Comhairle Contae
Átha Cliath Theas
South Dublin County Council

South Dublin County Council
Development Plan
2016 – 2022

A VISION FOR SOUTH DUBLIN'S FUTURE

Proposed Variation No. 1

Zoning Objective Amendment on Lands at Grangecastle West

Appropriate Assessment (AA)
Screening Report and Determination Report

February 2018

Appropriate Assessment (AA) Screening Determination in accordance with the EU's Habitats Directive Article 6(3) and the Section 177U of the Planning and Development Act 2000 (as amended) by South Dublin County Council as Competent Authority.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a European ecological network of special areas of conservation composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as European sites - defined under the Planning Acts and/or Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs).

Land Use Planning and Transportation Department

South Dublin County Council

2018

Section 1 Introduction

An Appropriate Assessment (AA) Screening Determination has been made by South Dublin County Council regarding the Proposed Variation No.1 of the South Dublin County Council Development Plan 2016-2022.

The proposed variation is seeking to make additions to the South Dublin County Development Plan 2016-2022, a plan which through a series of policies and objectives sets out the vision for the future growth and development of South Dublin up to 2025. Proposed land use plans must undergo a formal "test" or "screening" to ascertain whether they are likely to result in any significant adverse effects on specific sites designated for their nature conservation importance. These sites are those designated under the European Commission's Natura 2000 network of sites (hereafter "European sites"). These sites are designated on the basis of the presence of certain habitats and species that are deemed to be of international importance. The Irish Government and local planning authorities have a legal obligation to protect these sites.

The Habitats and Birds Directives are the framework for the designation of these sites. The Habitats Directive (92/43/EEC) requires the "screening'" of plans and projects under Article 6(3). If the screening process results in a judgement that likely significant effects may occur or cannot be ruled out, then a more detailed appropriate assessment (AA) is required.

This report constitutes the Appropriate Assessment Screening Determination Report of Proposed Variation No. 2 to the South Dublin County Development Plan 2016-2022 and follows on from the preparation of an Appropriate Assessment Screening Report (December 2017).

Section 2 Determination

Having regard to the content of Proposed Variation No. 1 and consideration of the potential for significant impacts arising from its implementation which may have the potential to adversely affect any Natura 2000 site; with regard to their qualifying interests and conservation objectives, it was determined as part of the Screening for Appropriate Assessment that it is possible to rule out likely significant effects on all European sites.

This decision has been informed following an examination, analysis and evaluation of the relevant

information, including in particular, the nature of the proposed variation and its potential relationship with European sites, as well as considering other plans and projects, and applying the precautionary principle, it is possible to rule out likely significant effects on all European sites assessed.

The principle trigger for a Natura Impact Report would be if the proposed variation was likely to have significant effects on a NATURA 2000 site. The proposed variation is part of the review of the zoning of lands required under Policy ET3 SLO1 of the South Dublin County Development Plan which seeks to conduct a review of the zoning of lands to the south of the Grand Canal with a view to preparing a long term plan for the expansion of the Grange Castle Economic and Enterprise Zone to the area. The proposed variation also seeks to amend the location of the long term road objective in the area.

The proposed variation seeks to change the zoning of approximately 193 hectares of existing land from Objective RU, Rural Amenity area to Objective EE, Enterprise and Employment area. No negative impacts are predicted from the implementation of this proposed variation. The polices and provisions of the South Dublin County Development Plan 2016-2022 to which the proposed variation will form part have been devised to anticipate and avoid the need for development that would be likely to significantly and adversely affect the integrity of any Natura 2000 sites or areas of high ecological value/interest.

A Strategic Environmental Assessment (SEA) Environmental Report and an Appropriate Assessment (AA) Screening Report (in accordance with the Habitats Directive) were completed during the drafting of the South Dublin County Development Plan 2016-2022 which examined the cumulative impacts of the plan's policies and objectives on the environment, including Natura 2000 sites. Mitigation measures were proposed and incorporated into the 2016-2022 Development Plan to ensure that no negative impacts would arise from its implementation.

Therefore, in accordance with the Methodological Guidance on the provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, it is concluded that the proposed variation, does not require any further assessment (Stage 2) to demonstrate compliance with the Directive.

Taking the above on board, along with the conclusions of the Appropriate Assessment Screening Report (December 2017), it is determined that further stages of Appropriate Assessment are not required. The proposed variation has been prepared to ensure that any development (either

individually or in combination with other plans or projects) shall not give rise to significant adverse impacts on the integrity or conservation objectives of any Natura 2000 sites.

Section 3 Conclusion

Having regard to Article 6(3) of the Habitats Directive and Part XAB of the Planning and Development Acts 2000 (as amended), the guidance contained in the Department of Housing Planning, Community and Local Governments "Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities" (2010) following an examination, analysis and evaluation of the objective information provided in the "Proposed Variation No.1 to South Dublin County Development Plan 2016-2022 AA Screening Report" prepared by Doherty Environmental Consultants, South Dublin County Council, as the Competent Authority determines that the proposed variation, individually and in combination with other plans and projects, does not require an AA as it has been concluded that it is possible to rule out likely significant effects on all European sites.

