, and on Site 5 north of Thomas Omar Way is overall relatively flat and south of Thomas Omer Way the site falls north to south. A topographic survey is included in the appendix of this report.

### 3.1.2 BEDROCK GEOLOGY

The Bedrock Geology Map shows the project lands are underlain in its entirety by limestone. The bedrock is described in geological mapping as a Visean Limestone and calcareous shale and is part of a formation known as the Lucan Formation.

### 3.1.3 QUATERNARY & SOIL

The geological survey of Ireland online mapping service indicated the quaternary deposits underlying the subject site are comprised of clay- dominant tills derived from limestones. The Teagasc Soils and subsoils map from the online Geological Survey of Ireland mapping service shows the sites are underlain with "deep well drained material" soils and "mineral poorly drained" soils.

## 3.1.4 WATER QUALITY

The project sites are all located within the Liffey and Dublin Bay (09)catchment and the Liffey sub catchment (090) The Kilmahuddrick Stream runs along the eastern and northern boundaries of Site 4. The Kilmahuddrick Stream joins the River Griffeen (370m downstream) which then joins the River Liffey. The Grand Canal (pNHA) is located approximately 35m south of Site 4's southernmost boundary and flows east before discharging into the Liffey Estuary close to Ballsbridge. The Liffey Estuary discharges to Dublin Bay on the South Wall near Poolbeg Lighthouse.

A review of EPA water quality data shows the River Liffey is classified as Moderate (Q3-4) after the Griffeen River joins it near Lucan. The transitional waterbody of the Liffey is classified as eutrophic until City Quay and then is classified as unpolluted. The coastal waterbody of Dublin Bay is classified as unpolluted.

The Water Framework Directive (WFD) Transitional Waterbody risk score for the section of Liffey and Dublin Bay closest to the development site known as Liffey Estuary Lower Estuary has been assessed as "Intermediate". See Figure 3.1 below for surface water quality based on most recent data and the three sites at Kishogue.



FIGURE 3-1 SURFACE WATER QUALITY

The project sites are located within the Dublin groundwater body (IE EA G 008); this is classified as poorly productive bedrock and the project sites are located within high groundwater vulnerability. Groundwater status is classified as 'good', see Figure 3.2 below for groundwater vulnerability map.



FIGURE 3-2 GROUNDWATER VULNERABILITY

#### 3.2 HABITATS

As stated in Section 1.2.2 habitat surveys were completed by JBA Ireland. Figure 3.3. presents this habitat map from data provided by JBA Ireland.



#### FIGURE 3-3 HABITAT SURVEY OF 3 SITES (JBA IRELAND)

In summary, habitats for each site are presented in Tables 3.1 to 3.3 below

TABLE 3-1 SITE 3 HABITAT CLASSIFICATION

Fossitt Habitat	Fossitt Code
Buildings and artificial surfaces	BL3
Bare ground	ED2
Recolonising bare ground	ED3
Reed and large sedge swamps	FS1
Drainage ditches	FW4
Dry meadows and grassy verges	GS2
Mixed broadleaved/ conifer woodland	WD2
Treeline	WL2
Scrub	WS1

#### TABLE 3-2 SITE 4 HABITAT CLASSIFICATION

Fossitt Habitat	Fossitt Code
Buildings and artificial surfaces	BL3
Recolonising bare ground	ED3
Reed and large sedge swamps	FS1
Eroding / upland rivers	FW1
Canals	FW3
Drainage ditches	FW4
Improved agricultural grassland	GA1
Amenity grassland (improved)	GA2
Marsh	GM1
Dry meadows and grassy verges	GS2
Mosaic: Dry meadows and grassy verges / Scrub	GS2 / WS1
(Mixed) broadleaved woodland	WD1
Mixed broadleaved / conifer woodland	WD2
Hedgerow	WL1
Treelines	WL2
Scrub	WS1
Mosaic: Scrub / Recolonising bare ground	WS1 / ED3
Immature woodland	WS2

#### TABLE 3-3 SITE 5 HABITAT CLASSIFICATION

Fossitt Habitat	Fossitt Code
Flower beds and borders	BC4
Buildings and artificial surfaces	BL3
Bare ground	ED2
Recolonising bare ground	ED3
Drainage ditches	FW4
Amenity grassland (improved)	GA2
Dry meadows and grassy verges	GS2
(Mixed) broadleaved woodland	WD1
Scattered trees and parkland	WD5
Hedgerow	WL1
Treelines	WL2
Scrub	WS1
Ornamental / non-native shrub	WS3

### 3.2.1 AQUATIC SURVEYS

JBA Ireland also undertook kick sampling and along the stream at Site 4 (Kilmahuddrick Stream) sites 1 and 2 allocated a Q-value of 2-3, while Site 3 was allocated a Q-value of 2. The Small Stream Risk Score enables further characterisation of catchments in terms of improving the risk assessments for river waterbodies at smaller scales than those examined under WFD. The SSRS is based on the diversity and abundance of certain freshwater macroinvertebrate groups; Group 1 consisting of the 3-tailed Ephemeropterans (mayflies); Group 2 the 2-tailed Plecopterans (stoneflies); Group 3 the Trichopterans (caddisflies); Group 4 a combination of Gastropods (snails and bivalves), Oligochaetes (worms) and Dipterans (true flies); and Group 5 the Asellus genus (water louse). Scores are divided into three categories - Probably not at Risk (= >8); Probably at Risk (= 6.5 - 8); and At Risk (= This eroding /upland stream habitat supports both bankside and instream flora. The Kilmahuddrick Stream, under the SSRS system, is a watercourse 'At Risk', with all three sites receiving an 'At Risk' rating (Sites 1 and 3 score: 3.2, Site 2 score: 4.8).

The Kilmahuddrick Stream joins the River Griffeen (370m downstream). The Grand Canal (pNHA) is located approximately 35m south of Site 4's southernmost boundary. This aquatic habitat supports a range of floating and emergent floral species including Yellow Water-lily Nuphar lutea and Waterweeds Elodea spp.

The Grand Canal (pNHA) is located approximately 35m south of Site 4's southernmost boundary. This aquatic habitat supports a range of floating and emergent floral species including Yellow Water-lily Nuphar lutea and Waterweeds Elodea spp. A range of fauna were recorded utilising this habitat including Mallard Anas platyrhynchos; Mute Swan Cygnus olor; Cormorant Phalacrocorax carbo; Moorhen Gallinula chloropus; and Grey Heron Ardea cinerea.

Additionally, Otter Lutra lutra are known to inhabit the length of the Grand Canal network, however, no local latrine, couches or holts were noted in the canal stretch south of Site 4. This habitat is

considered to be of national ecological importance given the canals status as a nationally designated site.

## 3.2.2 INVASIVE AND NON NATIVE SPECIES

The following invasive non native species were identified for each site, of these Brown Rat and Japanese Knotweed are listed on the third schedule of SI 477/2011. No other Schedule 3 INNS were recorded across the project site.

## 3.2.3 Species of Conservation Interest

Black-headed gull, lesser black gull and herring gull were the only SCIs of SPAs within the vicinity of the project recorded. These were recorded on the pond south of the Grand Canal at the Grange Business Park approximately 180m south of the nearest site, Site 4 to the Grand Canal. Full methodologies and results for the bird surveys are provided in the detailed survey reports by JBA Ireland

Based on the surveys the project sites are not important for/relied upon by special conservation interest bird species.



#### FIGURE 3-4 WINTER BIRD SURVEYS JBA IRELAND

#### 3.2.4 OTTERS

While surveyors did not record any signs of habitation (latrine, slides, couches or holts) along the canal stretch located south of Site 4, Otter are known to inhabit the length of the Grand Canal network. Under the precautionary principle it will assumed that Otter are feeding and commuting within and adjacent to this stretch of the Grand Canal. Furthermore, given the presence of Common Frog and Three-spined Stickleback within the drainage and stream network within Site 4, there is the possibility for Otter to enter the site on occasion for foraging purposes. Moreover, local Otters may

potentially utilise the Kilmahuddrick Stream for commuting purposes to navigate between the Grand Canal and the River Griffeen located 370m downstream of Site 4.

# 3.3 IS THE PROJECT NECESSARY FOR THE CONSERVATION MANAGEMENT OF EUROPEAN SITES

The project has been described in Section 2 of the Screening Report and it is clear from the description provided that the project is not directly connected with or necessary for the future conservation management of any European Sites.

# 4 IDENTIFICATION OF EUROPEAN SITES

### 4.1 INTRODUCTION

Current guidance informing the approach to screening for Appropriate Assessment defines the zone of influence of a project as 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. It is recommended that this is established on a case-by-case basis using the Source-Pathway-Receptor (SPR) framework.

The SPR framework is relied upon to identify pathways connecting the project to European Sites and is relied upon during this screening exercise, particularly given the fact that no element of the project is located within the boundary of a European Sites and all such sites are located at a distance of over 4km from the project site.

As a first step in identifying the European Sites that could be connected to the project via SPR pathways all European Sites occurring in the zone of influence of the project were identified. The zone of influence is defined as follows:

"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)".<sup>11</sup>

As can be seen in **Figures 4.1** and **Figure 4.2** six European Sites, comprising two SPAs and four SACs occur within the wider area surrounding the project site. All other European Sites are located at a remote distance from the project site. The qualifying features of interest/special conservation interests of these European Sites are listed in full in **Table 4.1** below. North Bull Island SPA and the North Dublin Bay SAC are also considered as part of the screening given that they occur at the Liffey estuary and that the project site is located within the Liffey catchment.

