South Dublin County Council
Development Plan
2016 – 2022

Proposed Variation No.3

Zoning Objective Amendment on Lands at Ballymount / Naas Road

Natura Impact Report

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

November 2018

South Dublin County Council Development Plan 2016 - 2022

Proposed Variation No. 3

Natura Impact Report

Document Stage	Document Version	Prepared by
Draft 15.11.2018	1	Pat Doherty MSc, MCIEEM
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This report has been prepared by Minogue & Associates with all reasonable skill, care and diligence. Information report 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.

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1.0 INTRODUCTION

Minogue and Associates have been appointed by South Dublin County Council (SDCC) to undertake a Natura Impact Report (NIR) of Proposed Variation No. 3 (the proposed Variation) to the South Dublin County Council Development Plan 2016-2022 (CDP). This NIR has been completed with respect to the requirements outlined in Article 6(3) of the EU Habitats Directive and Section 177U of the Planning and Development Act and has been prepared in order to facilitate South Dublin County Council's requirement for completing an Appropriate Assessment of the proposed variation.

Proposed Variation No. 3 to the CDP is not directly connected with or necessary for the management of any European Site and hence the requirements of Article 6(3) of the Habitats Directive and Part XAB of the Planning and Development Act 2000, apply. Section 177U(1) of the Planning and Development Act 2000 requires that a screening for appropriate assessment of, inter alia, a land use plan be carried out by a competent authority to assess, in light of best scientific knowledge, whether the proposed Plan, individually or in combination with another plan or project is likely to have a significant effect on a European site. A Statement in support of Screening for Appropriate Assessment has been completed and assessed the potential for the proposed Variation to result in likely significant effects to European Sites. The location of Proposed Varaiton No.3 (Varation lands) are shown on Figure 1.1.

2.0 SUMMARY OF THE SCREENING FOR APPROPRIATE ASSESSMENT

A Statement of Screening for Appropriate Assessment has been completed for the proposed Variation. This Screening was completed in line with the requirements of Article 6(3) of the EU Habitats Directive, as transposed into Irish law in Part XAB of the Planning and Development Act 2000 (as amended) in relation to land use planning.

The Screening represents the first stage of the Article 6(3) Habitats Directive assessment process and was undertaken to identify whether the plan has the potential to result in likely significant effects to European Sites. All European Sites occurring within a 15km buffer distance of proposed Variation boundary were screened for likely significant effects (the location of these sites with respect to proposed Variation area are shown on Figure 1.2 &

Figure 1.3). No European Sites at a distance greater than 15km were considered during the screening as no source-pathway-receptor relationship occurs between lands subject to the proposed Variation and European Sites at such distance from the plan area. The European Sites occurring within 15km of the plan area represented a preliminary list of European Sites to be screened for likely significant effects. A total of 9 European Sites were identified in this preliminary list. The next step in the screening was to identify which European Sites occur within the zone of influence of the plan and could be at risk of likely significant effects by virtue of the spatial relationship or pathway connections between lands subject to the proposed Variation and these European Sites. A total of 3 European Sites, North Dublin Bay SAC (Site Code: 000206); North Bull Island SPA (Site Code: 004006) and South Dublin Bay River Tolka Estuary SPA (Site Code: 4024) were identified as occurring within the zone of influence of the proposed Variation and were potentially at risk of likely significant effects due to a hydrological pathway linking the proposed Variation lands to these European Sites. The hydrological pathway between the variation lands and these European Sites are shown in Figure 1.4.

Accordingly, this NIR has been prepared to inform the Appropriate Assessment of the proposed Variation's potential to result in likely significant effects to these three European Sites and their qualifying features of interest occurring within the zone of influence of the plan.

The remainder of this NIR is structured as follows:

Section 2: Assessment Method

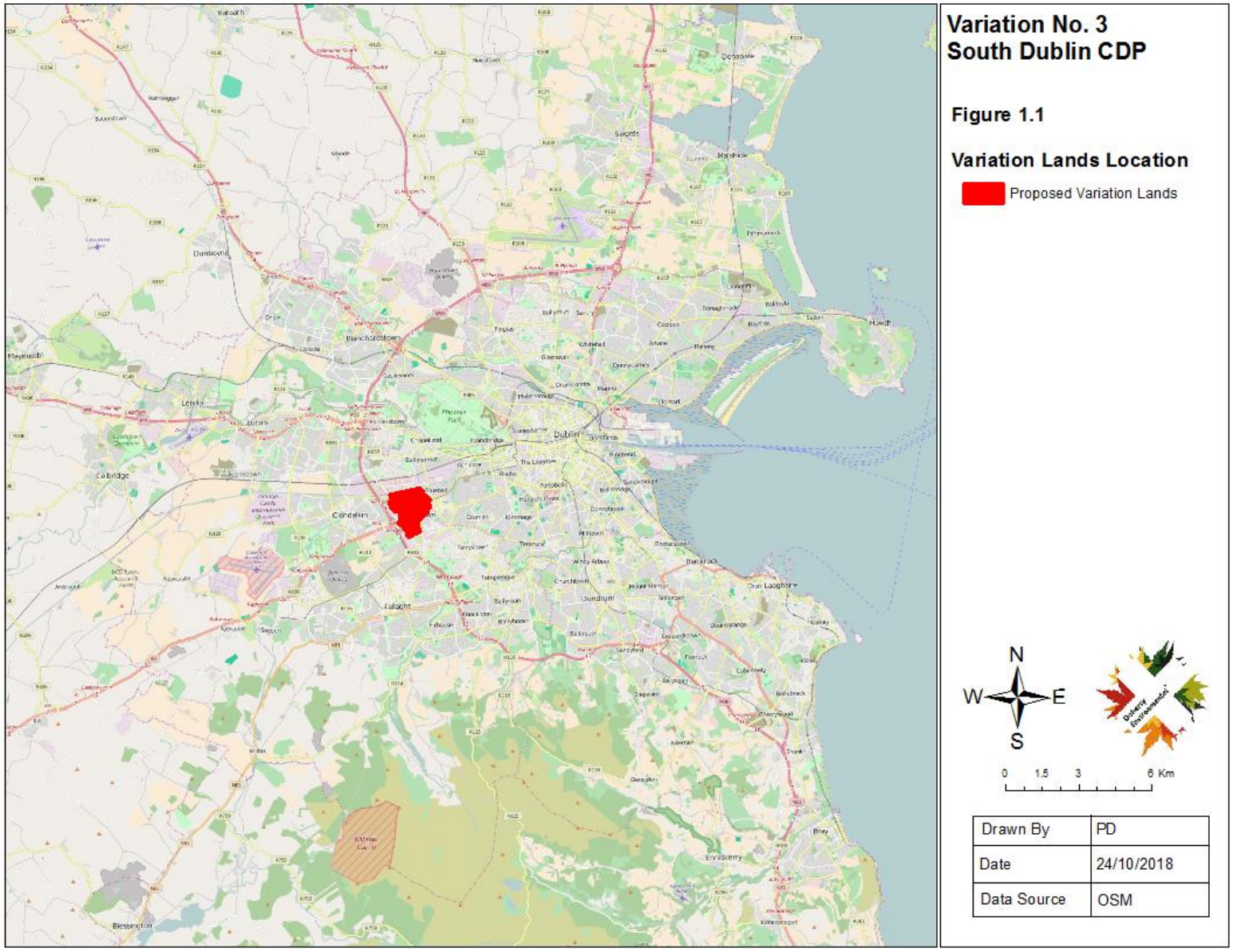
Section 3: Overview of the proposed Variation

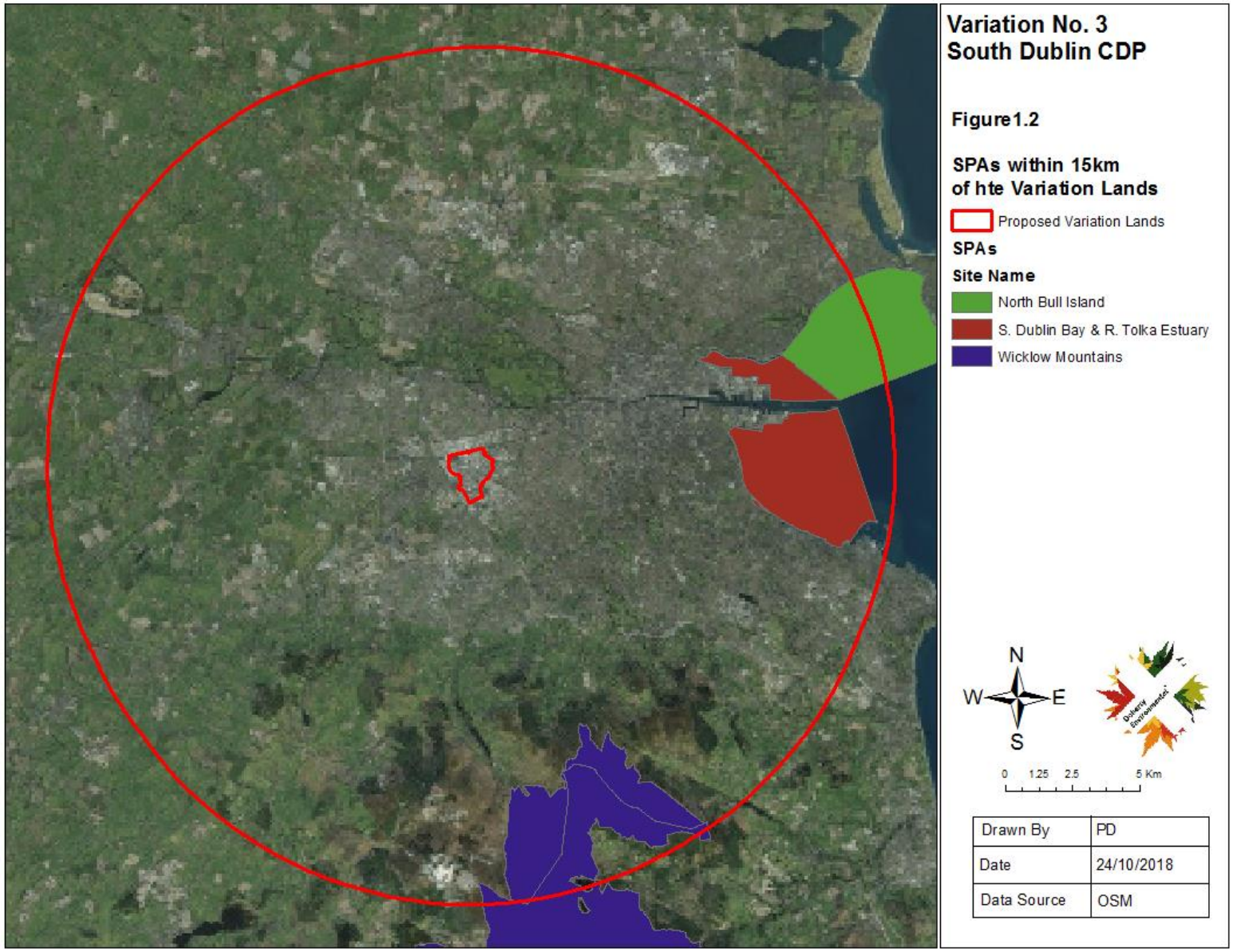
Section 4: Summary of the Screening for Appropriate Assessment