Comhairle Contae
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Development Plan
2016 – 2022

A VISION FOR SOUTH DUBLIN'S FUTURE

Proposed Variation No. 1

Zoning Objective Amendment on Lands at Grangecastle West

Appropriate Assessment Screening Report

February 2018

Screening Statement for Appropriate Assessment

Variation No. 1

South Dublin County Development Plan 2016 - 2022

Document Stage	Document Version	Prepared by
Draft	1	Pat Doherty MSc, MCIEEM
		Checked NC, South Dublin County Council

This report has been prepared by Doherty Environmental Consultants Ltd. 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 Clifton Scannell Emerson Associates Consulting Engineers on behalf 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

South Dublin County Council intends to initiate the procedures for making 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:

" To ensure the sustainable and orderly development of Grangecastle, this Council proposes to initiate a variation to the South Dublin County Development Plan 2016-2022 to change the zoning of 193 hectares of land at Grangecastle from Objective RU: To Protect and Improve Rural Amenity to Objective EE: To provide for Enterprise and Employment."

Doherty Environmental Consultants Ltd. have been commissioned by Clifton Scannell Emerson Ltd. on behalf of South Dublin County Council to undertake a Stage 1 Screening for Appropriate Assessment of the proposed variation.

This Screening for Appropriate Assessment forms Stage 1 of the Habitats Directive Assessment process and is being undertaken in order to comply with the requirements of the Habitats Directive Article 6(3). The function of this Screening Exercise is to identify the potential for the project to result in likely significant effects to European Sites and to provide information so that the competent authority can determine whether a Stage 2 Appropriate Assessment is required for the project.

1.1 STAGE 1 SCREENING METHOD

The function of the Screening exercise is to identify whether or not the proposal will have the potential to result in likely significant effect on European Sites. In this context "likely" refers to the presence of doubt with regard to the absence of significant effects (ECJ case C-127/02) and "significant" means not trivial or inconsequential but an effect that has the potential to undermine the site's conservation objectives (English Nature, 1999; ECJ case C-127/02 &). In other words, any effect that compromises the conservation status of a European

Sites and interferes with achieving its conservation objectives would constitute a significant effect.

The nature of the likely interactions between the project and the conservation status of European Sites will depend upon the sensitivity of these sites and their reasons for designation to potential impacts arising from the project; the current conservation status of the features for which European Sites have been designated; and any likely changes to key environmental indicators (e.g. habitat structure; vegetation community) that underpin the conservation status of European Sites, in combination with other plans and projects.

This Screening exercise has been undertaken with reference to respective 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* and recent European and National case law (ECJ C-258/11 & High Court case ref 2014-320-JR). The following guidance documents were also of relevance during this Screening Assessment:

- 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).
- Guidance on Article 6(4) of the Habitats Directive 92/43/EEC – Clarification of the Concepts of: Alternative Solutions, Imperative reasons

of Overriding Public Interest, Compensatory Measures, Overall coherence, Opinion of the Commission. European Commission (2007).

The EC (2001) guidelines outline the stages involved in undertaking a Screening exercise of a project that has the potential to have likely significant effects on European Sites. The methodology adopted for this Screening exercise is informed by these guidelines and was undertaken in the following stages:

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

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

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

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

2.0 PROJECT DESCRIPTION

It is proposed to extend Grange Castle Business Park by rezoning an area of 193.47 hectares west of the existing Business Park which is operated by South Dublin County Council in partnership with the Industrial Development Authority (IDA) (see Figure 2.1 for the location of the proposed Variation Lands). This proposed rezoning, will form a proposed variation to the existing South Dublin County Development Plan 2016-2022 (SDCDP). This plan came into effect in June 2016 and established the framework for the development over a six year period for the county. The SDCDP 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 and objectives of the SDCDP, as well as national and regional plans and guidelines.

The purpose of this proposed rezoning is to facilitate the extension of the existing Grange Castle Business Park and to increase the landuse zoning designation for this area. It is envisaged that a masterplan will be prepared that will provide more detail on the layout etc of the lands but the initial, first step is to propose the landuse change zoning from ***RU: To Protect and Improve Rural Amenity to EE: To provide for Enterprise and Employment.***

A specific objective is also included in the South Dublin County Development Plan 2016-2022 for the area proposed for rezoning as follows:

ET3 SLO 1:

To conduct a review of the zoning of lands south of the Grand Canal and west and north of the R120, including lands adjoining Peamount Healthcare, with a view to preparing a long term plan for the expansion of the Grange Castle Economic and Enterprise Zone to this area, to accommodate strategic investment in the future, while also seeking to provide public open space along the Canal, including a natural heritage area in the vicinity of the historic canal quarries at Gollierstown.