A summary overview of each of these European Sites is provided in Appendix A.

As the nearest European Sites (Rye Water /Carton Valley SAC and South Dublin Bay and River Tolka Estuary SPA) are located approximately 4.3km and 12.89km away respectively, the project will not have the potential to result in direct impacts to European Sites. Thus, this Screening exercise focuses on investigating whether it can or cannot be excluded, on the basis of objective information, that the project will have the potential to result in indirect effects to European Sites beyond the boundaries of their designated conservation areas.

Using the SPR framework, the project as described in Section 2 of this Screening Report, represents the source of potential impacts to European Sites.

<sup>&</sup>lt;sup>11</sup> Appropriate Assessment Screening for Development Management, OPR, 2021

Potential for impact pathways to occur are examined in **Table 4.1** below. Impact pathways that can arise from land use activities associated with new development projects such as this project relate to emission pathways and disturbance pathways, the latter particularly applicable to disturbance of populations of mobile qualifying species of European Sites from reliant habitats exsitu of their associated European Sites. The types of pathways that can arise from the above are hydrological, aerial, noise, vibration, lighting and visual and mobile species pathways.

With regard to aerial emissions that could arise from the project, these are considered to relate to construction phase emissions associated with dust etc. during the operation phase. Dust emissions are reported to have the potential to result in negative impacts to biodiversity up to a 50m distance from the source of the emission. This is supported by the guidance outlined by Holman et al. (2014), which provides a risk assessment for ecological impacts arising from dust deposition. European Sites are ranked as high sensitive sites and the risk to high sensitive sites ranges from high (at less than 20m from source) and medium (at less than 50m from source), while low risks, representative of insignificant and de-minimis effects arise at distances greater than 50m from source. As all European Sites occur outside the 50m zone of susceptibility to dust emissions, they will not be susceptible to any emissions to air that may arise during the construction of the project. As such the potential for an air emission pathway to connect the project site to European Sites during the construction phase is ruled out. As such air emission pathway is identified for this project.

With regard to noise and vibration emissions, such emissions are considered to have the potential to result in negative impacts to fauna at varying distances from the emission source depending on the species receptor. For instance the maximum disturbance zone of 300m for wetland bird species has been identified by Cutts et al. (2013).

The maximum disturbance distance for terrestrial non-volant mammal species (e.g. otters) listed as qualifying features of interest for SACs ranges from 50m to 150m, (NRA, 2009). Disturbance can be up to 150m where piling or blasting is required as part of a project's works, otherwise the zone of disturbance is set at a maximum distance of up to 50m.

For qualifying aquatic species a potential noise and vibration impact pathway will only arise where works such as piling or blasting are proposed at instream or bankside locations within adjoining SACs.

Given that no habitats occurring at the project site are relied upon by qualifying species of European Sites in the wider surrounding area; that no SPAs occur within 300m of the project; and that the nearest SAC to the project site is over 4km from the project site, there will be no potential for the project to result in disturbance to these species as a result of noise or vibration emissions generated by the project. As such no noise and vibration emission pathway is identified for this project.

With respect to lighting emissions it is noted that the project is located within the wider urban landscape of Dublin with existing development and associated lighting occurring in the surrounding area. The provision of night time lighting for the project will not have any potential to

result in changes to baseline night time lighting conditions at European Sites in the wider surrounding area. As such no lighting emission pathway is identified for this project.

With respect to the mobile species pathway it is noted that the project is located at a remote distance from the nearest European Sites, the Rye Water Valley SAC. This SAC is not designated for its role in supporting mobile qualifying species. The European Sites in the wider area that do support mobile qualifying species are the SPAs in the wider surrounding area. As set out in Section 3.2.3 above the project site is not relied upon by and is not important for any populations of special conservation interest bird species of the SPAS in the wider surrounding area. As such there is no mobile species pathway connecting the project to European Sites in the wider surrounding area.

The remaining potential pathway that could connect the project to European Sites in the wider surrounding is the hydrological pathway. The qualifying features of interest/special conservation interests, as listed in Table 4.1, have been considered when examining the potential for a hydrological pathway to connect the project to surrounding European Sites.

European Sites and their associated qualifying features are likely to occur in the zone of influence of the project only where hydrological pathways establish a link between the project and the European Site.

Table 4.1 provides a determination as to whether the European Sites in the wider area surrounding the project site occurs within its zone of influence.

#### 4.2 CONSERVATION OBJECTIVES

Conservation Objectives have been published for the 16 European Sites occurring in the surrounding area. Details of these Conservation Objectives for each of these European Sites can found on the NPWS website at <a href="https://www.npws.ie/protected-site">https://www.npws.ie/protected-site</a>.

These conservation objectives aim to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the relevant SAC or SPA has been selected.

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.

The favourable conservation status of a species is achieved when:

• population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats,

• the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and

• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.



FIGURE 4-1 SPECIAL AREAS OF CONSERVATION (SACS) WITHIN THE WIDER AREA OF THE PROJECT SITE



FIGURE 4-2 SPECIAL PROTECTION AREAS (SPAS) WITHIN THE WIDER AREA OF THE PROJECT SITE

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
001398	Rye Water Valley/Carton SAC	4.33	Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow- mouthed Whorl Snail) [1014] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	Detailed conservation objectives for this site, were reviewed as part of the assessment and are available at <sup>12</sup> : <u>CO001398.pdf</u>	No direct impact is identified as the SAC and QI are located outside the project site. This SAC is located in a separate sub-catchment to the project site and there is no functional hydrological impact pathway connecting the project to this SAC. As no functional hydrological impact pathway exists from the project to the SAC due to this SAC being over 4km from the project site; no potential pathway for significant indirect hydrological/pollution effects on the SAC exists as a result of the proposed development. <b>The SAC is outside the Likely Zone of Influence and no</b> <b>further assessment is required</b>
001209	Glenasmole Valley SAC	9.39	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on	Detailed conservation objectives for this site, were reviewed as part of	No direct impact is identified as the SAC and QI are located outside the project site. Due to distance over 9km between the project and this SAC no potential for direct effects on the terrestrial QI features are identified.

#### TABLE 4-1 EXAMINATION OF WHETHER EUROPEAN SITES IN THE WIDER SURROUNDING AREA

<sup>12</sup> NPWS (2021) Conservation Objectives: Rye Water Valley/Carton SAC 001398. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
			calcareous, peaty or clayey- silt-laden soils (Molinion caeruleae) [6410] Petrifying springs with tufa formation (Cratoneurion) [7220]	the assessment and are available at <sup>13</sup> <u>CO001209.pdf</u>	None of the Qis of this SAC are reliant upon or influenced by lotic or other surface water processes. Furthermore this SAC is located in a separate sub-catchment to the project site and there is no hydrological pathway connecting the project to this SAC. No functional hydrological impact pathway is identified as connecting this SAC to the project.
					As no functional hydrological impact pathway exists from the project to this SAC there is no potential for significant indirect hydrological/pollution effects on the SAC exists as a result of the proposed development. hydrological/pollution effects on the SAC exists as a result of the proposed development. <b>The SAC is outside the Likely Zone of Influence and no further assessment is required</b>
002122	Wicklow Mountains SAC	11.25	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Natural dystrophic lakes and ponds [3160]	Detailed conservation objectives for this site, were reviewed as part of	There will be no direct impact on the SAC or its QIs as it is located outside of the footprint of the proposed developmental site. Due to distance over 9km between the project and this SAC no potential for direct effects on the terrestrial QI features are identified. None of the QIs of this SAC are reliant upon or influenced by lotic or other surface water processes. Furthermore this

<sup>13</sup> NPWS (2021) Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
			Northern Atlantic wet	the assessment and are	SAC is located in a separate sub-catchment to the project
			heaths with Erica tetralix	available at <sup>14</sup>	site and there is no hydrological pathway connecting the
			[4010]		project to this SAC. No functional hydrological impact
			European dry heaths [4030]	ConservationObjectives.rdl	pathway is identified as connecting this SAC to the project.
			Alpine and Boreal heaths		
			[4060]		As no functional hydrological impact pathway exists from
			Calaminarian grasslands of		the project to this SAC there is no potential for significant
			the Violetalia calaminariae		indirect hydrological/pollution effects on the SAC exists as
			[6130]		a result of the proposed development.
			Species-rich Nardus		hydrological/pollution effects on the SAC exists as a result
			grasslands, on siliceous		of the proposed development.
			substrates in mountain		The SAC is outside the Likely Zone of Influence and no
			areas (and submountain		further assessment is required
			areas, in Continental		
			Europe) [6230]		
			Blanket bogs (* if active		
			bog) [7130]		
			Siliceous scree of the		
			montane to snow levels		
			(Androsacetalia alpinae and		
			Galeopsietalia ladani)		

<sup>&</sup>lt;sup>14</sup> NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht

Affairs.