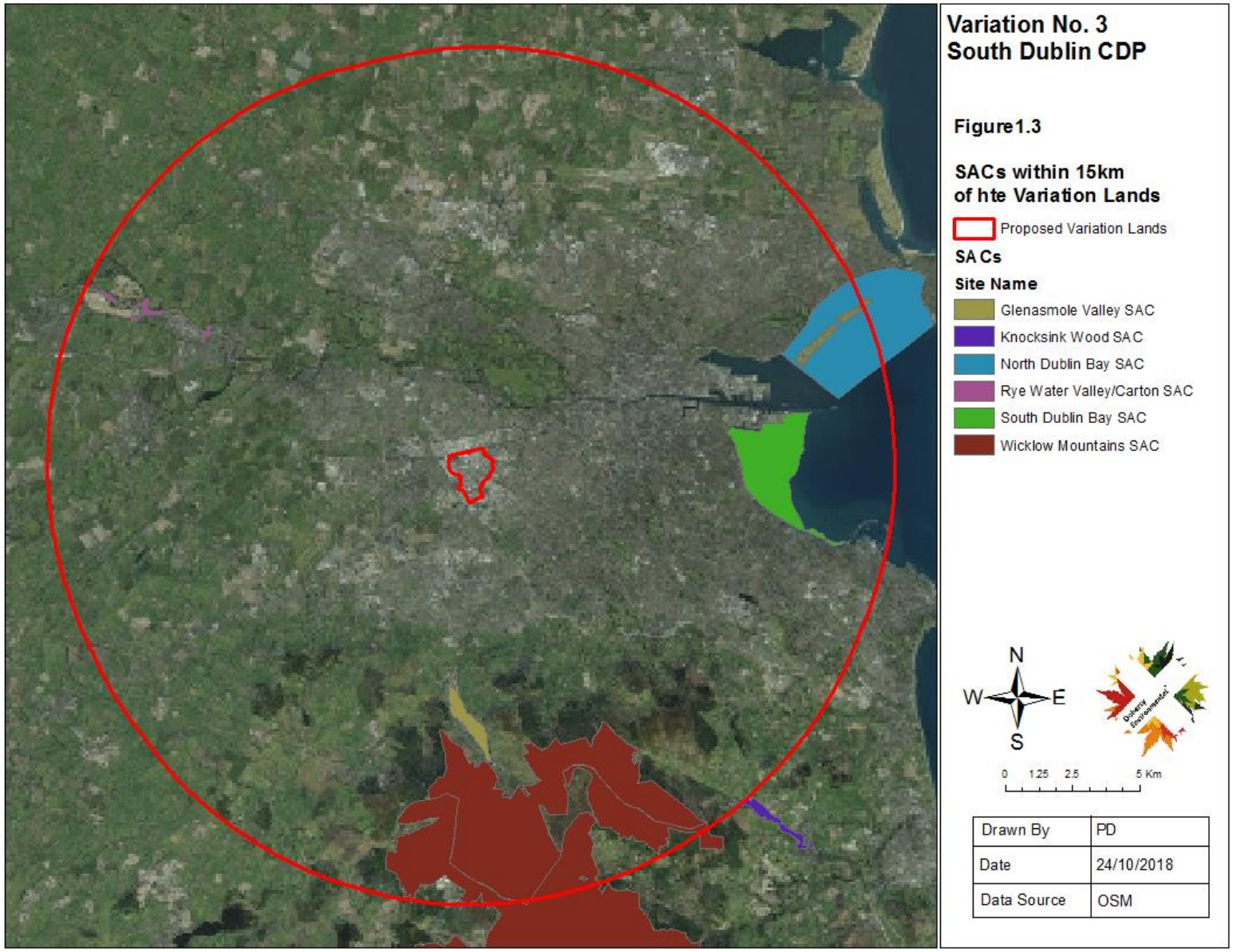
Section 5: Assessment of the proposed Variation

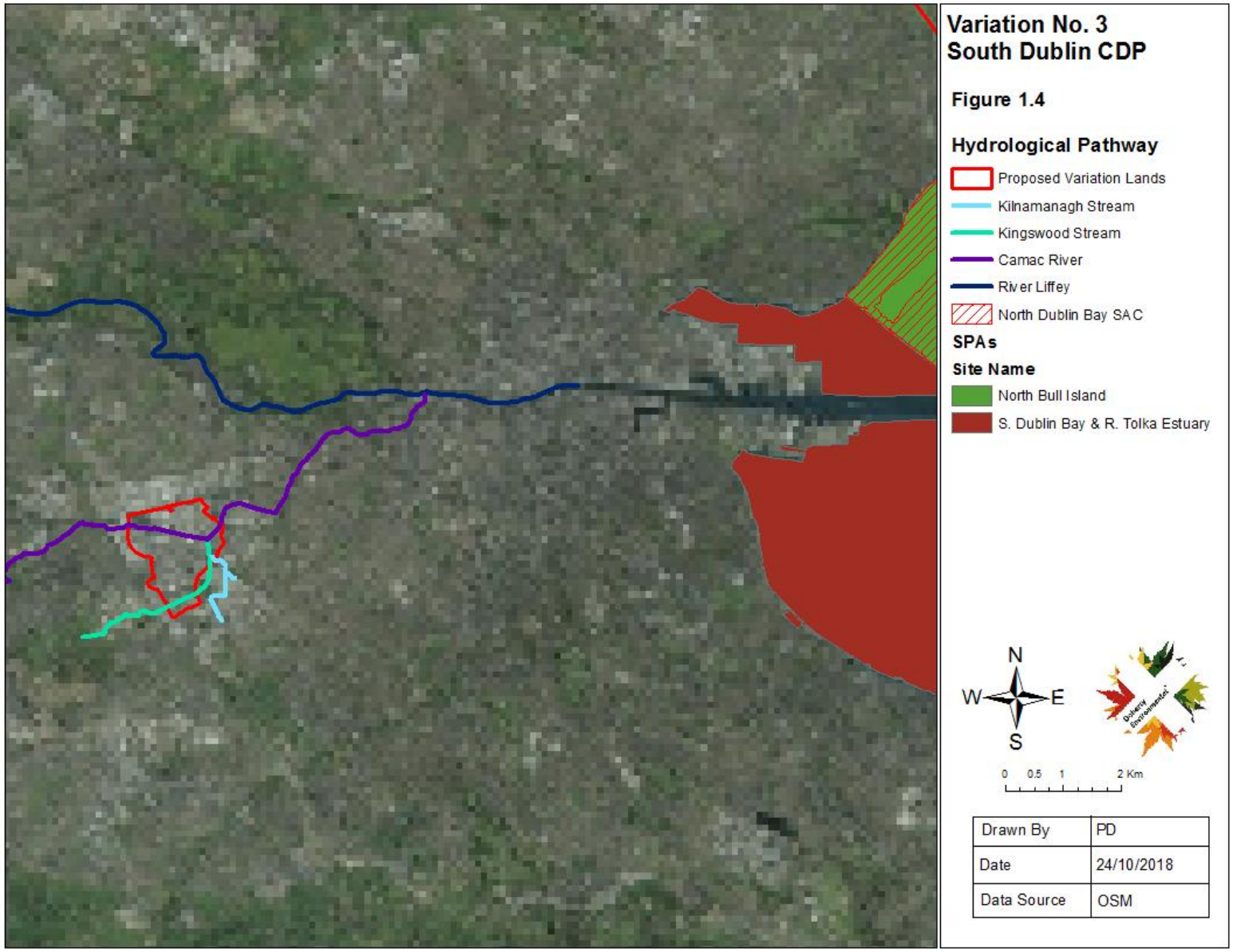
Section 6: Mitigation

Section 7: Conclusions


Variation No. 3
South Dublin CDP
Figure 1.1
Variation Lands Location
Proposed Variation Lands
N
W
E
S
0 1.5 3 6 Km
Drawn By PD
Date 24/10/2018
Data Source OSM


Variation No. 3
South Dublin CDP
Figure1.2
SPAs within 15km
of hte Variation Lands
Proposed Variation Lands
SPAs
Site Name
North Bull Island
S. Dublin Bay & R. Tolka Estuary
Wicklow Mountains
N
W
E
S
0 1.25 2.5 5 Km
Drawn By PD
Date 24/10/2018
Data Source OSM


Variation No. 3
South Dublin CDP
Figure1.3
SACs within 15km
of hte Variation Lands
Proposed Variation Lands
SACs
Site Name
Glenasmole Valley SAC
Knocksink Wood SAC
North Dublin Bay SAC
Rye Water Valley/Carton SAC
South Dublin Bay SAC
Wicklow Mountains SAC
N
W
E
S
0 1.25 2.5 5 Km
Drawn By PD
Date 24/10/2018
Data Source OSM


Variation No. 3
South Dublin CDP
Figure 1.4
Hydrological Pathway
Proposed Variation Lands
Kilnamanagh Stream
Kingswood Stream
Camac River
River Liffey
North Dublin Bay SAC
SPAs
Site Name
North Bull Island
S. Dublin Bay & R. Tolka Estuary
N
W
E
S
0 0.5 1 2 Km
Drawn By PD
Date 24/10/2018
Data Source OSM

3.0 ASSESSMENT METHODOLOGY

3.1 GUIDANCE

This NIR has been undertaken in accordance with National and European guidance documents: Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities (DEHLG 2010) and *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats directive 92/43/EEC.* The following guidance documents were also of relevance during this the preparation of this NIR:

- 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.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EED. European Commission (2001).
- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC. European commission (2000). (To be referred to as MN 2000).
- Communication from the Commission on the precautionary principle. European Commission (2000).

3.2 BACKGROUND TO HABITATS DIRECTIVE ARTICLE 6 ASSESSMENTS

The EC (2001) guidelines outline the stages involved in undertaking an assessment of a project under Article 6(3) and 6(4) of the Habitats Directive. The assessment process comprises the four stages outlined below. Stage 1 to 3 form part of the Article 6(3) process, while Stage 4 forms part of the Article 6(4) process. This NIR presents the findings of an assessment for Stage 2 of this assessment process.

- Stage 1 – Screening: This stage defines the proposed plan, establishes whether the proposed plan is necessary for the conservation management of the Natura 2000 site and assesses the likelihood of the plan to have a significant effect, alone or in combination with other plans or projects, upon a Natura 2000 site.