2.1 ENVIRONMENTAL PROTECTION MEASURES OF THE PROPOSED VARIATION

Existing environmental protection measures are set out in the South Dublin County Council CDP 2016 – 2022 and have also be detailed in the SEA ER of the proposed Variation.

2.1.1 SDCC CDP 2016- 2022 Environmental Protection Measures

The existing environmental protection measures of the South Dublin County Council CDP that will afford protection to European Sites occurring in the wider surrounding area of the proposed Variation Lands are outlined in Table 2.1 below.

CDP Policy/Objective	Text
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.
Hcl13 objective 1:	To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value

	of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.
HCL13 objective 2:	To restrict development within a proposed Natural Heritage Area to development that is directly related to the area's amenity potential subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes
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.
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
Water Resources	

including Flood Risk

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
Water Resources and Biodiversity, Flora and Fauna	
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 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.
Infrastructure & environmental quality (IE) policy 3	Flood Risk It is the policy of the Council to continue to incorporate Flood Risk Management into the spatial planning of the County, to meet the requirements of the EU Floods Directive and the EU Water Framework Directive
Green infrastructure (G) policy 5	Sustainable Urban Drainage Systems It is the policy of the Council to promote and support the development of Sustainable Urban Drainage Systems (SUDS) in the County and to maximise the amenity and biodiversity value of these systems.

2.1.2 SEA ER Environmental Protection Measures

The environmental protection measures that will be required to be implemented for all future project stage developments within the Variation Lands are outlined in Table 2.2 below.

Management Measures No.	Item
	Development proposals on the Variation lands close to the Grand Canal shall protect and incorporate high value natural heritage features including watercourses, wetlands, grasslands, woodlands, mature trees, hedgerows and ditches and include for a 50m set back for all buildings and a 30m set-back distance for development (with the exception of bridges and footpaths) from the pNHA boundary to facilitate the continuity of the Grand Canal as a corridor for protected species, biodiversity, and a fully functioning Green Infrastructure network.
	A Biodiversity Management Plan will be prepared by a qualified ecologist and be guided by relevant best practice guidelines and established techniques for habitats present on lands. The Biodiversity Management Plan shall incorporate the following measures • The preservation of existing hedgerows, treelines, woodland, scrub and other semi-natural habitats where possible • High value historical hedgerows shall be retained and management details included; • Where hedgerows, treelines woodland and other semi-natural habitats are to be retained within the Variation

	lands, details of their management and protection should be provided in a Habitat Management Plan. • Opportunities to enhance the biodiversity value of SUDs measures where relevant should be included in habitat management plans.
	Invasive Species Three invasive species have been recorded in the area surrounding the Variation lands; Canadian Waterweed (*Elodea canadensis*), Nuttall's Waterweed (*Elodea nutallii*) and Snowberry (*Symphoricarpos albus*). No development shall take place on the lands until an Invasive Species Management and Control Plan has been prepared and implemented to prevent the introduction of any new species, prevent the movement and spread of any existing species and eradicate any existing invasive species from the lands. The intent of an Invasive Species Management and Control Plan is that all equipment and material must arrive at the site free of any invasive plant species propagules and that all equipment and material leaving the site must be free of any invasive plant species propagules. The Invasive Species Management and Control Plan shall be prepared by a suitably qualified person and shall include the following objectives: • To prevent the introduction of any new species of alien invasive plant to the site; • To prevent the movement and spread of any existing alien invasive plant species on site;

	• To eradicate any populations of invasive alien plan species on site; 1. The Invasive Species Management and Control Plan shall Identify and map existing alien invasive plant species present within the Variation lands and immediate area 2. Eradicate any populations of invasive species in accordance with best practice principles and guidelines issued by Invasive Species Ireland and National Parks and Wildlife Service. 3. Annual monitoring of the site for 5 years post eradication to ensure that any populations of alien invasive plant species have been eradicated; and 4. Traceability of all imported material and the imposition of requirement for certification of all imported material as being free of propagules of any Third Schedule-listed alien invasive plant species.
	All future developments shall outline measures that aim to minimise light spill along the northern boundary of the Variation Lands, adjacent to the Grand Canal pNHA and ecological sensitive area.
	During the planning phase for all lower tier plans and projects for the Variation Lands detailed surveys for fauna and flora will be required to inform an assessment of the proposal's

	potential to result in significant disturbance to ecological receptors.
	Water Resources including Flooding
	To protect water quality new developments will be required to incorporate containment measures and implement management measures to protect against discharges of hazardous substances to ground.
	Identification of any contaminated land will require demonstration of suitable remediation /licensed disposal.
	To maintain the natural groundwater and surface water regime, new developments will incorporate SuDs measures, ensuring clean stormwater is discharged to ground from hardstand areas where feasible. SUDs measures should also incorporate biodiversity enhancement where possible.
	To minimise any increased risk of flooding, new developments will have to show that the site is suitable for development and will not increase the risk of flooding elsewhere. They will have to comply with guidelines produced by the Department of the Environment, Heritage and Local Government (DoEHLG) - The Planning System and Flood