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
			[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]		
			Lutra lutra (Otter) [1355]		
000210	South Dublin	13.72	Mudflats and sandflats not	Detailed conservation	There will be no direct impact on the SAC or its QIs as it is
	Bay SAC		covered by seawater at low	objectives for this site,	located entirely outside of the footprint of the proposed
			tide [1140]	were reviewed as part of	developmental site. Due to the distance of over 13km, the
			Annual vegetation of drift	the assessment and are	nature and scale of the project, no direct effects on the
			lines [1210]	available at <sup>15</sup>	terrestrial QI features are identified.
			Salicornia and other	ConservationObjectives.rdl	
			annuals colonising mud and		The Kilmahuddrick Stream runs along the eastern and
			sand [1310]		northern boundaries of Site 4. The Kilmahuddrick Stream
					joins the River Griffeen (370m downstream) which then

<sup>&</sup>lt;sup>15</sup> NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
			conservation interest (SCI)		
			Embryonic shifting dunes [2110]		joins the River Liffey. The Grand Canal (pNHA) is located approximately 35m south of Site 4's southernmost boundary and flows east before discharging into the Liffey Estuary close to Ballsbridge. The Liffey Estuary discharges to Dublin Bay on the South Wall near Poolbeg Lighthouse.
					Potential indirect effects resulting from deterioration in water quality arising from construction activities and discharge of foul and surface water requires consideration as part of this AASR.
					Foul water generated by the operation phase of the project will eventually be discharged to the sea at Dublin Bay following treatment at the Ringsend WWTP. The results of the AER monitoring for this WWTP show that effluent from the WWTP does not negatively impact the Southwestern coastal waterbody. Given this result and the adequate capacity available at the WWTP to treat additional loads generated by the Project, all wastewater generated by the project will be adequately treated prior to discharge to Dublin Bay and as such it will not have the potential to adversely affect the water quality of the catchment and surrounding coastal waters. There will be no notontial for impacts arising from the foul water
Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
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					discharge to WWTP. Due distance to the European Sites, and absence of impacts arising from foul water discharge from the project there is no potential for impact on water quality at identified European Sites.
					The project layout has been designed in order to comply with Policy IE1, IE3 Objectives 2; Objective GI2 (as well as GI4) of the South Dublin County Council Development Plan and as such the design has from the outset aimed to avoid threats or pressure to the aquatic environment and water quality.
					The design measures that have been implemented to ensure compliance with the County Development Plan include:
					The design of proposed sites levels (roads, buildings etc.) have been carried out in such a way as to replicate existing surface gradients where possible, therefore replicating existing overland flow paths, and not concentrating additional surface water flow in a particular location.
					SuDS features such as permeable paving parking spaces, bioretention areas and brown roofs to provide additional

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					storage and promote infiltration of and treatment of surface water run-off have been provided in landscaped areas.
					All new surface water drainage on the proposed sites will be pressure tested and will have a CCTV survey carried out prior to being made operational. The site is attenuated to mimic the greenfield scenario as part of the overall SDZ.
					All surface water run off will be attenuated and directed to the existing surface water drainage network as described in Section 2.2.1. This will ultimately to Dublin Bay. The combination of on site surface water attenuation in addition to the considerable distance of over 13.7km to the SAC, the buffering capacity of the water network and the estuarine character of the River Liffey, no potential for significant effects resulting from discharge of surface water. For the same reasons as outlined above, in the event of any pollutants or run off generated during construction, no likely significant effects on the Qis of the SAC exists.
					In order to comply with the above listed Policies and Objectives of the County Development Plan standard

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					construction phase surface water management measures will be implemented for the project during its construction phase. These measures are standard measures that are implemented at construction sites to prevent the generation and release of contaminate surface water runoff. These measures relate to erosion and sediment control and the release of contaminating substances used during the construction. Measures relating to erosion and sediment control include:
					<ul> <li>H_1: Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection, fencing and signage around).</li> <li>H_2: Specific exclusion zones and earth bunding adjacent to any open drainage ditches) prior to discharge of surface water at a controlled rate.</li> <li>H_3: Groundwater pumped from excavations will be directed to on-site settlement ponds.</li> <li>H_4: Discharge from any vehicle wheel wash areas will be directed to on-site settlement ponds.</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					<ul> <li>H_5: On-site settlement ponds will include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.</li> <li>H_6: Surface water discharge points during the construction stage will be agreed with South Dublin County Council's Environment Section prior to commencing works on site.</li> <li>H_7: Weather conditions and seasonal weather variations will be considered when planning excavations and the stripping of topsoil, with an objective of minimizing soil erosion.</li> <li>Measures relating the control of potentially contaminating substances include:</li> <li>H_8: In order to prevent against spillages contaminating the underlying soils and geology, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area.</li> <li>H_9: Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).</li> <li>H_10: An Emergency Response Plan prepared by the contractor prior to construction will detail the procedures to be undertaken in the event of a spillage of chemicals, fuels or hazardous wastes. Spillage kits will be available</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					<ul> <li>and construction staff will be familiar with the emergency procedures and use of the equipment.</li> <li>H_11: Pouring of concrete including wash down and washout of concrete from delivery vehicles will be controlled in an appropriate facility to prevent contamination.</li> <li>H_12: Regular samples will be taken from soils affected by earthworks which shall be analysed for contamination.</li> <li>H_13: An emergency first aid kit will be provided in a designated area within the site compound.</li> <li>Riparian protection zone is established and designed in the overall landscape plan for the Kilmahudrick Stream.</li> <li>In addition to the design and control measures that are to be implemented for the project, in compliance with the requirements of the South Dublin County Council Development Plan it is also noted that previous studies investigating contaminant pathways between the River Liffey and the coastal waters of Dublin Bay have shown that pollutants in the estuary are rapidly mixed and become diluted within the estuary and Dublin Bay (O'Higgins and Wilson, 2005; Wilson and Jackson, 2011) and do not have a perceptible effect to water quality downstream at Dublin Bay.</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					A further point of note with respect to this SAC relates to the results of previous hydrodynamic modelling of the Liffey Estuary and Dublin Bay which has shown that the waters from the Liffey draining into Dublin Bay are deflected east and north towards Dollymount and Howth. The presence of the South Great Wall in Dublin Bay provides a barrier to the movement of waters towards the south (Dowly & Bedri, 2007; Bedri et al., 2012; Camp, Dresser & McKee, 2012). As such there is no surface water pathway between the project site and this SAC.
					The SAC is outside the Likely Zone of Influence and no further assessment is required
004024	South Dublin Bay and River Tolka Estuary SPA	12.89	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Oystercatcher (Haematopus ostralegus) [A130]	Detailed conservation objectives for this site, were reviewed as part of the assessment and are available at <sup>16</sup>	There will be no direct impact on the SAC or its QIs as it is located entirely outside of the footprint of the proposed developmental site. Due to the distance of over 13km, the nature and scale of the project, no direct effects on the terrestrial QI features are identified.

<sup>&</sup>lt;sup>16</sup> NPWS (2010) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
			Ringed Plover (Charadrius	ConservationObjectives.rdl	The Kilmahuddrick Stream runs along the eastern and
			hiaticula) [A137]		northern boundaries of Site 4. The Kilmahuddrick Stream
			Grey Plover (Pluvialis		joins the River Griffeen (370m downstream) which then
			squatarola) [A141]		joins the River Liffey. The Grand Canal (pNHA) is located
			Knot (Calidris canutus)		approximately 35m south of Site 4's southernmost
			[A143]		boundary and flows east before discharging into the Liffey
			Sanderling (Calidris alba)		Estuary close to Ballsbridge. The Liffey Estuary discharges
			[A144]		to Dublin Bay on the South Wall near Poolbeg Lighthouse.
			Dunlin (Calidris alpina)		
			[A149]		Potential indirect effects resulting from deterioration in
			Bar-tailed Godwit (Limosa		water quality arising from construction activities and
			lapponica) [A157]		discharge of foul and surface water requires consideration
			Redshank (Tringa totanus)		as part of this AASR.
			[A162]		
			Black-headed Gull		Foul water generated by the operation phase of the
			(Chroicocephalus		project will eventually be discharged to the sea at Dublin
			ridibundus) [A179]		Bay following treatment at the Ringsend WWTP. The
			Roseate Tern (Sterna		results of the AER monitoring for this WWTP show that
			dougallii) [A192]		effluent from the WWTP does not negatively impact the
			Common Tern (Sterna		Southwestern coastal waterbody. Given this result and the
			hirundo) [A193]		adequate capacity available at the WWTP to treat
			Arctic Tern (Sterna		additional loads generated by the Project, all wastewater
			paradisaea) [A194]		generated by the project will be adequately treated prior
			Wetland and Waterbirds		to discharge to Dublin Bay and as such it will not have the
			[A999]		potential to adversely affect the water quality of the