- Stage 2 – Appropriate Assessment: If a plan or project is likely to have a significant affect an Appropriate Assessment must be undertaken. In this stage the impact of the plan or project to the Conservation Objectives of the Natura 2000 site is assessed. The outcome of this assessment will establish whether the plan will have an adverse effect upon the integrity of the Natura 2000 site.

- Stage 3 – Assessment of Alternative Solutions: If it is concluded that, subsequent to the implementation of mitigation measures, a plan has an adverse impact upon the integrity of a Natura 2000 site it must be objectively concluded that no alternative solutions exist before the plan can proceed.

- Stage 4 – Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project an assessment of compensatory measures that will effectively offset the damage to the Natura site 2000 will be necessary.

3.3 STAGE 2: APPROPRIATE ASSESSMENT STEPS

The EC Guidance Assessment Criteria for Appropriate Assessment seeks the following information:

1. A description of the elements of the project that are likely to give rise to significant effects to European Sites;

2. The Setting out the Conservation Objectives of the Site;

3. A description of how the project will affect key species and key habitats;

4. A description of how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes etc.);

5. A description of the mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of European Sites.

3.4 INFLUENCE OF THE APPROPRIATE ASSESSMENT PROCESS ON THE PROPOSED VARIATION

The purpose of the Appropriate Assessment of the proposed Variation is not only to assess the implications of this Plan on European Sites and their qualifying features of interest occurring within its zone of influence, but also to provide safeguards that aim to minimise the ecological implications of the Plan and avoid likely significant effects to European Sites. This latter element of the Appropriate Assessment process is manifest in the following scenarios:

- Where specific elements of the proposed Variation have been identified as having the potential to result in negative land use effects that could in turn result in impacts to European Sites, the relevant text of the Variation will be revised to minimise such effects.

- Where elements of the proposed Variation are of a more general nature that prevented the identification of likely impacts to European Sites, text was provided to ensure that all potential impacts arising out of these elements of the proposed Variation are assessed as part of an Appropriate Assessment at the project level.

- Any elements of the proposed Variation and the South Dublin CDP that aim to protect the natural environment were identified and evaluated for their their role in safeguarding European Sites.

4.0 OVERVIEW OF THE DRAFT VARIATION & RELATED EUROPEAN SITES

South Dublin County Council (SDCC) has prepared a Variation to the County Development Plan under Section 13 of the Planning and Development Act 2000 (as amended). The proposed Variation provides for the following:

Proposed Variation No 3 to the South Dublin County Council Development Plan 2016 – 2022 (CDP) is proposed to zone circa 178 hectares of the Employment and Enterprise (EE) zoned lands in the Naas Road / Ballymount area for Regeneration (REGEN). Through the 'REGEN' zoning objective, South Dublin County Council seeks to facilitate the regeneration of existing brownfield lands, close to existing and proposed transport nodes, to provide for a more intensive mix of enterprise / and/or residential led development.

This rezoning, will form a variation to the CDP. This plan came into effect in June 2016 and established the framework for the development over a six year period for the County. The CDP was subject to Strategic Environmental Assessment and Habitats Directive Assessment. Within the hierarchy of landuse plans, the proposed Variation should be compliant with the policies, objectives of the County Development Plan, as well as national and regional plans and guidelines.

The elements of the proposed Variation are as follows:

1). Land Use Zoning Map change. Increase 'REGEN' zoning in Naas Road area by 178 ha as a replacement of existing 'EE' zoning

2). Amendment to the Core Strategy figures as follows:

- Increase the New Regeneration lands in Table 1.9 of the Core Strategy (proposed changes are shown in red with original values shown in strike-through.

- Insert Footnotes and amend figures in Table 1.9 - Amend figures in Table 1.10 South Dublin County Development Plan 2016 -2022 Total Capacity

Table 1.9 (of the CDP)- NEW RESIDENITAL AND MIXED USE ZONING 2016 -2022

HIERARCHY	New Zonings	Housing Capacity	New REGEN Zoning	Housing Capacity	TOTAL (HA)	TOTAL (UNITS)
Consolidation Areas within the Gateway						
Palmerstown, Naas Road, Templeogue, Balyroan, Ballyboden, Edmondstown, Knocklyon, Firhouse / Ballycullen and parts of Greenhills, Terenure and Rathfarnham.	0	669	256 v~~78~~	2419 vv	256 ~~78~~	3088
Metropolitan Consolidation Towns						
Tallaght	10	820	58	1444	67	2264
Lucan (inc. Adamstown)	4	151	2	26	6	177
Clondalkin (inc. Clonburris)	41	0	0	0	41	0
Moderate Sustainable Growth Towns						
Saggart / Citywest	3	120	0	0	3	120
Small Towns (within the Metropolitan Green Belt)						
Newcastle	0	0	0	0	0	0
Rathcoole	5	100	0	0	5	100
Rural Areas						
Metropolitan Area				75		75
Hinterland Area				25		25
Total	63	1860	316 ~~137~~	3989	379 ~~200~~	5849

New footnotes:

V - Additional 178 ha added as part of Variation No.3 (Q1 2019)

VV - Additional strategic long term units excluded from new residential capacity. Assumed that the additional land bank of REGEN at Naas Road will not exceed 2,419 units in the life time of this Plan

Table 1.10 (of the CDP): South Dublin County Development Plan 2016 -2022 Total Capacity

HIERARCHY	TOTAL LAND (HA)	TOTAL CAPACITY (UNITS)
Consolidation Areas within the Gateway		
Palmerstown, Naas Road, Templeogue, Balyroan, Ballyboden, Edmondstown, Knocklyon, Firhouse / Ballycullen and parts of Greenhills, Terenure and Rathfarnham.	473 ~~295~~	9620
Metropolitan Consolidation Towns		
Tallaght	156	5412
Lucan (inc. Adamstown)	218	8304
Clondalkin (inc. Clonburris)	315	10748
Moderate Sustainable Growth Towns		
Saggart / Citywest	138	4196
Small Towns (within the Metropolitan Green Belt)		
Newcastle	28	701
Rathcoole	44	1062
Rural Areas		

Metropolitan Area	0	75
Hinterland Area	0	25
Completions 2011 to jan 2015		1,001
Total	**1372** **~~1194~~**	**41144**

3). Amend CS6 SLO 1 of the County Development Plan (page 24)

CS6 SLO 1:

To initiate a plan led approach to the sustainable regeneration of the brownfield lands in the Naas Road / Ballymount REGEN zoned lands. The plan led approach will include the preparation of a masterplan in 2019 with a view to preparing a Local Area Plan or other appropriate mechanism for the Regeneration (REGEN) and Local Centre (LC) at Walkinstown zoned lands. The masterplan will provide a framework for the sequential and phased development of the lands, integrating sustainable transport, land use and blue and green infrastructure. The spatial planning of the area will be informed by the Naas Road Framework Plan (2010).

Delete

~~prepare a Ballymount Local Area Plan for lands zoned REGEN, EE, and LC, stretching southwest from Walkinstown Roundabout along the Greenhills Road (including those areas adjacent to Greenhills Estate) to the M50, north from there to the Red Cow, east from there along the Naas Road to the city boundary, and along the boundary back to Walkinstown Roundabout. The subject Local Area Plan to be concluded by the end of 2018; and the lands north of this between the M50, the Grand Canal and city boundary currently zoned EE to be considered for inclusion in this plan. The Naas Road Framework Plan (2010) to be taken into consideration during the preparation of the Local Area Plan.~~

4.1 OVERVIEW OF VARIATION LAND'S BASELINE BIODIVERSITY

The land cover within the Variation lands is representative of Built Land and Artificial Surfaces. In turn, this makes the areas of open space and watercourses potentially important as green corridors and stepping stones for biodiversity. The surface water bodies occurring within the Variaton Lands are described below.

4.1.1 Surface Waterbodies in the Variation Lands

The surface watercourses occurring within the Variation lands are shown on Figure 4.1.

4.1.1.1 Camac River

The Camac River is the second largest of three main tributaries of the River Liffey, the catchment is circa 40km^2 prior to the confluence with the Kingswood stream and it flows from the foothills of the Wicklow Mountains into the Liffey via a large culvert at Heuston Station. The catchment is heavily urbanised in its lower reaches, particularly through the Variation Lands where it passes in an easterly direction through numerous culverts (many of which present a blockage risk). There are also notable tributaries that enter the system within the study area (the Kilnamanagh & Kingswood Streams) as well as a significant urban surface water network draining into the watercourse.

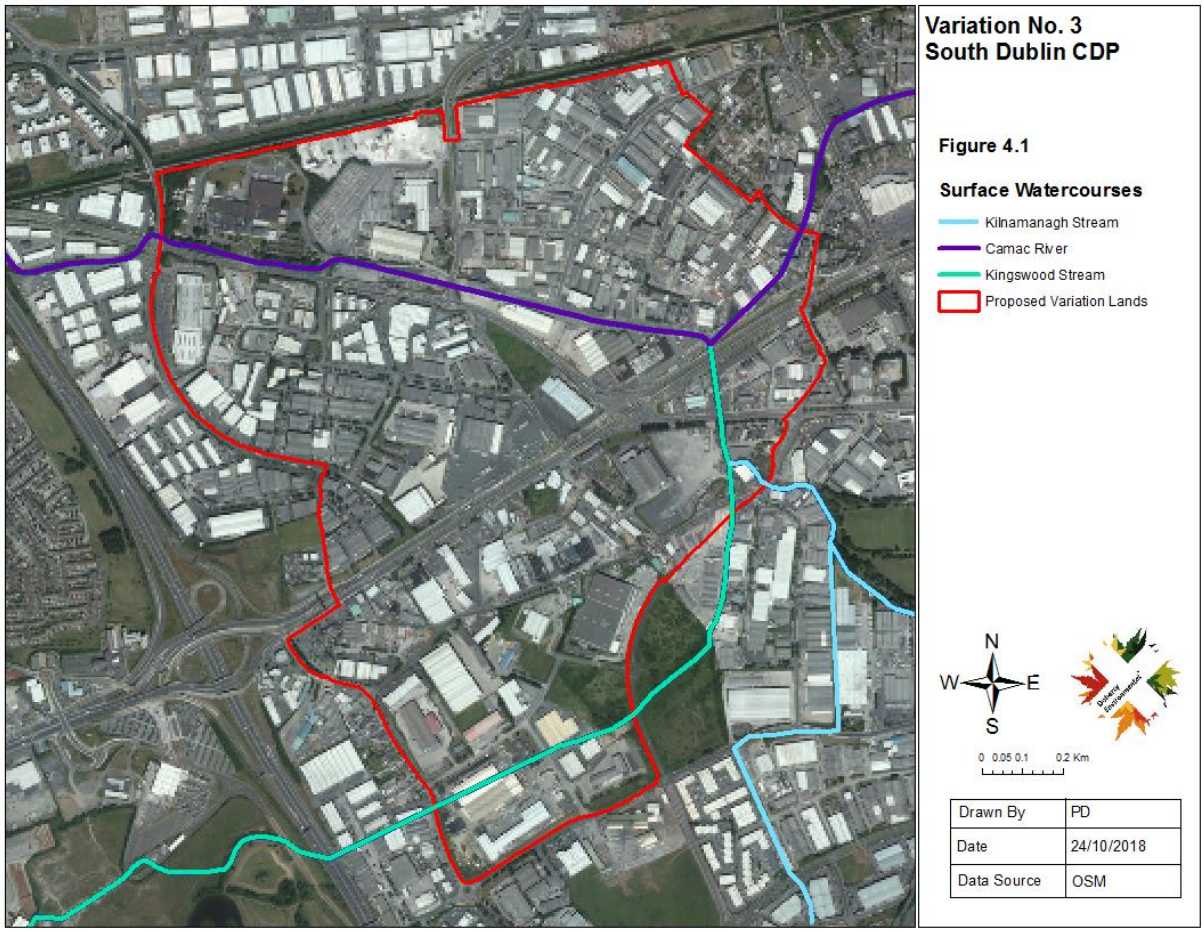
4.1.1.2 Kingswood Stream

The Kingswood Stream, rises in Kingswood approximately 1.6km to the west of the Variation Lands and has a catchment area of 3.2km^2 which rises to circa 7km^2 after the Walkinstown & Kilnamanagh Streams flow into it. Inside the M50 the catchment is heavily urbanised with multiple culverts and urban surface water inputs.