	Risk Management Guidelines for Planning Authorities, November 2009
	Climate Change, Air Quality and Noise
	Operational Air Emissions • Any significant air emissions within the proposed rezoned lands will be regulated by the EPA in the form of an Industrial Pollution Control (IPC) or Industrial Emissions (IE) Licence. The facility will have strict air emissions limits outlined in the relevant licence which will be set to ensure compliance with ambient air quality standards. Prior to operation the facility will be required to undertake a stack height determination of all main emission points to ensure that all air emissions from the facility will be in compliance with the ambient air quality standards at all times. Secondly, all significant emission points regulated by the EPA will, in accordance with Council Directive 2010/50/EC (Industrial Emissions Directive) be required to ensure that they are adhering to the principles of BAT. The purpose of the Directive is to "ensure a high level of protection of the environment taken as a whole". The Directive has stated that the permit conditions including air emission limit values (ELVs) must be based on Best Available Techniques (BAT) with BAT conclusions the reference for setting permit conditions.

2.1.3 Environmental Construction & Management Plan

Construction Environmental Management Plans (CEMPs)

A CEMPS shall be prepared in advance of the physical elements associated with the Variation and will be implemented throughout. Such plans shall incorporate relevant mitigation measures indicated below.

South Dublin County Council will be informed in advance of construction activities in sensitive environmental areas.

SDCC will be informed of all construction or maintenance works located within the vicinity of pNHAs (Grand Canal) or in the vicinity of watercourses linked to these designated conservation areas. Monitoring of works in these locations will be undertaken and the results of monitoring will be provided to SDCC.

Ensure non-native, invasive species do not occur at construction/maintenance areas, or if occurring, are not spread as a results of works. The NRA Guidance on invasive species, outlined above will be adhered to as well as the Invasive Species Management and Control Plan .

Disseminate information on sensitive ecological receptors, such as sensitive habitats, breeding birds etc. occurring adjacent to or in the wider area. This information will aim to educate recreational users on the conservation status and sensitivities of such receptors to encourage responsible usage of routes.

Where works are undertaken in/adjacent to sensitive environmental receptors all construction/maintenance staff will be inducted by means of a “Tool-box Talk” which will inform them of environmental sensitivities and the best practice to be implemented to avoid disturbance to these receptors

All construction and maintenance works will be undertaken in accordance with the following guidance documents:

o Inland Fisheries Ireland’s Requirements for the Protection of Fisheries Habitat during Construction and Development Works.

o CIRIA (Construction Industry Research and Information Association) Guidance Documents

o Control of water pollution from construction sites (C532)

o Control of water pollution from linear construction projects: Technical Guidance (C648)

o Control of water pollution from linear construction projects: Site Guide (C649)

o Environmental Good Practice on Site (C692)

o NRA Guidance Documents

o Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes

o Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads

o Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes

Any excavations and/or vegetation removal will minimised during construction and/or maintenance works.

Excavated material will not be stored immediately adjacent to watercourses.

Disturbance to natural drainage features should be avoided during the construction and/or maintenance of routes.

Construction machinery should be restricted to public and or site roads. As a general rule machinery should not be allowed to access, park or travel over areas outside the footprint of proposed walking/cycling routes.

During route maintenance no construction activities should be undertaken at watercourse crossing in wet weather conditions.

Suitable prevention measures should be put in place at all times to prevent the release of sediment to drainage waters associated with construction areas and migration to adjacent watercourses To reduce erosion and silt-laden runoff, create, where possible, natural vegetation buffers and divert runoff from exposed areas, control the volume and velocity of runoff, and convey that runoff away from.

Where necessary drainage waters from construction areas should be managed through a series of treatment stages that may include swales, check dams and detention ponds along with other pollution control measures such as silt fences and silt mats

Where vegetation removal associated with treelines, hedgerows, individual mature trees, scrub or woodland is required, this shall only be undertaken outside the breeding bird season, between March and August inclusive.

2.1.3.1 Climate

Specific construction management plans will be formulated for the construction phase of any specific project within the proposed rezoned lands, as construction activities are likely to generate some greenhouse gas emissions.

Any significant greenhouse emissions within the proposed rezoned lands will be regulated by the EPA in the form of a Greenhouse Gas Emissions Permit as per Council Directive 2009/29/EC “the (revised) EU Emission Trading Scheme (EU ETS)”) prior to operation. The ETS Phase III scheme (2013-2020)

has an EU-wide cap on GHG emissions for relevant industrial installations with a target of a 20% emissions reduction compared to 1990 levels. The cap is lowered each year by 1.74% over the period 2013-2020 in order to achieve this target.

2.1.3.1.1 Air Quality

Specific dust minimisation plans will be formulated for the construction phase of any specific project within the proposed rezoned lands, as construction activities are likely to generate some dust emissions. The potential for dust to be emitted depends on the type of construction activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The majority of any dust produced will be deposited close to the potential source and any impacts from dust deposition will typically be within several hundred metres of the construction area (UK ODPM, 2000).