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
			conservation interest (SCI)		<ul> <li>catchment and surrounding coastal waters. There will be no potential for impacts arising from the foul water discharge to WWTP. Due distance to the European Sites, and absence of impacts arising from foul water discharge from the project there is no potential for impact on water quality at identified European Sites.</li> <li>The project layout has been designed in order to comply with Policy IE1, IE3 Objectives 2; Objective GI2 (as well as GI4) of the South Dublin County Council Development Plan and as such the design has from the outset aimed to avoid threats or pressure to the aquatic environment and water quality.</li> <li>The design measures that have been implemented to ensure compliance with the County Development Plan include:</li> <li>The design of proposed sites levels (roads, buildings etc.) have been carried out in such a way as to replicate existing surface gradients where possible, therefore replicating</li> </ul>
					existing overland flow paths, and not concentrating additional surface water flow in a particular location.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					SuDS features such as permeable paving parking spaces, bioretention areas and brown roofs to provide additional storage and promote infiltration of and treatment of surface water run-off have been provided in landscaped areas.
					All new surface water drainage on the proposed sites will be pressure tested and will have a CCTV survey carried out prior to being made operational. The site is attenuated to mimic the greenfield scenario as part of the overall SDZ.
					All surface water run off will be attenuated and directed to the existing surface water drainage network as described in Section 2.2.1. This will ultimately to Dublin Bay. The combination of on site surface water attenuation in addition to the considerable distance of over 13.7km to the SAC, the buffering capacity of the water network and the estuarine character of the River Liffey, no potential for significant effects resulting from discharge of surface water. For the same reasons as outlined above, in the event of any pollutants or run off generated during construction, no likely significant effects on the Qis of the SAC exists.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					In order to comply with the above listed Policies and Objectives of the County Development Plan standard construction phase surface water management measures will be implemented for the project during its construction phase. These measures are standard measures that are implemented at construction sites to prevent the generation and release of contaminate surface water runoff. These measures relate to erosion and sediment control and the release of contaminating substances used during the construction. Measures relating to erosion and sediment control include: <b>H_1:</b> Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection, fencing and signage around). <b>H_2:</b> Specific exclusion zones and earth bunding adjacent to any open drainage ditches) prior to discharge of surface water at a controlled rate. <b>H_3:</b> Groundwater pumped from excavations will be directed to on-site settlement ponds. <b>H_4:</b> Discharge from any vehicle wheel wash areas will be directed to on-site settlement ponds.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					<ul> <li>H_5: On-site settlement ponds will include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.</li> <li>H_6: Surface water discharge points during the construction stage will be agreed with South Dublin County Council's Environment Section prior to commencing works on site.</li> <li>H_7: Weather conditions and seasonal weather variations will be considered when planning excavations and the stripping of topsoil, with an objective of minimizing soil erosion.</li> <li>Measures relating the control of potentially contaminating substances include:</li> <li>H_8: In order to prevent against spillages contaminating the underlying soils and geology, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area.</li> <li>H_9: Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).</li> <li>H_10: An Emergency Response Plan prepared by the contractor prior to construction will detail the procedures to be undertaken in the event of a spillage of chemicals, fuels or hazardous wastes. Spillage kits will be available</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					<ul> <li>and construction staff will be familiar with the emergency procedures and use of the equipment.</li> <li>H_11: Pouring of concrete including wash down and washout of concrete from delivery vehicles will be controlled in an appropriate facility to prevent contamination.</li> <li>H_12: Regular samples will be taken from soils affected by earthworks which shall be analysed for contamination.</li> <li>H_13: An emergency first aid kit will be provided in a designated area within the site compound.</li> <li>Riparian protection zone is established and designed in the overall landscape plan for the Kilmahudrick Stream.</li> <li>In addition to the design and control measures that are to be implemented for the project, in compliance with the requirements of the South Dublin County Council Development Plan it is also noted that previous studies investigating contaminant pathways between the River Liffey and the coastal waters of Dublin Bay have shown that pollutants in the estuary are rapidly mixed and become diluted within the estuary and Dublin Bay (O'Higgins and Wilson, 2005; Wilson and Jackson, 2011) and do not have a perceptible effect to water quality downstream at Dublin Bay.</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					A further point of note with respect to this SPA relates to the results of previous hydrodynamic modelling of the Liffey Estuary and Dublin Bay which has shown that the waters from the Liffey draining into Dublin Bay are deflected east and north towards Dollymount and Howth. The presence of the South Great Wall in Dublin Bay provides a barrier to the movement of waters towards the south (Dowly & Bedri, 2007; Bedri et al., 2012; Camp, Dresser & McKee, 2012). As such there is no surface water pathway between the project site and this SPA.
					The SPA is outside the Likely Zone of Influence and no further assessment is required
004040	Wicklow Mountains SPA	13.61	Merlin (Falco columbarius) [A098] Peregrine (Falco peregrinus) [A103]	Detailed conservation objectives for this site, were reviewed as part of the assessment and are available <sup>17</sup> <u>CO004040.pdf</u>	There will be no direct impact on the SPA as it is located over 13km from the site of the proposed development. There will be no direct impact on the SAC or its QIs as it is located outside of the footprint of the proposed developmental site. Due to distance over 13km between the project and this SPA no potential for direct effects on the habitats occurring within this SPA that are relied upon by special conservation interest bird species are identified.

<sup>17</sup> NPWS (2024) Conservation Objectives: Wicklow Mountains SPA 004040. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
					As noted above no SCI birds for this SPA were recorded on or adjacent to the project lands during bird surveys undertaken. There is no in situ or ex situ disturbance of SCI species, or for significant loss of supporting habitat for SCI species. This SPA is located in a separate sub-catchment to the project site and there is no hydrological pathway connecting the project to this SPA. No functional hydrological impact pathway is identified as connecting this SPA to the project. As no functional hydrological impact pathway exists from the project to this SPA there is no potential for significant indirect hydrological/pollution effects on the SPA exists as a result of the proposed development. hydrological/pollution effects on the SPA exists as a result of the proposed development. <b>The SPA is outside the Likely Zone of Influence and no further assessment is required</b>

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
0004006	North Bull	16.07	Light-bellied Brent Goose	Detailed conservation	There will be no direct impact on the SPA or SCIs as it is
	Island SPA		(Branta bernicla hrota)	objectives for this site,	located entirely outside of the footprint of the proposed
			[A046]	were reviewed as part of	developmental site. Due to the distance of over 16km, the
			Shelduck (Tadorna tadorna)	the assessment and are	nature and scale of the project, no direct effects on the
			[A048]	available <sup>18</sup>	terrestrial QI features are identified.
			Teal (Anas crecca) [A052]	ConservationObjectives.rdl	The Kilmahuddrick Stream runs along the eastern and
			Pintail (Anas acuta) [A054]		northern boundaries of Site 4. The Kilmahuddrick Stream
			Shoveler (Anas clypeata)		joins the River Griffeen (370m downstream) which then
			[A056]		joins the River Liffey. The Grand Canal (pNHA) is located
			Oystercatcher		approximately 35m south of Site 4's southernmost
			(Haematopus ostralegus)		boundary and flows east before discharging into the Liffey
			[A130]		Estuary close to Ballsbridge. The Liffey Estuary discharges
			Golden Plover (Pluvialis		to Dublin Bay on the South Wall near Poolbeg Lighthouse.
			apricaria) [A140]		
			Grey Plover (Pluvialis		Potential indirect effects resulting from deterioration in
			squatarola) [A141]		water quality arising from construction activities and
			Knot (Calidris canutus)		discharge of foul and surface water requires consideration
			[A143]		as part of this AASR.
			Sanderling (Calidris alba)		
			[A144]		

<sup>&</sup>lt;sup>18</sup> NPWS (2010) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
			Dunlin (Calidris alpina)		Foul water generated by the operation phase of the
			[A149]		project will eventually be discharged to the sea at Dublin
			Black-tailed Godwit (Limosa		Bay following treatment at the Ringsend WWTP. The
			limosa) [A156]		results of the AER monitoring for this WWTP show that
			Bar-tailed Godwit (Limosa		effluent from the WWTP does not negatively impact the
			lapponica) [A157]		Southwestern coastal waterbody. Given this result and the
			Curlew (Numenius arquata)		adequate capacity available at the WWTP to treat
			[A160]		additional loads generated by the Project, all wastewater
			Redshank (Tringa totanus)		generated by the project will be adequately treated prior
			[A162]		to discharge to Dublin Bay and as such it will not have the
			Turnstone (Arenaria		potential to adversely affect the water quality of the
			interpres) [A169]		catchment and surrounding coastal waters. There will be
			Black-headed Gull		no potential for impacts arising from the foul water
			(Chroicocephalus		discharge to WWTP. Due distance to the European Sites,
			ridibundus) [A179]		and absence of impacts arising from foul water discharge
			Wetland and Waterbirds		from the project there is no potential for impact on water
			[A999]		quality at identified European Sites.
					The project layout has been designed in order to comply
					with Policy IE1, IE3 Objectives 2; Objective GI2 (as well as
					GI4) of the South Dublin County Council Development Plan
					and as such the design has from the outset aimed to avoid
					threats or pressure to the aquatic environment and water
					quality.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					The design measures that have been implemented to ensure compliance with the County Development Plan include:
					The design of proposed sites levels (roads, buildings etc.) have been carried out in such a way as to replicate existing surface gradients where possible, therefore replicating existing overland flow paths, and not concentrating additional surface water flow in a particular location.
					SuDS features such as permeable paving parking spaces, bioretention areas and brown roofs to provide additional storage and promote infiltration of and treatment of surface water run-off have been provided in landscaped areas.
					All new surface water drainage on the proposed sites will be pressure tested and will have a CCTV survey carried out prior to being made operational. The site is attenuated to mimic the greenfield scenario as part of the overall SDZ.
					All surface water run off will be attenuated and directed to the existing surface water drainage network as described in Section 2.2.1. This will ultimately to Dublin Bay. The combination of on site surface water attenuation in

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					addition to the considerable distance of over 16km to the SPA, the buffering capacity of the water network and the estuarine character of the River Liffey, no potential for significant effects resulting from discharge of surface water. For the same reasons as outlined above, in the event of any pollutants or run off generated during construction, no likely significant effects on the SCIs of the SPA exists. In order to comply with the above listed Policies and Objectives of the County Development Plan standard construction phase surface water management measures will be implemented for the project during its construction phase. These measures are standard measures that are implemented at construction sites to prevent the generation and release of contaminate surface water runoff. These measures relate to erosion and sediment control and the release of contaminating substances used during the construction. Measures relating to erosion and sediment control include:
					H_1: Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					retention ponds, surface water inlet protection, fencing and signage around). H_2: Specific exclusion zones and earth bunding adjacent to any open drainage ditches) prior to discharge of surface water at a controlled rate. H_3: Groundwater pumped from excavations will be directed to on-site settlement ponds. H_4: Discharge from any vehicle wheel wash areas will be directed to on-site settlement ponds. H_5: On-site settlement ponds will include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. H_6: Surface water discharge points during the construction stage will be agreed with South Dublin County Council's Environment Section prior to commencing works on site. H_7: Weather conditions and seasonal weather variations will be considered when planning excavations and the stripping of topsoil, with an objective of minimizing soil erosion. Measures relating the control of potentially contaminating substances include: H_8: In order to prevent against spillages contaminating the underlying soils and geology all oils fuels paints and