4.1.1.3 Kilnamanagh Stream

The Kilnamanagh Stream rises just outside of the M50 in Kilnamanagh and flows in a north easterly direction into the Camac River by John F Kennedy Industrial Estate. The catchment area is circa 2km^2 including the Walkinstown Stream which flows for a total length of circa

250m before entering Kilnamanagh Stream. The Kilnamanagh Stream flows into the Kingswood Stream just outside the study boundary, however overland flow input from these streams could have an impact within the study area.



4.1.1.4 Grand Canal

The Grand Canal provides the northern boundary to the site boundary. The canal is predominantly situated at grade with the local area, but is raised circa 2m above surrounding lands in the north east corner of the site boundary.

The canal was opened to cargo boat traffic on February 2, 1779 and the first passenger service began in 1780 between Dublin and Sallins. The introduction of the railways brought about a decline in traffic, and the last boats were withdrawn in 1959-60. The canal is now operated as a leisure amenity and is owned and administered by Waterways Ireland. The study area is

bound by the 6th and the 8th Lock, but only the 7th Lock is within the Variation Lands boundary.

4.1.2 Surface Water quality

The subject lands are located within the Liffey and Dublin Bay catchment and the Dodder sub-catchment (code SC 010). According to the EPA's online Map Viewer, the Camac River runs through the Variation lands (Code 040 www.catchments.ie) and is classified as poor quality currently (WFD Data 2010-2015). Surface water status is classified under the WFD from 'high' to 'bad' status. In measuring this status both ecological and chemical parameters are measured and the overall status is determined by the lower threshold achieved for both ecological and chemical parameters

- 2010-2015 Surface Water: Poor Ecological Status.
- 2010-2015 Surface Water: Chemical status: Failing to achieve good status.
- The Grand Canal at the northern boundary of the Variation lands is classified as an artificial and modified waterbody under the WFD.

4.1.3 Groundwater Quality

Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD. Groundwater is important as a drinking water supply as well as the supply to surface waters. In addition, groundwater supplies surface waters. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil. The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality. The Geological Survey of Ireland (GSI) aquifer categories are based on their vulnerability to pollution, i.e. the ease at which it can enter the subsurface layers. The classification of extreme or high vulnerability means that the

groundwater in these areas is very vulnerable to contamination due to hydrogeological and soil factors.

The Geological Survey of Ireland's Groundwater Vulnerability Mapping shows the groundwater vulnerability for the area of the Variation within a catchment where groundwater vulnerability is considered high to extreme for much of the Variation Area (Figure 12); with an area in the northern part of the plan area identified as being of moderate vulnerability. The groundwater quality of the area is classified as good. The Variation lands are located within the Dublin Urban Waterbody under the Water Framework Directive and overall status of the Groundwater is good; the main risks are from urban derived pressures.

4.1.4 Non-Native Invasive Species

The control of invasive species in Ireland comes under the Wildlife (Amendment) Act 2000 where it states that '*Any person who— [...] plants or otherwise causes to grow in a wild state in any place in the State any species of flora, or the flowers, roots, seeds or spores of flora, ['refers only to exotic species thereof'][...] otherwise than under and in accordance with a licence granted in that behalf by the Minister shall be guilty of an offence*.'

Under the European legislation, the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011) , Section 49(2) prohibit the introduction and dispersal of species listed in the Third Schedule (including Japanese Knotweed) whereby "any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow [….] shall be guilty of an offence."

The table below shows identified invasive species from Biodiversity Ireland database. Note some of these are considered greater risk than others, and the potential for water corridors such as the Camac or Grand Canal to be vectors of the dispersal of these species is important; as well as accidental transfer or introduction arising from construction activities.

Table 4.1 Recorded Invasive Species in the Variation Lands

Species Group	Name
bird	Greylag Goose (Anser anser)
flowering plant	Butterfly-bush (Buddleja davidii)
flowering plant	Canadian Waterweed (Elodea canadensis)
flowering plant	Japanese Knotweed (Fallopia japonica)
flowering plant	Nuttall's Waterweed (Elodea nuttallii)
flowering plant	Sycamore (Acer pseudoplatanus)
mollusc	Common Garden Snail (Cornu aspersum)
mollusc	Keeled Slug (Tandonia sowerbyi)
mollusc	Wrinkled Snail (Candidula intersecta)

terrestrial mammal	Brown Rat (Rattus norvegicus)
terrestrial mammal	Eastern Grey Squirrel (Sciurus carolinensis)
terrestrial mammal	European Rabbit (Oryctolagus cuniculus)
terrestrial mammal	Fallow Deer (Dama dama)
terrestrial mammal	House Mouse (Mus musculus)
terrestrial mammal	Sika Deer (Cervus nippon)

4.2 EUROPEAN SITES OCCURRING WITHIN THE ZONE OF INFLUENCE OF THE VARIATON

The following sub-sections provide an overview of the three European Sites occurring within the zone of influence of the Variation.

4.2.1 North Dublin Bay

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. Qualifying features for which this site has been designated as a SAC are listed in Table 5.1 below. The distribution of the habitats associated with this SAC are outlined in the Conservation Objectives for this SAC (see NPWS, 2013).

The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017). The documented threats and pressures to this SAC are as follows:

- Urbanised areas, human habitation
- Walking, horseriding and non-motorised vehicles
- Golf course
- Industrial or commercial areas
- Discharges

Table 4.2 lists each of the qualifying features of interest for this SAC and their conservation status

Table 4.2: North Dublin Bay SAC qualifying features of interest and conservation status,

Qualifying Annex Feature	Conservation Status (Site-Level)	Conservation Status (National-Level)
Mudflats and sandflats not covered by seawater at low tide	Favourable	Poor
Annual vegetation of drift lines	Not established	Poor
Salicornia and other annuals colonizing mud and sand	Unfavourable	Poor
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	Poor
Petalwort (Petalophyllum ralfsii)	Not established	Good
Mediterranean salt meadows (Juncetalia maritimi)	Favourable	Poor
Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	Unfavourable-inadeqaute	Poor

Fixed coastal dunes with herbaceous vegetation (grey dunes)	Unfavourable-Bad	Bad
Humid dune slacks	Unfavourable-inadeqaute	Bad

4.3 NORTH BULL ISLAND SPA

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The qualifying features for which this site has been designated as a SPA are listed in Table 5.2 below. The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017). The documented threats and pressures to this SPA are as follows:

- Disposal of household / recreational facility waste
- Golf Course
- Industrial or commercial areas
- Walking, horseriding and non-motorised vehicles
- Bridge, viaduct
- Roads, motorways
- Discharges

Table 4.3 lists each of the qualifying features of interest for this SAC and their conservation status

Table 4.3: North Bull Island SPA qualifying features of interest and conservation status

SCIs	Conservation Status
Light-bellied Brent Goose (*Branta bernicla hrota*)	Amber listed species- Species of medium conservation concern
Shelduck (*Tadorna tadorna*)	Amber listed species- Species of medium conservation concern
Teal (*Anas crecca*)	Amber listed species- Species of medium conservation concern
Pintail (*Anas acuta*)	Red listed species – Species of high conservation concern[†]
Shoveler (*Anas clypeata*)	Red listed species – Species of high conservation concern[†]
Oystercatcher (*Haematopus ostralegus*)	Amber listed species- Species of medium conservation concern
Golden Plover (*Pluvialis apricaria*)	Red listed species – Species of high conservation concern
Grey Plover (*Pluvialis squatarola*)	Amber listed species- Species of medium conservation concern
Knot (*Calidris canutus*)	Red listed species – Species of high conservation concern[†]

Sanderling (*Calidris alba)*	Green listed species – Species not threatened
Dunlin (*Calidris alpina*)	Amber listed species- Species of medium conservation concern
Black-tailed Godwit (*Limosa limosa*)	Amber listed species- Species of medium conservation concern
Bar-tailed Godwit (*Limosa lapponica*)	Amber listed species- Species of medium conservation concern
Curlew (*Numenius arquata*)	Red listed species – Species of high conservation concern
Redshank (*Tringa totanus*)	Red listed species – Species of high conservation concern
Turnstone (*Arenaria interpres*)	Green listed species – Species not threatened
Black-headed Gull (*Larus ridibundus*)	Red listed species – Species of high conservation concern
Wetlands & Waterbirds	

4.4 SOUTH DUBLIN BAY RIVER TOLKA ESTUARY SPA

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

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species over-wintering species: Light-bellied Brent

Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Curlew, Redshank, and Black-headed Gull. This SPA is also designated for its role in supporting breeding colonies of the following species: Roseate Tern, Common Tern and Artic Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The qualifying features for which this site has been designated as a SPA are listed in Table 5.3 below. The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017). The documented threats and pressures to this SPA are as follows:

- Walking, horseriding and non-motorised vehicles
- Reclamation of land from sea, estuary or marsh
- Discharges
- Roads, motorways
- Industrial or commercial areas

Table 4.4 lists each of the qualifying features of interest for this SAC and their conservation status

Table 4.4: South Dublin Bay River Tolka Estuary SPA qualifying features of interest, and conservation status

SCIs	Conservation Status
Light-bellied Brent Goose (*Branta bernicla hrota*)	Amber listed species- Species of medium conservation concern
Oystercatcher (*Haematopus ostralegus*)	Amber listed species- Species of medium conservation concern
Ringed Plover (*Charadrius hiaticula*)	Amber listed species- Species of medium conservation concern

Grey Plover (*Pluvialis squatarola*)	Amber listed species- Species of medium conservation concern
Knot (*Calidris canutus*)	Red listed species – Species of high conservation concern[†]
Sanderling (*Calidris alba*)	Green listed species – Species not threatened
Dunlin (*Calidris alpina*)	Amber listed species- Species of medium conservation concern
Bar-tailed Godwit (*Limosa lapponica*)	Amber listed species- Species of medium conservation concern
Redshank (*Tringa totanus*)	Red listed species – Species of high conservation concern
Black-headed Gull (*Croicocephalus ridibundus*)	Red listed species – Species of high conservation concern
Roseate Tern (*Sterna dougallii*)	Green listed species – Species not threatened
Common Tern (*Sterna hirundo*)	Amber listed species- Species of medium conservation concern
Arctic Tern (*Sterna paradisaea*)	Amber listed species- Species of medium conservation concern
Wetlands & Waterbirds	

5.0 ASSESSMENT OF THE PROPOSED VARIATION

As outlined in Section 2.3 above, the recommended steps for an Appropriate Assessment are as follows:

1. A description of the elements of the project that are likely to give rise to significant effects to European Sites;
2. The Setting out the Conservation Objectives of the Site;
3. A description of how the project will affect key species and key habitats;
4. A description of how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes etc.);
5. A description of the mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of European Sites.