In order to ensure that no dust nuisance occurs, a series of measures will be implemented. Measures that will typically be implemented are outlined below:

- Site roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface. Furthermore, any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.

- Speeds shall be restricted on hard surfaced roads as site management dictates. Vehicles delivering material with dust potential shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.

- Public roads in the vicinity of the site shall be regularly inspected for cleanliness, and cleaned as necessary.

- The dust minimisation plan shall be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures.

Where extensive areas of ground are to be exposed during route construction or maintenance dust suppression should be undertaken during periods of dry weather.

2.1.3.2 Pollution Prevention and Controls

All chemical substances required during construction and/or maintenance works will be stored in sealed containers.

Any refuelling or lubrication of machinery will not be undertaken within 50m of a watercourse

Spill kits will be required on site during construction and/or maintenance works.

2.1.3.3 Construction Practice

CEMPs typically provide details of intended construction practice for the proposed development, including:

a) location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse

b) location of areas for construction site offices and staff facilities

c) details of site security fencing and hoardings

d) details of on-site car parking facilities for site workers during the course of construction

e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage

f) measures to obviate queuing of construction traffic on the adjoining road network

g) measures to prevent the spillage or deposit of clay, rubble or other debris

h) alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works

i) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels

j) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater

k) disposal of construction/demolition waste and details of how it is proposed to manage excavated soil

l) a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains

m) details of a water quality monitoring and sampling plan

n) if peat is encountered - a peat storage, handling and reinstatement management plan

o) measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed)

p) Appointment of an ecological clerk of works at site investigation, preparation and construction phases

3.0 DESCRIPTION OF PROPOSED VARIATION LANDS

The area comprises a greenfield site of approximately 193.47 hectares, located west of the existing Grange Castle Business Park and adjoining the southern boundary of the Grand Canal. It includes the parts of the townlands of Milltown, Loughtown Upper and Peamount. Figure 3.2 provides an aerial image of the proposed Variation Lands.

The land cover within the Variation Lands is dominated by intensively managed cultivated lands. The principal crops noted within the lands during late September 2017 were gooseberries and broadbeans. At this time crops were harvested and the majority of the area was tilled. The land cover is also characterised by large field-size pattern and much of the field boundaries comprise box-cut hedgerows.

3.1 NATIONAL DESIGNATIONS ADJACENT TO THE PROPOSED VARIATION LANDS

The Grand Canal proposed Natural Heritage Area (pNHA) runs adjacent to the northern boundary of the proposed Variation Lands while the Liffey Valley pNHA is located downstream from the project site.

3.1.1 Overview of the Grand Canal pNHA adjacent to the proposed Variation Lands

Detailed surveys of the habitats, flora and fauna of the section of the Grand Canal in the vicinity of the project site were completed during August and September 2015 and between June and September 2016. The 2015 surveys were completed by Roughan & O'Donovan Consulting Engineers (ROD) on behalf of Waterways Ireland and the 2016 surveys were completed by FERS Ltd. on behalf of South Dublin County Council.

The ROD 2015 surveys mapped habitats and recorded the flora and fauna occurring along the Grand Canal during the field surveys. The FERS Ltd. 2016 surveys involved targeted bat and otter surveys along the Grand Canal between the 12th Lock and Hazelhatch.

The ROD 2015 surveys were published in March 2016 (ROD, 2016). A detailed description of the habitats, flora and fauna occurring along the canal between Hazelhatch and Gollierstown Bridge and Gollierstown Bridge and the 12th Lock are provided in the ROD Ecological Assessment Report and are summarised below.

An Ecological Sensitive Area (ESA: noted as ESA 6 in the ROD 2016 report) is located along both sides of the canal between Hazelhatch and the 12th Lock. The ESA is restricted to the northern bankside of the canal along the stretch of the canal bounding the Variation Lands. The ROD 2016 report describes this ESA as follows:

This ESA is identified for the diverse vegetation within the open channel and the rich diversity and zonation on the canal verge. The aquatic diversity includes Sagittaria sagittifolia swamp amongst well developed fringe Nuphar-Potamogeton communities. The Phragmites swamp is also well developed along the canal margins between Aylmers and Golierstown Bridges.

The south canal verge is also diverse with Common Spotted Orchid (Dactylorhiza fuchsii) and many constant species of neutral and dry calcareous grassland abundant. Beyond the south canal boundary there is a mature species-rich hedgerow/woodland including Oak, Ash, Spindle, Sycamore, Willow and Beech. The scrub and woodland mosaic along the north boundary of the canal between Hazelhatch and Aylmer Bridges is also diverse.

The habitats recorded along the section of the canal between Hazelhatch and the 12th Lock are listed in Table 3.1 below.