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					other chemicals will be stored in a secure bunded hardstand area. H_9: Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site). H_10: An Emergency Response Plan prepared by the contractor prior to construction will detail the procedures to be undertaken in the event of a spillage of chemicals, fuels or hazardous wastes. Spillage kits will be available and construction staff will be familiar with the emergency procedures and use of the equipment. H_11: Pouring of concrete including wash down and washout of concrete from delivery vehicles will be controlled in an appropriate facility to prevent contamination. H_12: Regular samples will be taken from soils affected by earthworks which shall be analysed for contamination. H_13: An emergency first aid kit will be provided in a designated area within the site compound. Riparian protection zone is established and designed in the overall landscape plan for the Kilmahudrick Stream. In addition to the design and control measures that are to be implemented for the project, in compliance with the

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
					requirements of the South Dublin County Council Development Plan it is also noted that previous studies investigating contaminant pathways between the River Liffey and the coastal waters of Dublin Bay have shown that pollutants in the estuary are rapidly mixed and become diluted within the estuary and Dublin Bay (O'Higgins and Wilson, 2005; Wilson and Jackson, 2011) and do not have a perceptible effect to water quality downstream at Dublin Bay.
					The SPA is outside the Likely Zone of Influence and no further assessment is required
000206	North Dublin	15.64	Mudflats and sandflats not	Detailed conservation	There will be no direct impact on the SAC or its QIs as it is
	Bay SAC		covered by seawater at low	objectives for this site,	located entirely outside of the footprint of the proposed
			tide [1140]	were reviewed as part of	developmental site. Due to the distance of over 15km, the
			Annual vegetation of drift	the assessment and are	nature and scale of the project, no direct effects on the
			lines [1210]	available at '	terrestrial QI features are identified.
			Salicornia and other		The Kilmahuddrick Stream runs along the eastern and
			annuals colonising mud and	ConservationObjectives.rdl	northern boundaries of Site 4. The Kilmahuddrick Stream
			sand [1310]		joins the River Griffeen (370m downstream) which then

<sup>&</sup>lt;sup>19</sup> NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

Site	Site Name	Distance	Qualifying features of	Conservation management	Identification of Source-Pathway-Receptor chain and
Code		(km)	interest (QI)/ special	objectives	potential for likely significant effects
			conservation interest (SCI)		
			Atlantic salt meadows		joins the River Liffey. The Grand Canal (pNHA) is located
			(Glauco-Puccinellietalia		approximately 35m south of Site 4's southernmost
			maritimae) [1330]		boundary and flows east before discharging into the Liffey
			Mediterranean salt		Estuary close to Ballsbridge. The Liffey Estuary discharges
			meadows (Juncetalia		to Dublin Bay on the South Wall near Poolbeg Lighthouse.
			maritimi) [1410]		
			Embryonic shifting dunes		Potential indirect effects resulting from deterioration in
			[2110]		water quality arising from construction activities and
			Shifting dunes along the		discharge of foul and surface water requires consideration
			shoreline with Ammophila		as part of this AASR.
			arenaria (white dunes)		Foul water generated by the operation phase of the
			[2120]		project will eventually be discharged to the sea at Dublin
			Fixed coastal dunes with		Bay following treatment at the Ringsend WWTP. The
			herbaceous vegetation		results of the AER monitoring for this WWTP show that
			(grey dunes) [2130]		effluent from the WWTP does not negatively impact the
			Humid dune slacks [2190]		Southwestern coastal waterbody. Given this result and the
			Petalophyllum ralfsii		adequate capacity available at the WWTP to treat
			(Petalwort) [1395]		additional loads generated by the Project, all wastewater
					generated by the project will be adequately treated prior
					to discharge to Dublin Bay and as such it will not have the
					potential to adversely affect the water quality of the
					catchment and surrounding coastal waters. There will be
					no potential for impacts arising from the foul water
					discharge to WWTP. Due distance to the European Sites,
					and absence of impacts arising from foul water discharge

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					from the project there is no potential for impact on water quality at identified European Sites.
					The project layout has been designed in order to comply with Policy IE1, IE3 Objectives 2; Objective GI2 (as well as GI4) of the South Dublin County Council Development Plan and as such the design has from the outset aimed to avoid threats or pressure to the aquatic environment and water quality.
					The design measures that have been implemented to ensure compliance with the County Development Plan include:
					The design of proposed sites levels (roads, buildings etc.) have been carried out in such a way as to replicate existing surface gradients where possible, therefore replicating existing overland flow paths, and not concentrating additional surface water flow in a particular location.
					SuDS features such as permeable paving parking spaces, bioretention areas and brown roofs to provide additional storage and promote infiltration of and treatment of surface water run-off have been provided in landscaped areas.

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					All new surface water drainage on the proposed sites will be pressure tested and will have a CCTV survey carried out prior to being made operational. The site is attenuated to mimic the greenfield scenario as part of the overall SDZ. All surface water run off will be attenuated and directed to the existing surface water drainage network as described in Section 2.2.1. This will ultimately to Dublin Bay. The combination of on site surface water attenuation in addition to the considerable distance of over 15km to the SAC, the buffering capacity of the water network and the estuarine character of the River Liffey, no potential for significant effects resulting from discharge of surface water. For the same reasons as outlined above, in the event of any pollutants or run off generated during construction, no likely significant effects on the Qis of the SAC exists.
					In order to comply with the above listed Policies and Objectives of the County Development Plan standard construction phase surface water management measures will be implemented for the project during its construction phase. These measures are standard measures that are

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					implemented at construction sites to prevent the generation and release of contaminate surface water runoff. These measures relate to erosion and sediment control and the release of contaminating substances used during the construction.
					Measures relating to erosion and sediment control include:
					<ul> <li>H_1: Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection, fencing and signage around).</li> <li>H_2: Specific exclusion zones and earth bunding adjacent to any open drainage ditches) prior to discharge of surface water at a controlled rate.</li> <li>H_3: Groundwater pumped from excavations will be directed to on-site settlement ponds.</li> </ul>
					<ul> <li>H_4: Discharge from any vehicle wheel wash areas will be directed to on-site settlement ponds.</li> <li>H_5: On-site settlement ponds will include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.</li> <li>H_6: Surface water discharge points during the construction stage will be agreed with South Dublin County</li> </ul>

Site Code	Site Name	Distance (km)	Qualifying features of interest (QI)/ special conservation interest (SCI)	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
					Council's Environment Section prior to commencing works on site. H_7: Weather conditions and seasonal weather variations will be considered when planning excavations and the stripping of topsoil, with an objective of minimizing soil erosion. Measures relating the control of potentially contaminating substances include: H_8: In order to prevent against spillages contaminating the underlying soils and geology, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area. H_9: Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site). H_10: An Emergency Response Plan prepared by the contractor prior to construction will detail the procedures to be undertaken in the event of a spillage of chemicals, fuels or hazardous wastes. Spillage kits will be available and construction staff will be familiar with the emergency procedures and use of the equipment. H_11: Pouring of concrete including wash down and washout of concrete from delivery vehicles will be

Site Code	Site Name	Distance (km)	Qualifying features of interest (OI)/ special	Conservation management objectives	Identification of Source-Pathway-Receptor chain and potential for likely significant effects
			conservation interest (SCI)		
					controlled in an appropriate facility to prevent contamination. H_12: Regular samples will be taken from soils affected by earthworks which shall be analysed for contamination. H_13: An emergency first aid kit will be provided in a designated area within the site compound. Riparian protection zone is established and designed in the overall landscape plan for the Kilmahudrick Stream. In addition to the design and control measures that are to be implemented for the project, in compiance with the requirements of the South Dublin County Council Development Plan it is also noted that previous studies investigating contaminant pathways between the River Liffey and the coastal waters of Dublin Bay have shown that pollutants in the estuary are rapidly mixed and become diluted within the estuary and Dublin Bay (O'Higgins and Wilson, 2005; Wilson and Jackson, 2011) and do not have a perceptible effect to water quality downstream at Dublin Bay. The SAC is outside the Likely Zone of Influence and no further assessment is required

## 4.3 CUMULATIVE AND IN COMBINATION EFFECTS

The following table lists the committed and planned projects in the wider vicinity of the projects.

The proposed surface water drainage infrastructure has been designed in accordance with the relevant guidelines. Any other developments currently under construction or other committed development in the vicinity of the site would have to be similarly designed in relation to permitted surface water discharge, surface water attenuation and SuDS.

All proposed developments in the area are to follow the Surface Water Management Plan for the SDZ which accounts for the wider development of the SDZ. Therefore, no potential cumulative impacts are anticipated in relation to surface water drainage and flooding.