5.1 ELEMENTS OF THE PLAN THAT HAVE THE POTENTIAL TO RESULT IN SIGNIFICANT EFFECTS

The proposed Variation will rezone lands currently zoned as Enterprise and Employment (EE) to Regeneration (REGEN). The land use activities that will be associated with regeneration projects facilitated by the proposed Variation will include:

- Demolition activities; Construction activities; and Operational activities.

The potential ecological effects of such activities relate to:

- Habitat loss and fragmentation: the direct loss of habitat occurring within European Sites as a result of developments facilitated by the proposed Variation.
- Habitat degradation resulting from emissions to surface water: the construction phase of development projects can result in the discharge of contaminated surface water to receiving watercourses. The operation of developments, if not properly served by a wastewater treatment facility can lead to the discharge of polluting wastewater receiving waterbodies downstream. Ringsend WWTW, which will receive

wastewater from future developments within the Variation lands has historically operated at or above capacity, with a total load of 2.19 million P.E. on average, with significant fluctuations from day to day. Loading has increased in recent years with the rise in population recorded in the Dublin local authorities between 2011 and 2016 of approximately 4-6%. The latest information from Irish Water indicates that the plant is currently operating above its capacity of 1.64 million P.E. (Irish Water, 2017), with a current operational loading of 2.19 million P.E.. In 2017 the plant was non-compliant with several parameters as set under the EPA discharge license. Any existing or proposed projects discharging to the plant have the potential to act cumulatively to reduce water quality in Dublin Bay, affecting European Sites therein. Despite Ringsend WWTW historically operating at or above capacity, no significant effects from discharge arising from developments within the Variation lands are predicted due to the following:

- The 2017 Annual Environmental Report for the WWTP concluded that the assessments carried out on water quality in transitional and coastal waterbodies did not indicate a significant impact from the specific pollutants listed on the receiving waters outside the near field of the discharge point or in the Liffey and Tolka Estuaries.

- Even in the absence of an upgrade, there was no proven link between WWTW discharges and nutrient enrichment of sediments in Dublin Bay based on analyses of dissolved and particulate nitrogen signatures in research published in 2011 (Wilson and Jackson, 2011);

- Enriched water entering Dublin Bay has been shown to rapidly mix and become diluted such that the plume is often indistinguishable from the rest of bay water (O'Higgins and Wilson, 2005);

- Marine modelling for Ringsend WWTP indicates that discharged effluent is rapidly mixed and dispersed to low levels via tidal mixing within a short distance of the outfall pipe (Dowly & Bedri 2007); and

- Recent modelling of water quality in Dublin Bay for the Ringsend WWTP Upgrade Project demonstrates that the effects of nutrients from Ringsend WWTP are largely confined to the area between the South Wall and the Tolka Estuary (Irish Water, 2018).

- Habitat degradation resulting from emissions to groundwater: as above, the development of projects can result in the discharge of polluted waters to groundwaters during the construction phase and operation phase of project.

- Habitat degradation resulting from emissions to air: the construction phase and operation phase of project can result in the emission of pollutants, such as dust, particulate matter, SOx and NOx to the atmosphere.

- Habitat degradation resulting from the spread of non-native invasive species during development works facilitated by the proposed Variation: If present on site development projects can result in the spread of these species; and

- Disturbance and/or displacement of qualifying species from within or outside European Sites: where development site are located in close proximity to habitats upon which qualifying species of European Sites rely then they can result in disturbance to these species and where disturbance stimuli persist they can result in displacement of these species from habitats.

Table 5.1 below lists the qualifying feature of interest/special conservation interests of the three European Sites occurring within the zone of influence of the project and assesses whether each of these features are risk from the ecological effects listed above.

The results of the assessment provided in Table 5.1 show that the following qualifying habitats of the North Dublin Bay SAC could be adversely effected by some of the ecological effects associated with future regeneration developments within the Variation Lands. Table 5.2 provides a summary list of these features and the ecological effects that have the potential to result in adverse effects .

Table 5.1: Potential for Ecological Effects to result in adverse effects to the Qualifying Features of European Sites

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
North Dublin Bay SAC						
Mudflats and sandflats not covered by seawater at low tide [1140]	No. Rationale: The Variations Lands are located at a remote distance from this qualifying habitats and will not have the potential to result in the loss or fragmentation of some or all of this habitat.	Yes. Rationale: The Camac River and the River Liffey form a hydrological pathway between the Variation Lands and this qualifying habitats at Dublin Bay.	Yes. Rationale: The potential for effects to groundwater that drain to the Camac cannot be ruled out at this stage.	No. Rationale: The Variation Lands are sufficiently buffered from this habitat to ensure that projects do not have the potential to result in degradation to this habitat as a result of emissions to atmosphere.	Yes. Rationale: There is potential for non-native invasive species to occur at development site within the Variation Lands and such species could be conveyed downstream via the Camac River and the Liffey estuary to this habitat. In addtition while it is acknowledged	No. Rationale: The Variation Lands are sufficiently buffered fro this habitat to ensure that physical disturbance to it will not arise during developments within these lands.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
					that this is a coastal habitat and that the Variation Lands are not likely to support species that can tolerate coastal habitats, a precautionary approach is taken for this assessment and the potential for such spread to this habitat is not ruled out.	
Annual vegetation of drift lines [1210]	No.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No.	No.	No Rationale: there is no pathway that could link the Variation Lands to this habitat to result in the spread of non-native invasive species.	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
Salicornia and other annuals colonising mud and sand [1310]	No. Rationale: See rationale outlined for Mudflats and Sandflats above.	Yes. Rationale: The Camac River and the River Liffey form a hydrological pathway between the Variation Lands and this qualifying habitats at Dublin Bay.	Yes. Rationale: See rationale outlined for Mudflats and Sandflats above.	No. Rationale: See rationale outlined for Mudflats and Sandflats above.	Yes. Rationale: See rationale outlined for Mudflats and Sandflats above.	No.
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	No Rationale: See rationale outlined for Mudflats and Sandflats above.	Yes. Rationale: the examples of this habitat occurring within this SAC are located between the		No Rationale: See rationale outlined for Mudflats and Sandflats above.		No Rationale: See rationale outlined for Mudflats and Sandflats above.
Mediterranean salt meadows (Juncetalia maritimi) [1410]	No.	No. Rationale: Examples of this habitat are restricted to the northwestern end of Bull Island and are considered to lie outside the influence of the	No. Rationale: Examples of this habitat are restricted to the northwestern end of Bull Island and are considered to lie outside the	No.	No. Rationale: Examples of this habitat are restricted to the northwestern end of Bull Island and are considered to lie outside the	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
		hydrological pathway established by the Cammock River and the River Liffey.	influence of the hydrological pathway established by the Cammock River and the River Liffey.		influence of the hydrological pathway established by the Cammock River and the River Liffey.	
Embryonic shifting dunes [2110]	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No. Rationale: there is no pathway that could link the Variation Lands to this habitat to result in the spread of non-native invasive species.	No Rationale: See rationale outlined for Mudflats and Sandflats above.
Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]	No.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No.	No.	Rationale: there is no pathway that could link the Variation Lands to this habitat to result in the spread of non-native invasive species.	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No Rationale: This habitat is not influenced by surface waters and lotic processes.	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No Rationale: there is no pathway that could link the Variation Lands to this habitat to result in the spread of non-native invasive species.	No Rationale: See rationale outlined for Mudflats and Sandflats above.
Humid dune slacks [2190]	No.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No. Rationale: This habitat is not influenced by surface waters and lotic processes.	No.	No Rationale: there is no pathway that could link the Variation Lands to this habitat to result in the spread of non-native invasive species.	No.
Petalophyllum ralfsii (Petalwort) [1395]	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No. Rationale: This species is not influenced by surface waters and lotic processes.	No. Rationale: This habitat is not influenced by surface waters	No Rationale: See rationale outlined for Mudflats and Sandflats above.	No Rationale: there is no pathway that could link the Variation Lands to this habitat to	No Rationale: See rationale outlined for Mudflats and Sandflats above.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	**Groundwater**	**Air**	**Non-native invasive species**	
			and lotic processes.		result in the spread of non-native invasive species.	
South Dublin Bay & Tolka Estuary SPA						
Light-bellied Brent Goose (*Branta bernicla hrota*)	No. Rationale: The Variations Lands are located at a remote distance from the wetland habitats upon which this species relies and will not have the potential to result in the loss or fragmentation of some or all of this habitat.	Yes. Rationale: The Camac River and the River Liffey form a hydrological pathway between the Variation Lands and the wetland habitats at Dublin Bay upon which this species relies.	Yes. Rationale: The potential for effects to groundwater that drain to the Camac cannot be ruled out at this stage.	No. Rationale: The Variation Lands are sufficiently buffered from this habitat to ensure that projects do not have the potential to result in degradation to this habitat as a result of emissions to atmosphere.	Yes. Rationale: There is potential for non-native invasive species to occur at development site within the Variation Lands and such species could be conveyed downstream via the Camac River and the Liffey estuary to this habitat. In addtition while it is acknowledged	No. Rationale: The Variation Lands are sufficiently buffered from this habitat to ensure that physical disturbance to it will not arise during developments within these lands.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
					that this is a coastal habitat and that the Variation Lands are not likely to support species that can tolerate coastal habitats, a precautionary approach is taken for this assessment and the potential for such spread to this habitat is not ruled out.	
Oystercatcher (*Haematopus ostralegus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Ringed Plover (*Charadrius hiaticula*)	No. Rationale: See rationale outlined for	Yes. Rationale: See rationale outlined	Yes. Rationale: See rationale outlined	No. Rationale: See rationale	Yes. Rationale: See rationale outlined	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
	Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	outlined for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	Rationale: See rationale outlined for Light-bellied Brent Geese above.
Grey Plover (*Pluvialis squatarola*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Knot (*Calidris canutus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Sanderling (*Calidris alba*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
Dunlin (*Calidris alpina*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Bar-tailed Godwit (*Limosa lapponica*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Redshank (*Tringa totanus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Black-headed Gull (*Croicocephalus ridibundus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied	No. Rationale: See rationale outlined for Light-bellied	Yes. Rationale: See rationale outlined for Light-bellied	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
			Brent Geese above.	Brent Geese above.	Brent Geese above.	
Roseate Tern (*Sterna dougallii*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Common Tern (*Sterna hirundo*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Arctic Tern (*Sterna paradisaea*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
North Bull Island SPA						