Table 3.1: Habitats occurring along the Grand Canal pNHA to the north of the Variation Lands

Habitat Code	Habitat Name
FW3	Canals
GS2	Dry meadows and grassy verges
BL3	Buildings and artificial surfaces
BL3	Buildings and artificial surfaces/Amenity Grassland
GA2	Amenity Grassland
WD1/WS1	Broadleaved Woodland (mixed)/Scrub
GA1	Improved agricultural grassland
WD1	Broadleaved Woodland (mixed)
ED3	Recolonising bare ground
WS1	Scrub
WL2	Treeline
FL8	Artificial Ponds
Towpath Mosaic	

The ROD 2016 report described the habitats and flora between Hazelhatch and the 12th Lock as follows:

Between Hazelhatch and Gollierstown Bridge the towpath runs along the northern side of the canal and comprises a gravel surface to the west before changing to a grassy towpath with surrounding habitats including treelines to the north and reed and tall sedge swamp to the south on the canal verge. As the pathway continues along the northern side of the canal eastwards the treeline that borders the site expands into areas of broadleaved woodland (WD1) with patches of Riparian woodland (WN5) present in places on both sides of the canal. The species diversity in this section is relatively low with horsetails, common vetch, nettles and brambles common throughout. Several artificial ponds (FL8) are present just outside the towpath area as the pathway comes closer to Gollierstown Bridge.

Between Gollierstown Bridge and the 12th Lock the canal the towpath continues on the northern side of the canal along this section and is comprised of a grassy pathway with some occasional gravel. The southern side of the canal close to Gollierstown shows some signs of poaching by farm animals that may access the canal from the agricultural fields to the south.

The northern side of the canal is bordered by scrub (WS1) and treeline (WL2) with hemp agrimony and Phragmites australis frequent along the canal verge throughout this section.

The middle section of this stretch is shaded and sheltered by high treeline (WL2) on either side of the canal.

On the approach to the 12th lock the surrounding habitats change and the area becomes more urbanised with commercial units adjacent to the towpath and artificially surfaced areas (BL3) increasing.

The invasive waterweeds Canadian Waterweed (*Elodea canadensis*) and Nuttal's Waterweed (*Elodea nutallii*) were recorded along this section of the canal. No rare or protected flora noted during the 2015 surveys.

A dedicated otter survey of the Grand Canal between the 12th Lock and Hazelhatch was completed between June and September 2016 (FERS, 2016). The surveys found that the entire stretch survey area, with the exception of a 400m buffer zone from Hazelhatch and a 300m buffer zone from the 12th Lock was used by otters. Spraints were regularly recorded along the canal with tracks/trails and slides also ubiquitous along the length of the survey area.

A preliminary walkover survey of the Grand Canal to the north of the Variation Lands was completed in September 2017. Habitats and flora consistent with that noted during the ROD 2015 surveys were recorded during this walkover survey. In addition evidence of otters in the form of spraints, slides and footprints were noted along the canal in the viciniy of the artificial ponds along the southern canal bankside.

In addition to the above the National Biodiversity Data Centre (NBDC) hold records for Desmoulin's Whorl Snail (*Vertigo moulinsiana*) and Narrow-mouthed Whorl Snail (*Vertigo angustior*) on the Grand Canal. Marsh Whorl Snail (Vertigo antivertigo) has also been recorded here, which is another European and Nationally protected species due to its rarity and recent declines in its population numbers. Suitable habitats for these species occur along the section of the canal to the north of the Variation Lands.

Other rare and protected species supported by the Grand Canal include white-clawed crayfish, opposite-leaved pondweed and kingfisher. However the banks of the Grand Canal to the north of the Variation Lands are not suitable as nest sites for kingfisher as they are vegetation and generally low. Lamprey have also been recorded along the 11th level of the Canal (i.e. downstream of the 12th Lock) during Inland Fisheries Ireland (IFI) fish surveys on October 2011. Other fish species recorded along the canal during IFI surveys include roach, bream, tench, rudd, pike, and perch.

3.1.2 Overview of the Liffey Valley pNHA downstream from the proposed Variation Lands

The River Liffey is a designated salmonid water and the Liffey Valley pNHA forms part of the Liffey Valley Special Amenity Areas Order 1990. The Liffey Valley pNHA is important because of the diversity of the habitats within the site, ranging from aquatic to terrestrial. A number of rare and threatened plant species have been recorded from the site including the threatened Green Figwort (*Scrophularia umbrosa)*, a species listed in the Irish Red Data Book, which has been recorded from a number of stations along the river within the site. The rare and legally protected Hairy St. John's-Wort (*Hypericum hirsutum)* (Flora Protection Order 2015) has been recorded from woodlands in this site. This species has only been recorded in Kildare and Dublin, at sites on the river Liffey, since 1970. The threatened Yellow Archangel (*Lamiastrum galeobdolon)*, listed in the Irish Red Data Book, is also recorded in the Liffey Valley pNHA woodlands.