	Applicant	Description	No.	Non-Resi
			Dwellings	(sqm)
SDZ24A/0033W C Date of grant: 10 <sup>th</sup> Feb 2025	Clonburris Infrastructure Ltd	Stage 2 Roads- The construction of c. 2.3km of a new Link Street Clonburris Northern Link Street (CNLS) and approximately 800m of side streets. Provision/upgrade of 12 signalised junctions. Approximately 2 km of upgrade of existing streets. Provision of 2 main public parks centrally and drainage infrastructure	n/a	
Ref: SD179A24/0004 Date of Grant: Nov 2024 Status: Granted	SDCC	118no. homes located off Lynch's Lane to the east of the R136 Outer Ring Road and south of Thomas Omer	118no. homes	N/A
Permission		Way, in the		

TABLE 4-2 PROJECTS FOR CUMULATIVE AND IN COMBINATION EFFECTS.

	Applicant	Description	No. Dwellings	Non-Resi (sam)
		townland of Kishoge, Lucan, Co. Dublin. According to the SDCC Planning Portal, a decision is yet to be made.	Dwennigs	(3411)
Ref: SDZ24A/0032W Date of Grant: TBC Status: At further information stage (requested 24.01.2025)	Department of Education	The retention and completion of revisions to a section of the northern site boundary comprising the omission of the pedestrian/cycle access off Thomas Omer Way.	N/A	N/A
Ref: SDZ24A/0033W Date of Grant: Decision due 10.02.2025 Status: Awaiting Decision	Clonburris Infrastructure Limited	Stage 2 Roads- The construction of c. 2.3km of a new Link Street Clonburris Northern Link Street (CNLS) and approximately 800m of side streets. Provision/upgrade of 12 signalised junctions. Approximately 2 km of upgrade of existing streets. Provision of 2 main public parks centrally and drainage infrastructure works.	N/A	N/A

	Applicant	Description	No. Dwellings	Non-Resi (sqm)
Ref: SDZ23A/0043 Date of Grant: 17-Apr-2024 Status: Granted Permission	Cairn Homes Properties Limited	Kishoge Urban Centre- construction of a mixed-use development arranged in 11 no. blocks, ranging between 3 & 7 storeys, comprising: 495 no. residential units, including 449 no. apartments.	495	2,502sq.m of retail floorspace 483 sq. m creche
Ref: SDZ23A/0018 Date of Grant: 11-Dec-2023 Status: Granted Permission	Cairn Homes Properties Limited	Clonburris SW- construction of 565 dwellings (mixture of apartments, duplex apartments and houses.	565	N/A
Ref: SDZ23A/0004 Date of Grant: 15-Dec-2023 Status: Granted Permission	Clear Real Estate Holdings Limited	Adamstown Extension- 385 dwelling units (139 houses, 70 Build-to-Rent duplex / apartments, 72 duplex / apartments and 104 apartments), ranging between two to six storeys in height. This permission was amended under SDZ24A/0018W.	385	N/A

	Applicant	Description	No. Dwellings	Non-Resi (sam)
Ref: SDZ22A/0018 Date of Grant: 31-Oct-2023 Status: Granted Permission	Carin Homes Properties Ltd.	Clonburris UC & SW- mixed-use development comprising 594 apartments, office floorspace, 4 retail units, a creche and urban square. This permission was amended under SDZ24A/0019W.	594	creche c. 609sq. m office use c. 4,516sq.m Block B retail: 1 unit (c.147.5sq. m) Block E retail: 3 units (c.106.2sq.m, c.141.6sq.m and c.492.2sq.m)
Ref: SDZ22A/0017 Date of Grant: 16-May-2023 Status: Granted Permission	Carin Homes Properties Ltd.	Clonburris SW- Construction of 157 dwellings.	157	N/A
Ref: SDZ22A/0011 Date of Grant: 16-Feb-2023 Status: Granted Permission	Department of Education	Proposed 2-storey primary school comprising 16 no. classrooms with an additional 2 classroom Special Educational Needs Unit	N/A	Primary School (3,355sqm)
Ref: SDZ22A/0010 Date of Grant: 02-May-2023	Kelland Homes Ltd.	Clonburris UC & SE- construction of 294 no. dwellings, creche and retail / commercial unit.	294	1 no. 2 storey creche (c.520.2m2) 1 no. 2 storey retail /commercial

	Applicant	Description	No. Dwellings	Non-Resi (sqm)
Status: Commenced August 2023		This permission was amended under SDZ24A/0030W.		unit (c.152.1m2)
Ref: SD228/0003 Date of Grant: 11-Jul-2022 Status: Part 8 Approved by SDCC	SDCC	Kishoge SW- 263 residential units	263	N/A
Ref: SD228/0001 Date of Grant: 13-Jun-2021 Status: Part 8 Approved by SDCC	SDCC	Canal extension- 118 residential units made up of houses, duplexes, triplexes, and an apartment building.	118	N/A
Ref: SDZ21A/0022 Date of Grant: 23-Aug-2022 Status: Commenced Jan 2023	Carin Homes Properties Ltd.	Clonburris SW- The construction of 569 dwellings, a creche, innovation hub and open space. This permission was amended under SDZ23A/0029 resulting in 2no. additional units. This permission was amended again under SDZ24A/0028W.	569	innovation hub (626sq.m) creche (c. 547sq.m)
Ref: SDZ21A/0013 Date of Grant: 21-Feb-2022	Department of Education	Kishoge Cross- A 3 storey, 1,000 pupil post primary school including a 4 classroom	N/A	Post Primary School

	Applicant	Description	No. Dwellings	Non-Resi (sqm)
Status: Granted Permission		Special Educational Needs Unit with a gross floor area of 11,443sq.m including sports hall		
Ref: SDZ20A/0021 Date of Grant: 12-Aug-2021 Status: 10 year permission	Clonburris Infrastructure Ltd.	Southern Link Street- construction of c. 4.0km of a new road, known as Clonburris Southern Link Street	N/A	Roads & Drainage Infrastructure

The projects in Table 4.2 have been subject to Appropriate Assessment Screening and NIS as relevant. The project will not have the potential to result in direct, indirect, or secondary impacts to European Sites. In relation to other emissions such as noise/dust, the scale and size of the project, the distance from the nearest Natura 2000 site does not have the potential to impact on European Sites.

It is noted that the current land use plan pertaining the project site, namely the Clonburris Planning Scheme has zoned the land use within the project site for residential purposes. The Clonburris Planning Scheme was subject to Appropriate Assessment and the Appropriate Assessment concluded that the plan did not have the potential to combine with other plans or projects to result in likely significant effects to European Site. The current project is in keeping with the zoning objectives of the Clonburris Planning Scheme. Given the project has been prepared to be consistent with the Clonburris Planning Scheme which has been subject to Appropriate Assessment, , no in combination effects with the Clonburris Planning Scheme are identified.

The South Dublin County Development Plan 2022-2028 has been subject to full Strategic Environmental Assessment and Stage2 Appropriate Assessment and a finding of no significant cumulative effects is identified for this plan.

## 5 CONCLUSION

A Screening Matrix, in line with European Commission (2021) guidelines is provided below in **Table 5.1** 

Brief description of the project or plan	The project and associated activities are described in Section 2 above.
Brief description of the European Sites	The European Sites occurring in the wider surrounding area are identified and briefly described in Figures 4.1, 4.2 and Table 4.1 above, while Appendix 1 provides a summary overview of each of these European Sites.
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Sites.	Development projects such as the current project that are remote from European Sites have, in theory, the potential to result in negative impacts to European Sites where functional impact pathways connect the project to European Sites. Given the distance between the project and the nearest European Sites that pathways that could conceivably function as impact pathways are the hydrological pathway and the mobile species pathway. In the event of a functional hydrological impact pathway the project could result in the emission of deleterious emission to the aquatic environment with indirect negative impacts downstream at European Sites. Similarly in the event that a functional mobile species pathway occurs the project could result in ex-situ disturbance to populations of European Sites from habitats relied upon by such populations. The hydrological pathway and the mobile species pathway have been examined in Section 4 above and there is no potential for these pathways to function as impact pathways between the project site and European Sites. It is further noted that other pathways that can typically arise during development projects, such as noise, air, light etc. do not have the potential to function as impact pathways between the project site and European Sites in
Describe any likely direct, indirect or secondary impacts	The project will not have the potential to result in direct, indirect or secondary impacts to European Sites
of the project (either alone or in combination with other plans or projects) on the European Sites site by virtue of:	The project does not overlap with any Natura 2000 site boundary. Foul water generated by the operation phase of the
<ul><li>size and scale;</li><li>land-take;</li></ul>	project will eventually be discharged to the sea at Dublin Bay following treatment at the Ringsend WWTP. The

## TABLE 5-1. SCREENING MATRIX FOR THE PROJECT

<ul> <li>distance from the Natura 2000 site or key features of the site;</li> <li>resource requirements (water abstraction etc.);</li> <li>emissions (disposal to land, water or air);</li> <li>excavation requirements;</li> <li>transportation requirements;</li> <li>duration of construction, operation, decommissioning, etc.;</li> </ul>	<ul> <li>results of the AER monitoring for this WWTP show that effluent from the WWTP does not negatively impact the Southwestern coastal waterbody. Given this result and the adequate capacity available at the WWTP to treat additional loads generated by the Project, all wastewater generated by the project will be adequately treated prior to discharge to Dublin Bay and as such it will not have the potential to adversely affect the water quality of the catchment and surrounding coastal waters. There will be no potential for impacts arising from the foul water discharge to WWTP. Due distance to the European Sites, and absence of impacts arising from foul water discharge from the project there is no potential for impact on water quality at identified European Sites.</li> <li>In relation to other emissions such as noise/dust, the scale and size of the project, the distance from the nearest European Sites does not have the potential to impact on European Sites.</li> <li>As there are no pathways connecting the project site to surrounding European Sites and as the project will not result in significant negative impacts to receiving waterbodies downstream, it will not have the potential to combine with other projects in the surrounding area to result in cumulative significant effects to the local environment or European Sites occurring in the wider surrounding area.</li> </ul>
Describe any likely changes to the site arising as a result of: reduction of habitat area: disturbance to key species; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (water quality etc.); climate change.	As there are no pathways between the project site and surrounding European Sites it will not have the potential to result in changes to qualifying habitats or qualifying species of European Sites occurring in the wider surrounding area.
Describe any likely impacts on the European Sites as a whole in terms of:	For reasons set out above the project will not have the potential to interfere with key relationships that define the structure and function of European Sites.