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
Light-bellied Brent Goose (*Branta bernicla hrota*)	No. Rationale: The Variations Lands are located at a remote distance from the wetland habitats upon which this species relies and will not have the potential to result in the loss or fragmentation of some or all of this habitat.	Yes. Rationale: The Camac River and the River Liffey form a hydrological pathway between the Variation Lands and the wetland habitats at Dublin Bay upon which this species relies.	Yes. Rationale: The potential for effects to groundwater that drain to the Camac cannot be ruled out at this stage.	No. Rationale: The Variation Lands are sufficiently buffered from this habitat to ensure that projects do not have the potential to result in degradation to this habitat as a result of emissions to atmosphere.	Yes. Rationale: There is potential for non-native invasive species to occur at development site within the Variation Lands and such species could be conveyed downstream via the Camac River and the Liffey estuary to this habitat. In addtition while it is acknowledged that this is a coastal habitat and that the Variation Lands are not likely to support species that can tolerate	No. Rationale: The Variation Lands are sufficiently buffered from this habitat to ensure that physical disturbance to it will not arise during developments within these lands.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
					coastal habitats, a precautionary approach is taken for this assessment and the potential for such spread to this habitat is not ruled out.	
Shelduck (*Tadorna tadorna*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Teal (*Anas crecca*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Pintail (*Anas acuta*)	No. Rationale: See rationale outlined for	Yes. Rationale: See rationale outlined	Yes. Rationale: See rationale outlined	No. Rationale: See rationale	Yes. Rationale: See rationale outlined	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
	Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	outlined for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	Rationale: See rationale outlined for Light-bellied Brent Geese above.
Shoveler (*Anas clypeata*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Oystercatcher (*Haematopus ostralegus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Golden Plover (*Pluvialis apricaria*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
Grey Plover (*Pluvialis squatarola*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Knot (*Calidris canutus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Sanderling (*Calidris alba)*	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Dunlin (*Calidris alpina*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied	No. Rationale: See rationale outlined for Light-bellied	Yes. Rationale: See rationale outlined for Light-bellied	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
			Brent Geese above.	Brent Geese above.	Brent Geese above.	
Black-tailed Godwit (*Limosa limosa*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Bar-tailed Godwit (*Limosa lapponica*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Curlew (*Numenius arquata*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Redshank (*Tringa totanus*)	No. Rationale: See rationale outlined for	Yes. Rationale: See rationale outlined	Yes. Rationale: See rationale outlined	No. Rationale: See rationale	Yes. Rationale: See rationale outlined	No.

European Sites & Qualifying Features	Habitat Loss & Fragmentation	Habitat Degradation				Disturbance/Displacement
		Surface Water	Groundwater	Air	Non-native invasive species	
	Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	outlined for Light-bellied Brent Geese above.	for Light-bellied Brent Geese above.	Rationale: See rationale outlined for Light-bellied Brent Geese above.
Turnstone (*Arenaria interpres*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.
Black-headed Gull (*Larus ridibundus*)	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.	Yes. Rationale: See rationale outlined for Light-bellied Brent Geese above.	No. Rationale: See rationale outlined for Light-bellied Brent Geese above.

Table 5.2: Summary of European Sites occurring within the zone of influence of the Variaton

European Sites	Features at Risk	Type of Ecological Effects
North Dublin Bay SAC	Mudflats and Sandflats Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Habitat degradation through the pollution/contamination to surface waters and groundwater and the potential for the spread of non-native invasive species.
South Dublin Bay River Tolka Estuary SPA	All special conservation interest bird species and wetland habitats.	Habitat degradation through the pollution/contamination to surface waters and groundwater and the potential for the spread of non-native invasive species.
North Bull Island SPA	All special conservation interest bird species and wetland habitats.	Habitat degradation through the pollution/contamination to surface waters and groundwater and the potential for the spread of non-native invasive species.

5.2 IN-COMBINATION EFFECTS

All of the streams and rivers in South Dublin County, apart from the Brittas River and the Shinkeen River, drain either northwards into the River Liffey which forms the northern boundary of the County, or they flow north and eastwards through the County into the administrative areas of Dún Laoghaire-Rathdown and Dublin City, before draining directly into Dublin Bay via the Ringsend Basin.

The change in land use zoning will facilitate proposals for regeneration projects within the Variation Lands. These projects and any other land use plans and projects occurring within the Liffey catchment that have potential to result in adverse effects to water quality could in theory result in likely significant effects to the European Sites downstream at Dublin Bay.

Other relevant adopted or proposed land use plans in the surrounding area are listed and assessed for their potential to result in cumulative effects in Table 5.3 below.

Table 5.3: In-Combination Assessment of other Plans & Project

Plan	Comment	Cumulative effects
National Planning Framework 2018	The purpose of the NPF is to provide a focal point for spatial plans throughout the planning hierarchy. It will provide a framework for the new Regional Spatial and Economic Strategies (RSESs) by the three Regional Assemblies and the associated enhancement of the economic development focus of local authorities as per the Local Government Reform Act 2014. The draft NPF will co- ordinate the strategic planning of urban and rural areas in a regional development context to secure overall proper planning and development as well as co-	A NIR was prepared for this plan and an Appropriate Assessment was completed. The Appropriate Assessment concluded that, subject to mitigation measures proposed in the NIR, there will be no adverse effects to the integrity of any European Sites as a result

Plan	Comment	Cumulative effects
	ordination of the RSES's and city/ county development plans in addition to local economic and community plans and local area plans and other local development.	of the implementation of this Plan.
Draft Regional Spatial & Economic Strategy 2018	The RSES is a strategic plan which identifies regional assets, opportunities and pressures and provides appropriate policy responses in the form of Regional Policy Objectives. At this strategic level it provides a framework for investment to better manage spatial planning and economic development throughout the Region	No in combination effects are identified.
The Transport Strategy for the Greater Dublin Area, 2016-2035	This Strategy sets out how transport will be developed across the region, covering Dublin, Meath, Wicklow and Kildare, over the period of the strategy and was subject to SEA and AA.	No in combination effects are identified.
Water Services Strategic Plan	Ireland's first integrated national plan for the delivery of water services, the Water Services Strategic Plan (WSSP) addresses six key themes and was adopted in 2015. It was subject to full SEA and AA and concluded that Overall, the assessment has identified that the implementation of the draft WSSP is likely to have positive effects on the majority of the SEOs that have been used in the assessment to help	No in‐combination impacts were predicted as a result of implementation of the Plans

Plan	Comment	Cumulative effects
	characterise the environmental effects of the WSSP and no significant negative effects were identified.	
Naas Road Development Framework Study 2010	The following overarching objectives were set for the plan: • Link the plan area with the surrounding environment to assist in enhancing a living community in and around the area • Create connectivity throughout the plan area – removing barriers to movement and opening up attractive links between key areas • Use existing and proposed infrastructure to establish a strong and interactive relationship with Dublin city and the wider environment • Establish new and appropriate landuses that assist in creating relationships between one another, and support a growing mixed use community • Seek innovative design responses for key sites (collectively and individually) that respond to the environmental, social, cultural and economic issues and demands facing the plan area • Provide publicly accessible open spaces and green infrastructure which contribute to the amenities of	No. This Plan was been assessed as part of the South Dublin CDP 2016-2022 SEA and NIR. No significant effects are predicted to arise out of this Plan and it will not combine with the proposed Variation to result in likely significant effects to European Sites.

Plan	Comment	Cumulative effects
	the area and the green network • Promote and facilitate the development of the Naas Road/Rail Innovation corridor • To create a new identity for the area • To provide for a limited range of mid-rise buildings, to complement proposals for a new KDC, with a sustainable mix of employment, residential, retail and community uses supporting the surrounding area • To develop a significant node at the junction of Naas Road, Walkinstown Road and Kylemore Road which would acknowledge the strategic nature of the site as a Key District Centre and gateway to the city. • To create a landmark destination within the city for combined facilities of a community, recreational, leisure and sports nature	
Neighbouring County Development Plans	These plans were subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified.	No in‐combination impacts were predicted as a result of implementation of the Plans
River Basin District	The National River Basin District Management Plan is now published (2018). The second cycle River Basin	No in‐combination impacts are predicted as a

Plan	Comment	Cumulative effects
Management Plans.	Management Plan aims to build on the progress made during the first cycle with a greater emphasis on ensuring the evidence base is available and the administration supports are fully in place to support key measures. The approach to the plan development involves characterisation of Ireland's water bodies in order to develop a tailored programme of measures to allow for the protection of good status or the restoration of good status for all water bodies. The outcomes are then monitored in order to feed into further characterisation and measures setting as the cycle moves forward. The plan was subject to SEA and Appropriate Assessment.	result of implementation of the Plans
CFRAMS Study	The Eastern CFRAM study has been commissioned in order to meet the requirements of the Floods Directive, as well as to deliver on core components of the 2004 National Flood Policy, in the Eastern district.	No in‐combination impacts are predicted as a result of implementation of the Plans.
Projects		

Plan	Comment	Cumulative effects
Greater Dublin Drainage	Irish Water made a planning application for strategic infrastructure development to An Bord Pleanála for the Greater Dublin Drainage Project in June 2018. The GDD project proposes a new regional wastewater treatment facility to be located in the townland of Clonshaugh in north county Dublin, an underground orbital sewer from Blanchardstown to Clonshaugh, a new pumping station at Abbotsown, a partial diversion of the north fringe sewer, and an outfall pipeline to return the treated water to the Irish Sea. The project also includes a regional sludge treatment centre at the new GDD facility and an associated biosolids storage facility at Newtown near Kilshane Cross.	Chapter 23 of the EIAR was reviewed with a focus on the cumulative impacts, No in‐combination impacts are predicted as a result of implementation of the Project
The Greater Dublin Transport Strategy 2016-2035	The Transport Strategy for the Greater Dublin Area, 2016-2035 has been prepared and published by the National Transport Authority. It sets out how transport will be developed across the region, covering Dublin, Meath, Wicklow and Kildare, over the period of the strategy and has been approved by the Minister for Transport, Tourism and Sport in accordance with the relevant legislation. Luas, heavy rail and orbital bus routes are of particular relevance to the elements of this Strategy and the Variation.	Positive effects in relation to the prioritisation of public transport modes above private transport.