3.2 HABITATS OCCURRING WITHIN THE PROPOSED VARIATION LANDS

The following sections provide a description of the habitats occurring within and immediately adjacent to the Variation Lands. Figure 3.2 provides a Habitat Map of the Variation Lands. This habitat map and the description of habitats provided below is based on a review of aerial and satellite imagery and a preliminary walkover survey of the Variation Lands in late September 2017. All habitats occurring within and adjacent to the Variation Lands are categorised according to the Heritage Council's *Guide to Habitats in Ireland* (Heritage Council, 2000). The *Guide to Habitats in Ireland* classifies habitats according to a hierarchical framework with Level 1 habitats representing broad habitat groups, Level 2 representing habitat sub-groups and Level 3 representing individual habitat types.

Four Level 1 broad habitat groups were identified within and adjacent to the Variation Lands. These include Freshwater, Grassland, Woodland and

Cultivated & Built Land habitats. The level 3 habitat types occurring within each of this habitat groups are described under the following sub-sections.

Freshwater Habitats

The freshwater habitats occurring within and immediately adjacent to the Variation Lands comprise the Grand Canal, the Coldblow Stream, the Grifeen River to the east and an un-named watercourse flowing through the lands to the west. Drainage ditches, which are ephemeral in nature also occur along field boundaries through the Variation Lands.

A detailed description of the section of the Grand Canal bounding the Variation Lands to the north is provided in Section 3.2 above.

The Griffeen Stream flows north to south to the east of the Variation Lands. This is an example of a lowland depositing stream. The IFI surveyed two points along the Griffeen River in 2011 as part of the Water Framework Directive surveillance monitoring programme in rivers. The upstream and downstream sampling points were located at Grange Castle (approximately 600m to the east of the Variation Lands) and Griffeen Avenue (approximately 1.8km to the northeast of the Variation Lands) respectively. Only one fish species, the three-spined stickleback was recorded in the Griffeen River at the Grange Castle site, while four species (three-spined stickleback, brown trout, roach and eel) were recorded at the Griffeen Avenue site. Based on the results of the 2011 monitoring the fish classification status of the Griffeen River at both sampling sites was classed as moderate. Furthermore the Griffeen system is noted by Inland Fisheries Ireland (IFI) as being exceptional among most urban rivers in that it supports Atlantic salmon and sea trout, in addition to brown trout populations throughout (Tobin Consulting Engineers, 2015). The Griffeen River flows into the River Liffey at Lucan.

The Coldflow/Lucan Stream flowing north through the site is representative of a minor lowland depositing stream. The upper stretch of this stream within the

ariation Lands is choked with abundant macrophytes, dominated by Apium nodiflorum. This watercourse flows into the River Liffey approximately 4km to the north of the Variation Lands.

Drainage ditches occur along the majority of the hedgerow field boundaries within the Variation Lands. However the majority of these are emphemeral/transient freshwater features and are only likely to convey surface water during times of flood. During field surveys these ditches were dry and did not support wetland vegetation.

Grassland

The examples of grassland occurring within the Variation Lands is dominated by improved agricultural grassland (GA1), restricted to the western end of the Variation Lands. This habitat is dominated by grasses throughout, particularly Lolium perenne, with very little herb ocver. *Agrostis stolonif*era is also abundant in examples of this habitat and *Ranunculus repens, Senecio jacobaea* and *Cirsium arvense* are the dominant herbs. This habitat is of low ecological value.

Woodland

A patch of broadleaved woodland occurs to the west of the lands. This woodland consists of *Quercus petraea, Corylus avellana, Acer pseudoplatanus, Fraxinus excelsior* and *Fagus sylvatica*. Open areas of scrub also occur within the woodland. This is the only example of a non-linear woodland habitat within the Variation Lands and as such it is of local importance as a refuge for wildlife and a stepping to the Grand Canal pNHA to the north.

The linear woodland habitats occurring within the Variation Lands consist of field boundary hedgerows and treelines. These habitat are of local nature conservation value and provide connectivity throughout the Variation Lands and to the Grand Canal pNHA to the north.

Cultivated & Built Land

Arable crops (BC1), tilled land (BC3) and buildings and artificial surfaces (BL3) make up the cultivated and built land habitats occurring within the Variation Lands. The arable crop and tilled land habitats support little native flora and are of low ecological value. The buildings and artificial surfaces habitats within the Variation Lands comprises a vacant farmhouse and farmstead to the west of the Variation Lands. The vacant farmhouse has some potential to function as a bat roost. Otherwise this habitat is also of low ecological value.

3.3 FAUNA

Birds

A range of commonly occurring passerine species were noted within the Variation Lands during the preliminary walkover survey in late September 2017. Herring gulls were also recorded frequently overflying the area. Other species recorded in the vicinity of the site during Grand Canal surveys (ROD, 2015; Tobins, 2015) include whitethroat, chiffchaff, willow warbler, blackcap, tree sparrow, blue tit, great tit, long-tailed tit, bullfinch, chaffinch, goldfinch, greenfinch, swallow, meadow pipit, robin, skylark, song thrush and starling. In addition three yellowhammers were recorded to the north of the Grand Canal and the Variation Lands in the vicinity of Adamstown (Tobins, 2015).