interference with the key relationships that define the structure of the site; interference with key relationships that define the function of the site	Given the absence of any connections between the project site and the 6 European Sites in the wider surrounding area, the conservation objectives for these sites, which have been published by the NPWS, will not be undermined by the project.
<ul> <li>Provide indicators of significance as a result of the identification of effects set out above in terms of:</li> <li>loss;</li> <li>fragmentation;</li> <li>disruption;</li> <li>disturbance;</li> <li>change to key elements of the site (e.g. water quality etc.).</li> </ul>	For reasons set out above the project will not have the potential to result in such effects to European Sites.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	The project will not have the potential to result in likely significant effects to European Sites.

## 5.1 SCREENING CONCLUSION

Following an examination, analysis, and evaluation of all relevant information in this AA Screening Report and in view of best scientific knowledge, and applying the precautionary principle, it can be concluded that there is no likelihood of significant effects on any European site, arising from the proposed development, either alone or in combination with other plans and projects.

In light of the findings of this report it is the considered view of the authors of this Screening Report for Appropriate Assessment that it can be concluded that the project is not likely, alone or in-combination with other plans or projects, to have a significant effect on any European Sites in view of their Conservation Objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion.
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SAC quick reference table(1).pdf

## European Sites Summary TABLE A-1. SUMMARY OF THE EUROPEAN SITES WITHIN ZONE OF INFLUENCE OF THE PROJECT

Rye Water Valley/Carton SAC	Rye Water Valley/Carton SAC is located between Leixlip and Maynooth, in Counties Meath and Kildare, and extends along the Rye Water, a tributary of the River Liffey. 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): [7220] Petrifying Springs* [1014] Narrow-mouthed Whorl Snail (Vertigo angustior) [1016] Desmoulin's Whorl Snail (Vertigo moulinsiana)
	The Rye Water in Carton Estate is dammed at intervals, creating a series of lakes. Reed Sweet-grass (Glyceria maxima) is frequent around the lakes, along with Yellow Iris (Iris pseudacorus), Reed Canary-grass (Phalaris arundinacea), Bulrush (Typha latifolia), Water Forget-me-not (Myosotis scorpioides), Marsh-marigold (Caltha palustris) and starworts (Callitriche spp.). Along the remainder of the site the river has been dredged and much of the reed fringe removed. To the north-west of Carton Bridge a small clump of willows (Salix spp.), with dogwood (Cornus sp.), Alder (Alnus glutinosa), Ash (Fraxinus excelsior) and Elder (Sambucus nigra) occurs. The ground flora found here includes Golden Saxifrage (Chrysosplenium oppostifolium), Meadowsweet (Filipendula ulmaria), Common Valerian (Valeriana officinalis), Wavy Bitter-cress (Cardamine flexuosa) and Bittersweet (Solanum dulcamara). T
	he woods on Carton Estate are mostly old demesne woods with both deciduous and coniferous species. Conifers, including some Yew (Taxus baccata) – a native species, are dominant, with Beech (Fagus sylvatica), oak (Quercus sp.), Sycamore (Acer pseudoplatanus), Ash and Hazel (Corylus avellana) also occurring. The ground flora is dominated by Ivy (Hedera helix), with such species as Hedge Woundwort (Stachys sylvatica), Wood Speedwell (Veronica montana), Woodruff (Galium odoratum), Wood Avens (Geum urbanum), Common Dog-violet (Viola riviniana), Wild Angelica (Angelica sylvestris), Ramsons (Allium ursinum), Ground-ivy (Glechoma hederacea) and Ivy Broomrape (Orobanche hederae) also found. Hairy St. John's-wort (Hypericum hirsutum), a species legally protected under the Flora (Protection) Order, 1999, occurs in Carton Estate and there is an old record from the estate for the similarly protected Hairy Violet (Viola hirta).
	The mineral spring found at the site is of a type considered to be rare in Europe and is a habitat listed on Annex I of the E.U. Habitats Directive. The Red Data Book species Blue Fleabane (Erigeron acer) is found growing on a wall at Louisa Bridge. Within the woods, Blackcap, Woodcock and Long-eared Owl have been recorded. Little Grebe, Coot, Moorhen, Tufted Duck, Teal and Kingfisher, the latter a species listed on Annex I of the E.U. Birds Directive, occur on and about the lake. The Rye Water is also a spawning ground for Trout and Salmon, and the rare, Whiteclawed Crayfish (Austropotamobius pallipes) has been recorded at Leixlip. The latter two species are listed on Annex II of the E.U. Habitats Directive. The rare Narrowmouthed Whorl Snail and Desmoulin's Whorl Snail occur in marsh vegetation near Louisa Bridge. Both are rare in Ireland and in Europe, and are listed on Annex II of the E.U. Habitats Directive. The scarce dragonfly. Orthetrum coerculescens, has also been recorded at Louisa

	Bridge. The conservation importance of the site lies in the presence of several rare and threatened plant and animal species, and the presence of petrifying springs, a habitat type listed on Append of the Fill Habitate Directive. The woods found on
	Carton Estate and their birdlife are of additional interest
South Dublin Bay SAC (000210)	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. 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.
Wicklow Mountains	Wicklow Mountains SAC is a complex of upland areas in Counties Wicklow and Dublin, flanked by the Blessington reservoir to the west and Vartry reservoir in the
SAC	east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the
(002122)	site is over 300 m, with much ground over 600 m. The highest peak is 925 m at Lugnaquilla. The Wicklow uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2 m deep. Poor mineral soil covers the slopes, and rock outcrops are frequent. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods. The vegetation over most of Wicklow Mountains SAC is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), stands of dense Bracken (Pteridium aquilinum), and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site. The two dominant vegetation communities in the area are heath and blanket bog.

	The Liffey Head blanket bog is among the best of its kind in eastern Ireland, with deep
	peat formations and an extensive system of dystrophic pools developed among the
	hummocks and hollows on the bog surface. The vegetation is largely dominated by
	Heather and Cross-leaved Heath, with cottongrasses (Friophorum vaginatum and F.
	angustifolium) Deergrass (Scirnus cesnitosus) and Bog Asnbodel (Narthecium
	angustionani), beergrass (sei pas cespitosas) and bog Asphouer (Natheeran
	ossinaguni). In uner aleas, biberry and cowberry (Vaccinium vitis-idaea) ale
	common, while the scarce bog-rosemary (Andromeda politolia) is also found. Blanket
	bog occurs over extensive areas of deeper peat on the plateau and also on gentle
	slopes at high altitudes.
	Due to the underlying rock strata, the water of the rivers and streams is acid rather
	than alkaline. The water is generally oligotrophic and free from enrichment. The lakes
	within the area range from the high altitude lakes of Lough Firrib and Three Lakes, to
	the lower pater-noster lakes of Glendalough, Lough Tay and Lough Dan. Spectacular
	corrie lakes, such as Loughs Bray (Upper and Lower), Ouler, Cleevaun, Arts, Kellys and
	Nahanagan, exhibit fine sequences of moraine stages. The deep lakes are
	characteristically species-poor, but hold some interesting plants including an unusual
	form of Ouillwort (Isoetes Jacustris var. morei) a stonewort (Nitella sp.) and Eloating
	Bur reed (Sparganium angustifolium)
	Alning vegetation acquire on come of the mountain tone, notably in the Lygnaguille
	Alphie vegetation occurs on some of the mountain tops, notably in the Lughaquina
	area, and also on exposed cliffs and scree slopes elsewhere in the site. Here alpine
	heath vegetation is represented with heath species such as Crowberry (Empetrum
	nigrum) and Cowberry, and others such as Dwarf Willow (Salix herbacea), the
	greygreen moss Racomitrium lanuginosum, and scarce species such as Mountain
	Clubmoss (Diphasiastrum alpinum), Firmoss (Huperzia selago), and Starry Saxifrage
	(Saxifraga stellaris). Some rare arctic-alpine species have been recorded, including
	Alpine Lady's-mantle (Alchemilla alpina) and Alpine Saw-wort (Saussurea alpina).
	Old lead mine workings at Glendasan support an estimated 3.6 hectares of
	Calaminarian Grassland, with a suite of rare metallophyte (metal-loving) bryophytes,
	including the moss Ditrichum plumbicola and the liverworts Cephaloziella massalongi
	and C. nicholsonii. Small areas of old oakwood (Blechno-Ouercetum petraeae type)
	occur on the slopes of Glendalough and Glenmalure, near Lough Tay and Lough Dan
	with native Sessile Oak (Ouercus netraea) trees many of which are 100-120 years
	ald On wetter areas, wet breadleaved semi natural woodlands assur which are
	demineted by Devry Direch (Detyle nybeseene). Mixed weedland with new netive tree
	dominated by Downy Birch (Betula pubescens). Mixed woodland with non-native tree
	species also occurs. The site supports a range of rare plant species. Parsley Fern
	(Cryptogramma crispa), Marsh Clubmoss (Lycopodiella inundata), Lanceolate
	Spleenwort (Asplenium billotii), Small-white Orchid (Pseudorchis albida) and Bog
	Orchid (Hammarbya paludosa) are all legally protected under the Flora (Protection)
	Order, 2015. Greater Broomrape (Orobanche rapum-genistae), Alpine Saw-wort and
	Alpine Lady's-mantle are listed in the Irish Red Data Book. The rare Myxomycete
	fungus Echinostelium colliculosum has been recorded from the Military Road.
	Wicklow Mountains is important as a complex, extensive upland site. It shows great
	diversity from a geomorphological and a topographical point of view. The vegetation
	provides examples of the typical upland habitats with heath. blanket bog and upland
	grassland covering large, relatively undisturbed areas. In all, twelve habitats listed on
	Annex L of the F U Habitats Directive are found within the site. Several rare or
	protected plant and animal species occur, adding further to its value
Glenasmola	Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow unlands
	annrovimately 5 km from Tallaght. The River Dodder flows through the vallow and has
valiey SAC	approximately 5 km nom ranaght. The fiver bound hows through the valley dru fids