Plan	Comment	Cumulative effects
Ballymount Road Extension	New link road though Robinhood from Ballymount Avenue to Longmile Road. To provide improved access to the Ballymount and Robinhood employment area	Identified in the South Dublin CDP 2016-2022 Table 6.5 this is subject to funding over a six year programme. No details are available yet.
Greenhill Road upgrade and links	Upgrade of Greenhills Road from Airton Road to Walkinstown Roundabout with new links to Ballymount Avenue, Limekiln Road and Calmount Road. To provide improved access to/between employment lands within Tallaght, Ballymount and Robinhood and to provide improved access to and from the Greenpark, Limekiln and Greenhills area.	Identified in the South Dublin CDP 2016-2022 Table 6.5 this is subject to funding over a six year programme. No details are available yet.
Ballymount Industrial Estates Street Network	Various streets within the Ballymount employment area. Formation of a strategic street network within the Ballymount and Robinhood employment areas.	Identified as a Medium to long term objective in Table 6.6 of the South Dublin CDP 2016-2022. No additional details currently available.

Plan	Comment	Cumulative effects
Oak Road Extension	New road linking Oak Road to Robinhood Road. To provide improved access between the Ballymount, Robinhood and Fox and Geese employment areas.	Identified as a Medium to long term objective in Table 6.6 of the South Dublin CDP 2016-2022. No additional details currently available.
South Dublin Heritage Plan 2014-2019	Key objectives as follows: Objective 1: Increase understanding of the heritage of Laois Objective 2: Record the heritage of Laois Objective 3: Protect and promote active conservation of the heritage of Laois Objective 4: Promote community participation in heritage plans and projects and Objective 5: Promote enjoyment and accessibility of heritage sites	Positive interactions with SEOs in relation to this plan; no adverse cumulative effects identified.

6.0 CONSERVATION OBJECTIVES

The function of this NIR in support of Appropriate Assessment is to determine whether the proposed Variation could have significant effects on the European Sites occurring within its zone of influence, in view of the Conservation Objectives for the qualifying features of interest of these European Sites that also occur within the zone of influence of the project. The structural and functional elements of a European Site to maintain the favourable conservation status of qualifying feature of interest are embedded into the list of detailed SSCOs for each of the site's interest features. As such the detailed Conservation Objectives of a European Sites represent the parameters against which an assessment of a project's potential to result in likely significant effects should be undertaken.

SSCOs for the special conservation interests of the South Dublin Bay River Tolka Estuary SPA and the North Bull Island SPA; and the relevant qualifying features of interest of the North Dublin Bay SAC occurring within the zone of influence of the project have been published by the NPWS (NPWS, 2013; 2015a; 2015b; & 2017). Table 6.1 lists the Conservation Objectives attributes and targets for each of these features and provides an assessment of the potential for the proposed Variation to undermine each of these targets.

Table 6.1: Assessment of the proposed Variation to effect the SSCOs of the qualifying feature occurring within the zone of influence of the Plan

Attribute. No.	Attribute	Target	Assessment
Mudflat (North Dublin Bay SAC)			
1	Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	The Variation lands are located at a remote distance from this habitat and will not have the potential to result in changes to its extent at North Dublin Bay.
2	Community distribution	Conserve the following community types in a natural condition: Intertidal sand with *Scolelepis squamata* and *Pontocrates* spp. community; and	In the event that that developments facilitated by the proposed Variation result in pollution to surface water or groundwater the potential

		Intertidal sand to mixed sediment with polychaetes, molluscs and crustaceans community complex.	will exist for this polluted water to be conveyed downstream to Dublin Bay where it could adversely effect the communities that underpin this habitat.
Atlantic Saltmarsh & Salicornia and other annuals colonising mud (North Dublin Bay SAC)			
3	Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession.	The Variation lands are located at a remote distance from this habitat and will not have the potential to result in changes to its extent at North Dublin Bay.
4	Habitat distribution	No decline or change in habitat distribution, subject to natural processes.	The Variation lands are located at a remote distance from the saltmarsh habitats occurring at North Dublin Bay SAC and will not have the potential to influence the processes (such as hydrology) that underpin the distribution of this habitat within the SAC. As such it will not have the potential to undermine this target.
5	Physical structure: sediment supply	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	Due to the hydrological pathway linking the Variation lands to this habitat it could result in changes to sediment supply to Dublin Bay via the Camac River and the River Liffey.
6	Physical structure: creeks and pans	Maintain creek and pan structure, subject to natural processes, including erosion and succession	The creeks and pans of the saltmarsh habitats are influenced by hydrological processes such as freshwater influxes and tidal regimes. The Variation will not result in any changes to the hydrological regime of the Liffey catchment and will not have the potential to result in changes to the hydrological at Dublin Bay that influence the structure of creeks and pans within the North Dublin Bay saltmarsh habitats.
7	Physical structure: flooding regime	Maintain natural tidal regime	The Variation will not have the potential to influence the tidal regime at Dublin Bay.
8	Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	The Variation will not have the potential to alter the processes that underpin the zonation of vegetation within this habitat.

			Developments within the Variation lands will not alter overall hydrological inputs to Dublin Bay and as such they will not be expected to have the potential to alter the processes that underpin the zonaton of vegetation.
9	Vegetation structure: vegetation height	Maintain structural variation within sward	For reasons outlined above for Attributre No. 8 the proposed Variation will not have the potential to result in changes to the sward height of saltmarsh habitats occurring at North Dublin Bay SAC.
10	Vegetation structure: vegetation cover	Maintain more than 90% of the saltmarsh area vegetated	For reasons outlined above for Attributre No. 8 the proposed Variation will not have the potential to result in changes to the vegetation cover of saltmarsh habitats occurring at North Dublin Bay SAC.
11	Vegetation composition: typical species and sub-communities	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	For reasons outlined above for Attribute No. 8 the proposed Variation will not have the potential to result in changes to the typical species and sub-communities of saltmarsh habitats occurring at North Dublin Bay SAC.
12	Vegetation structure: negative indicator species- *Spartina anglica*	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	The proposed Variation lands are located at a remote distance from the North Dublin Bay SAC and will not result in any disturbance to stands of *Spartina* and will not have the potential to result in the spread of this species within the SAC.
Special conservation interest bird species (South Dublin Bay River Tolka Estuary SPA & North Bull Island SPA)			
22	Population trend	Long term population trend stable or increasing	In the event that the developments facilitated by the proposed Variation result in pollution to surface water or groundwater the potential will exist for this polluted water to be conveyed downstream to Dublin Bay where it could adversely effect the prey communities and wetland habitats that special conservation interest bird species of the SPA rely. The

			continued input of such waters over time could undermine the quliaty of wetland habitats for these species and result in changes to local populations within this area of the SPAs.
23	Distribution	There should be no significant decrease in the range, timing or intensity of use of areas by special conservation interest bird species of the SPA occurring within the zone of influence other than that occurring from natural patterns of variation	In the event that the developments facilitated by the proposed Variation result in pollution to surface water or groundwater the potential will exist for this polluted water to be conveyed downstream to Dublin Bay where it could adversely effect the prey communities and wetland habitats that special conservation interest bird species of the SPA rely. The continued input of such waters over time could undermine the quality of wetland habitats for these species and result in changes to local distributions within this area of the SPAs.
Wetland habitat (South Dublin Bay River Tolka Estuary SPA & North Bull Island SPA)			
24	Wetland habitat area	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 32,261ha, other than that occurring from natural patterns of variation	In the event that that developments facilitated by the proposed Variation result in pollution to surface water or groundwater the potential will exist for this polluted water to be conveyed downstream to Dublin Bay where it could adversely effect the communities that underpin this habitat.

7.0 MITIGATION MEASURES

Mitigation measures relating the potential for surface water and groundwater effects and the spread of non-native invasive species are outlined in the following sections. It will be a requirement of any future regeneration projects within the Variation Lands that all relevant mitigation measures outlined in the following sub-sections are implemented.

In addition, other over-arching policies and objectives of the South Dublin CDP which, through their implementation will have the effect of safeguarding the European Sites downstream at Dublin Bay are also outlined below in Table 7.1. The full implementation of these measures will ensure that only those projects proposed in the Variation Lands that do not have the potential to result in likely significant effects to European Sites as a consequence of impacts to surface water, groundwater or the spread of non-native invasive species, will be considered for approval.

Table 7.1: Over-arching Policies and Objectives of the South Dublin CDP that Safeguard European Sites

Policy/Objective	Details
Heritage, conservation and landscapes (HCL) policy 12 natura 2000 sites	It is the policy of the Council to support the conservation and improvement of Natura 2000 Sites and to protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site
Heritage, conservation and landscapes (HCL) policy 13	Natural Heritage Areas It is the policy of the Council to protect the ecological, visual, recreational, environmental and amenity value of the County's proposed Natural Heritage Areas and associated habitats.

Heritage, conservation and landscapes (HCL) policy 15	Non-Designated Areas It is the policy of the Council to protect and promote the conservation of biodiversity outside of designated areas and to ensure that species and habitats that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 are adequately protected
HCL15 objective 1	To ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992.
HCL15 objective 2:	To ensure that, where evidence of species that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 exists, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.
HCL15 objective 3	To protect existing trees, hedgerows, and woodlands which are of amenity or biodiversity value and/ or contribute to landscape character and ensure that proper provision is made for their protection and management in accordance with Living with Trees: South Dublin County Council's Tree Management Policy 2015-2020.

7.1 MITIGATION MEASURES RELATING TO HABITAT DEGRADATION: SURFACE WATER & GROUNDWATER QUALITY

The following Policies and Objectives of the South Dublin CDP outlined in Table 7.2 will be implemented to ensure that any future projects facilitated by the proposed Variation do not result in adverse effects to surface water and groundwater quality.