(001209)	been impounded here to form two reservoirs which supply water to south Dublin.
	The non-calcareous bedrock of the Glenasmole Valley has been overlain by deep drift
	deposits which now line the valley sides. They are partly covered by scrub and
	woodland, and on the less precipitous parts, by a herb-rich grassland. There is much
	seepage through the deposits, which brings to the surface water rich in bases, which
	induces local patches of calcareous fen and, in places, petrifying springs.
	At this site, examples of calcareous fen and flush occur between the two reservoirs,
	where sedges (including Carex flacca and C. panicea) are joined by such species as
	Grass-of-parnassus (Parnassia palustris). Few-flowered Spike-rush (Eleocharis
	guingueflora). Zig-zag clover (Trifolium medium) and the scarce Fen Bedstraw
	(Galium uliginosum). Tufa depositing springs are long-known from the site, along the
	valley sides, and some have substantial tufa mounds and banks. Tufa formation is also
	known from small streams within the woodland at the site. Within the hazel woods,
	and associated with the springs and flushes, a distinctive flora with Marsh
	Hawk'sbeard (Crepis paludosa) and luxuriant stands of Great Horsetail (Equisetum
	telmateia) has developed.
	Orchid-rich grassland occurs in the drier parts of this site and in places grades into
	Molinia meadow. Orchids recorded in these habitats include Frog Orchid
	(Coeloglossum viride), Northern Marsh-orchid (Dactylorhiza purpurella), Fragrant
	Orchid (Gymnadenia conopsea), Marsh Helleborine (Epipactis palustris), Early-purple
	Orchid (Orchis mascula) and Greater Butterfly Orchid (Platanthera chlorantha). Two
	further orchid species, both Red Data Book-listed, have also been found here,
	Greenwinged Orchid (Orchis morio) and Small-white Orchid (Pseudorchis albida).
	Common grasses in the sward include Sweet Vernal-grass (Anthoxanthum odoratum),
	Creeping Bent (Agrostis stolonifera) and Crested Dog's-tail (Cynosurus cristatus).
	Other species which occur are Common Bird's-foot-trefoil (Lotus corniculatus),
	Kidney Vetch (Anthyllis vulneraria), Common Restharrow (Ononis repens), Yellow-
	wort (Blackstonia perfoliata) and Autumn Gentian (Gentianella amarella). While much
	of the calcareous grassland has been improved to some extent for agriculture, a suite
	of typical species still remain.
	The areas of Molinia meadows at the site occur associated with the grasslands on the
	valley sides, and in particular in seepage and flushed areas. Typical and indicative
	species include Greater Bird's-foot-trefoil (Lotus uliginosus), Tormentil (Potentilla
	erecta), Purple Moor-grass (Molinia caerulea), Sharp-flowered Rush (Juncus
	acutiflorus), Adder's-tongue (Ophioglossum vulgatum), Meadow Thistle (Cirsium
	dissectum) and Fen Bedstraw. As noted above, orchids are frequent in the grasslands
	at this site.
	Woodland occurs in patches around the site. On the east side of the valley, below the
	northern lake, a Hazel (Corylus avellana) wood has developed on the unstable
	calcareous slopes and includes other species such as Ash (Fraxinus excelsior), Downy
	Birch (Betula pubescens), Goat Willow (Salix caprea) and (Irish) Whitebeam (Sorbus
	hibernica). Spring Wood-rush (Luzula pilosa), Wood Speedwell (Veronica montana)
	and Bramble (Rubus fruticosus agg.) are present in the ground flora. Wet semi-
	natural broadleaved woodland is also found around the reservoirs and includes Alder
	(Alnus glutinosa) and willow (Salix spp.), with Yellow Iris (Iris pseudacorus), horsetails
	(Equisetum spp.), Bramble and localised patches of Japanese Knotweed (Reynoutria
	japonica), an introduced and invasive species.
	The lake shore vegetation is not well developed, which is typical of a reservoir. There
	are occasional patches of Reed Canary-grass (Phalaris arundinacea) and

	Purpleloosestrife (Lythrum salicaria), which are more extensive around the western
	shore of the northern lake, along with Common Marsh-bedstraw (Galium palustre)
	and Water Mint (Mentha aquatica). Other vegetation includes Shoreweed (Littorella
	uniflora) and the scarce Water Sedge (Carex aquatilis). As well as the Green-winged
	Orchid and Small-white Orchid, two other threatened species which are listed in the
	Irish Red Data Book occur in the site. Yellow Archangel (Lamiastrum galeobdolon) and
	Yellow Bird's-nest (Monotrona hyponitys) Small-white Orchid is legally protected
	under the Elera (Protection) Order 1000
	The site provides eventlent behitet for beta with at least four energies recorded.
	The site provides excellent habitat for bats, with at least four species recorded:
	Pipistrelle, Leisler's, Daubenton's and Brown Long-eared. Otter occurs along the river
	and reservoirs. The site supports Kingfisher, an Annex I species under the E.U. Birds
	Directive. Glenasmole Valley contains a high diversity of habitats and plant
	communities, including three habitats listed on Annex I of the E.U. Habitats Directive.
	The presence of four Red Data Book plant species further adds to the value of the
	site, as does the presence of populations of several mammal and bird species of
	conservation interest.
South Dublin	The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of
Bay and River	Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire
Tolka Estuary	and the estuary of the River Tolka to the north of the River Liffey, as well as
SDA	Postoretown Marsh. A portion of the shallow marine waters of the bay is also
JFA (004024)	included in the south have the intertided flate extend for elmost 2 km at their widest
(004024)	The section and a section of the intervious of the sector of the section of the section of the section of the sector of the sect
	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 ulyae) occurs on the muddy sands off Merrion Gates.
	along with the crustacean Coronhium volutator. Sediments in the Tolka Estuary vary
	from soft this strophic muds with a high organic content in the inner estuary to
	avpaced well acreted cands off the Pull Wall. The site includes Poeterstewn March
	exposed, well-defated sames of the built wall. The site includes boolerstown maish,
	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, Grev Plover, Knot, Sanderling, Dunlin, Bar-tailed
	Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern
	The F.U. Birds Directive pays particular attention to wetlands, and as these form part
	of the SPA the site and its associated waterhirds are of special conservation interest
	for Watland & Waterbirds
	For welland & walerbinds. South Dublin Boylics significant site for wintering gulls with a nationally important
	south Dublin Bay is a significant site for wintering guils, 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.
	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.
Wicklow	This is an extensive upland site, comprising a substantial part of the Wicklow Mountains.
Mountains	Most of the site is in Co. Wicklow, but a small area lies in Co. Dublin. The underlying
SPA	geology of the site is mainly of Leinster granites, flanked by Ordovician schists,
(004040)	mudstones and volcanics. The area was subject to glaciation and features fine examples
	of glacial lakes, deep valleys and moraines. Most of site is over 300 m, with much ground
	being over 600 m; the highest peak is Lugnaquillia (925 m). The substrate over much of
	site is peat, with poor mineral soil occurring on the slopes and lower ground. Exposed
	rock and scree are features of the site. The predominant habitats present are blanket
	bog, heaths and upland grassland. The site is a Special Protection Area (SPA) under the
	E.U. Birds Directive, of special conservation interest for the following species: Merlin and
	Peregrine. A series of surveys of the Wicklow Mountains SPA indicates that up to 9 pairs
	of Merlin breed within the site in any one year. Traditionally a ground-nesting species,
	Merlin in the Wicklow Mountains are usually found nesting in old crows nests in conifer
	plantations. The open peatlands provide excellent foraging habitat for Merlin with small
	birds such as Meadow Pipit being their main prev. The cliffs and crags within the site
	also provide ideal breeding locations for Peregrine (20 pairs in 2002). Other birds of the
	open peatlands and scree slopes that have been recorded within the site include Ring
	Ouzel and Red Grouse. The Wicklow Mountains SPA is of high ornithological importance
	as it supports nationally important populations of Merlin and Peregrine both species
	that are listed on Annex I of the F.U. Birds Directive. Part of Wicklow Mountains SPA is a
	Statutory Nature Reserve.
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