Table 7.2: Policies and Objectives of the South Dublin CDP that Safeguard Surface Water and Groundwaters

Policy/Objective	Details
Infrastructure & environmental quality (IE) policy 1 water & Wastewater	It is the policy of the Council to work in conjunction with Irish Water to protect existing water and drainage infrastructure and to promote investment in the water and drainage network to support environmental protection and facilitate the sustainable growth of the County.
IE1 objective 1	To work in conjunction with Irish Water to protect, manage and optimise water supply and foul drainage networks in the County.
IE1 objective 2:	To work in conjunction with Irish Water to facilitate the timely delivery of ongoing upgrades and the expansion of water supply and wastewater services to meet the future needs of the County and the Region
IE2 policy	It is the policy of the Council to manage surface water and to protect and enhance ground and surface water quality to meet the requirements of the EU Water Framework Directive

IE2 objective 1	To maintain, improve and enhance the environmental and ecological quality of our surface waters and groundwater by implementing the programme of measures set out in the Eastern River Basin District River Basin Management Plan
IE2 objective 2	To protect the regionally and locally important aquifers within the County from risk of pollution and ensure the satisfactory implementation of the South Dublin Groundwater Protection Scheme 2011, and groundwater source protection zones, where data has been made available by the Geological Survey of Ireland
IE2 objective 3	To maintain and enhance existing surface water drainage systems in the County and promote and facilitate the development of Sustainable Urban Drainage Systems (SUDS), including integrated constructed wetlands, at a local, district and County level, to control surface water outfall and protect water quality.
IE2 objective 4	To incorporate Sustainable Drainage at a site and/or district scale, including the potential for wetland facilities
IE2 objective 5	To limit surface water run-off from new developments through the use of Sustainable Urban Drainage Systems (SUDS) and avoid the use of underground attenuation and storage tanks
IE2 objective 6	To promote and support the retrofitting of Sustainable Urban Drainage Systems (SUDS) in established urban areas, including integrated constructed wetlands

IE2 objective 8	To protect salmonid water courses, such as the Liffey and Dodder Rivers catchments (including Bohernabreena Reservoir), which are recognised to be exceptional in supporting salmonid fish species.
IE2 objective 9:	To protect water bodies and watercourses, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains, within the County from inappropriate development. This will include protection buffers in riverine and wetland areas as appropriate. (see also Objective G3 Objective 2 – Biodiversity Protection Zone)
IE2 Objective 10:	To require adequate and appropriate investigations to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, in particular for brownfield development.
IE2 objective 11	To protect surface water quality by assessing the impact of domestic and industrial misconnections to the drainage network in the County and the associated impact on surface water quality, and by implementing measures to address same.

Any future developments within Regeneration zones that have been identified as having the potential to result in a deterioration to surface or groundwater quality will be required to undertake an assessment to determine the effect of the development on surface water and groundwater quality. Such an assessment will be required to identify the materials and activities associated with the development that could result in pollution to surface waters, the pathways that could convey surface water from the development site to European Sites and the qualifying features of interest of European Sites that could be at risk of experiencing adverse effects in the event of the release of polluted surface water from the development site.

During the construction phase of developments facilitated by the Variation, where applicable all relevant best practice guidelines shall be adhered to. Examples of these guidelines include:

- Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (Inland Fisheries Ireland, 2016);
- Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (National Roads Authority, 2008);
- CIRIAC648: Control of water pollution from linear construction projects: Technical Guidance
- CIRIAC649: Control of water pollution from linear construction projects: Site guide

A Pollution Prevention Plan (PPP) and Construction and Environmental Plan (CEMP) will be required to accompany future Regeneration developments in zones that have been identified as presenting a risk of likely significant effects to European Sites.

Measures will be required to be included in the design of a proposed development that will safeguard water quality from operation phase surface water emissions and wastewater emissions. These design elements will include the inclusion of adequate wastewater treatment facilities/connection to wastewater treatment plants, the implementation of surface water management measures such as swales, interceptors, hydrobrakes and attenuation tanks etc.

With regard to wastewater discharges it is noted that developments within the Variation lands will ultimately be serviced by the municipal wastewater treatment plant at Ringsend. Irish Water confirms that there is generally sufficient capacity in the public water services networks in the vicinity of the Variation lands to connect developer-provided water service infrastructure to their networks (subject to the signing of individual connection agreements with Irish Water). The Core Strategy figures in the CDP have been taken into account in Irish Water's long-term planning for water services capacity in the Greater Dublin Area. . It is considered that the proposed variation will increase the amount of REGEN zoning and thus provide further brownfield regeneration opportunities for the market However, it is not anticipated that the REGEN lands will have a significant impact on the assigned housing land capacity in the Core Strategy of the Development Plan. A number of major infrastructure

projects are being progressed to provide long term capacity to service projected demand into the future through Irish Water's multi annual Investment Programmes.

The proposed scheme is expected to result in an increase in foul loadings being discharged from site of c. 20,000 P.E. Foul water comprising sewage and industrial effluent (and some surface water run-off) from the Dublin area has historically, and will continue to be treated at Ringsend WWTW prior to discharge to Dublin Bay. Ringsend WWTW has historically operated at or above capacity, with a total load of 2.19 million P.E. on average, with significant fluctuations from day to day. Loading has increased in recent years with the rise in population recorded in the Dublin local authorities between 2011 and 2016 of approximately 4-6%[1]. The latest information from Irish Water indicates that the plant is currently operating above its capacity of 1.64 million P.E. (Irish Water, 2017), with a current operational loading of 2.19 million P.E.

In 2017 the plant was non-compliant with several parameters as set under the EPA discharge license. Any existing or proposed projects discharging to the plant have the potential to act cumulatively to reduce water quality in Dublin Bay, affecting European Sites therein. Despite Ringsend WWTW historically operating at or above capacity, no significant effects from discharge arising from the proposed scheme are predicted due to the following:

Irish Water has submitted a planning application for strategic infrastructure development to An Bord Pleanála for a number of upgrade works to Ringsend WWTP. These works are proposed to ensure the plant operates with the highest possible environmental standards into the future. The application seeks permission for works required to facilitate the use of Aerobic Granular Sludge (AGS) technology, to omit the previously permitted long sea outfall tunnel and to upgrade the sludge treatment facilities at Ringsend and to provide for a Regional Biosolids Storage Facility in Newtown, Dublin 11[2]. Aerobic Granular Sludge (AGS) technology

[1] According to 2016 Census figures available from the Central Statistics Office www.cso.ie (Accessed 25/06/2018)

[2] **https://www.water.ie/projects-plans/ringsend/**

allows for faster breakdown of pollutants in water. The upgrade works are planned to proceed in stages to deliver a compliant effluent, at projected increased loads, with the full capacity of 2.4 m population equivalent completed by 2023. There are also plans to construct a new WWTW to the north of Dublin City which will permit flows to be diverted from the Ringsend catchment, thus ensuring that the capacity of Ringsend will be adequate to cater for growth in that catchment well into the future.

7.2 MITIGATION MEASURES RELATING TO HABITAT DEGRADATION: INVASIVE SPECIES

The following Policies and Objectives of the South Dublin CDP outlined in Table 7.3 will be implemented to ensure that any future projects facilitated by the proposed Variation do not result in the spread of non-native invasive species.

Table 7.3: Policies and Objectives of the South Dublin CDP that aim to prevent the spread of non-native invasive species

Policies/Objectivies	Details
G2 objective 12	To seek to control and manage non-native invasive species and to develop strategies with relevant stakeholders to assist in the control of these species throughout the County

It keeping with the above Objective, it will be a requirement of any future Regeneration development application that a survey for the presence or otherwise of invasive species within the development site and areas affected by the development is completed. If invasive species are identified during such surveys, their species will be identified and their location will be mapped. An Invasive species management plan will be required to detail the measures required to ensure that the proposed development does not result in the spread of the invasive species and to ensure that the species is eradicated from the development footprint.

8.0 EVALUATION OF MITIGATION MEASURES

This section highlights the types of potential likely significant effects that arose during this part of the assessment and how likely significant effects were mitigated to ensure no potential adverse effects on the integrity of European sites would occur.

Impacts on Water quality

Potential Likely Significant Effect: Potential for impacts on water quality as a result of inadequate wastewater treatment and surface water management and treatment and discharge with downstream impacts to a receiving watercourse.

How Mitigation Will Ensure Likely Significant Effects Are Avoided: Ensure any future development application is connected to a WWTP with adequate capacity for foul water during operation, or that it is serviced by an on-site treatment system that will ensure no impact to water quality in the area. Require future developments to include surface water management design measures that will aim to ensure only clean surface water is discharged from the proposed development during the construction phase and operation phase.

Impacts on groundwater

Potential Likely Significant Effect: Potential for impacts on the hydrology of groundwater-dependent Qualifying Interests of European sites.

How Mitigation Will Ensure Likely Significant Effects Are Avoided: Ensure any future development application is connected to a WWTP with adequate capacity for foul water during operation, or that it is serviced by an on-site treatment system that will ensure no impact to groundwater quality in the area. Require future developments to include surface water management design measures that will aim to ensure only clean water is discharged from the proposed development during the construction phase and operation phase.

Impacts caused by Invasive Species

Potential Likely Significant Effect: Potential for introduction or spread of aquatic/terrestrial invasive species to European sites.

How Mitigation Will Ensure Likely Significant Effects Are Avoided: An invasive species survey will be required at development sites and where such species are identified a management plan that will outline measures to eradicate the species and avoid its spread will be required.

9.0 RESPONSIBILITY FOR IMPLEMENTING MITIGATION MEASURES

The responsibility for implementing the proposed Variation to the South Dublin CDP lies solely with the Planning Authority through the planning consent process. Applicants who intend to develop within the CDP area are obliged to ensure that their application is consistent with the Objectives and requirements within the Plan. The statutory requirement for the Planning Authority to carry out screening for appropriate assessment for all planning applications is not affected by any of the statements in this NIR. All applications must be tested for the potential for likely significant effects. However, such effects are not likely to occur if the Objectives in the CDP and the requirements are adhered to as outlined in Technical Guidance, where appropriate.

Applicants must provide information to allow the Planning Authority to screen the application and decide if an Natura Impact Statement is required.

10.0 MONITORING OF MITIGATION MEASURES

Whilst there is no legal requirement to monitor the outputs of the AA process, there is an obligation to monitor the implementation of the CDP through the E.C. SEA Directive as implemented in Ireland. Contingency measures may have to be applied if there is evidence that Objectives cannot be implemented successfully. The *European Communities (Environmental Liability) Regulations 2008* will also apply in the event of any environmental damage to habitats and species both within and outside of the European sites.

11.0 CONCLUSION

This NIR has reviewed the impacts arising from the proposed Variation and found that, without the implementation of mitigation measures, the proposed Variation will have the potential to impact upon the Conservation Objectives of 3 European Sites and their relevant qualifying features that occur within the zone of influence of the Variation Lands.

The potential impacts that could negatively affect these European Sites have been outlined in Section 5 and 6 this NIR. Section 7 outlines the environmental safeguards within the Plan that aim to ensure these potential impacts are avoided.

The requirements outlined in Section 7 and evaluated in Section 8 of this NIR will protect these Sites from potential adverse impacts.

The measures and the requirements the South Dublin CDP Policy HCL 12 to protect European Sites from all plans or protects with potential to result in likely significant effects to them will ensure adverse impacts to the integrity of the 3 European Sites occurring within the zone of influence of Proposed Variation No.3 will be prevented from occurring. The additional safeguards within the CDP and outlined above for the protection of water quality and the protection against the spread of non-native invasive species will provide a basis for ensuring any future developments that are facilitated by the proposed Variation will not be supported where they present a risk to water quality and the spread of non-native invasive species.

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