Non-Volant Mammals

A dedicated otter survey of the Grand Canal between the 12th Lock and Hazelhatch was completed between June and September 2016 (FERS, 2016). This area includes the stretch of the canal to the north of the Variation Lands. The surveys found that the entire stretch survey area, with the exception of a 400m buffer zone from Hazelhatch and a 300m buffer zone from the 12th Lock was used by otters. Spraints were regularly recorded along the canal with tracks/trails and slides also ubiquitous along the length of the survey area.

During the survey the majority of field boundaries within the Variation Lands were walked and a search of badger setts was undertaken along these boundaries. No evidence of badgers or their setts were identified within the Variation Lands during the preliminary walkover survey. During previous surveys in 2016 (FERS, 2016) an active badger sett was identified along the northern bank of the Grand Canal. Significant disturbance to this sett was noted during the later summer of 2016 when evidence indicating attempts to dig out the sett were recorded during surveys.

Bats

Between June and September of 2016, an assessment of the usage of the section of the Grand Canal between Hazelhatch and the 12th Lock was undertaken by FERS Ltd.

During this survey eight bat species were recorded as present along this stretch of the Grand Canal. These species included Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, Leisler's Nat, Brown Long-eared Bat, Daubenton's Bat, Natterer's Bat and Whiskered Bat. Bat activity was found to be highest in areas furthest from light and noise pollution, along the central stretch of the survey area in question. This stretch of the canal corresponds to the western half of the Variation Lands northern boundary. There was a notable decrease in bat usage towards the Adamstown and Hazelhatch ends of the stretch of Grand Canal surveyed. This may indicate that bats utilising this section of the Canal arrive via hedgerow/treeline commuting corridors to the north and south of the Canal as opposed to utilising the Canal itself (there is a large degree of disturbance at the Hazelhatch Bridge end, associated with streetlights, canal barges and the Hazelhatch Public House). This surveys suggest that field boundaries within the Variation Lands may be of importance as commuting routes for bats in the surrounding area. Also due to the predominantly large field pattern within the Variation Lands and the associated low number of linear woodland corridors is it likely that, should any of these linear features function as commuting corridors for bats, then they will be of

increased value for bats due to the low number of alternative routes in the area.

Fish & Amphibians

A range of fish species are supported by both the Griffeen River and the Grand Canal. This species are listed in Section 3.2 above. Smooth newt and common frog have been recorded in the tetrads within which the Variation Lands occur and suitable habitat for these species occurs along the Coldflow/Lucan River, artificial pond habitats along the Grand Canal and along the Grand Canal itself.

Terrestrial Invertebrates

Terrestrial inverterates recorded in the vicinity of the Variation Lands during recent surveys (ROD, 2016) include a range of odonata species (brown hawker; common hawker; variable damselfly; common blue damselfly; blue-tailed damselfly; large-red damselfly; common darter) and lepidoptera species (oblique carpet; speckled wood; large white; green-veined white; small white; common blue; small tortoiseshell; meadow brown and painted lady).

Aquatic Invertebrates

As noted in Section 3.2 the Grand Canal is known to support a number of protected, rare and threatened aquatic invertebrate species.

4.0 EUROPEAN SITES OCCURRING WITHIN THE ZONE OF INFLUENCE OF THE PROPOSED VARIATION

Current guidance recommends that all European Sites occurring within 15km of project sites should be identified at the outset of an impact assessment process. A total of six European Sites have been identified in the surrounding 15km area. Table 4.1 lists these European Sites and the spatial relationship between each of these sites and the study area is shown on Figure 4.1.

In addition to the European Sites occurring within a 15km area of the project site the DEHLG 2010 guidelines on Appropriate Assessment of Plans and Projects in Ireland also advise that where the potential exists for a hydrological pathway to occur between the project site and European Sites beyond the 15km distance, then these sites should also be included as part of the Screening Assessment. As such the European Sites hydrologically linked to the study area are also included. The River Liffey, which receives surface waters draining the proposed Variation Lands, drains to Dublin Bay, where a number of European Sites are located. A total of four European Sites are located at Dublin Bay. These European Sites are shown in Figure 4.2 and are also listed in Table 4.2.

The next step of the Screening Assessment is to identify which, if any of these sites occur within the zone of influence of the proposed Variation Lands. As the nearest European Site (||Rye Water Valley SAC) is located at a remote distance (approximately 4km) from the project site, the project will not have the potential to result in direct impacts to European Sites. Thus this Screening exercise focuses on investigating whether the proposed change in zoning at the Variation Lands from RU to EE will have the potential to result in indirect effects to European Sites or affect mobile species associated with European Sites beyond the boundaries of their designated conservation areas.

A source-pathway-receptor model has been used to establish which European Sites could occur within the sphere of influence of potential indirect impacts. Under such a model the project, as described above, represents the source.

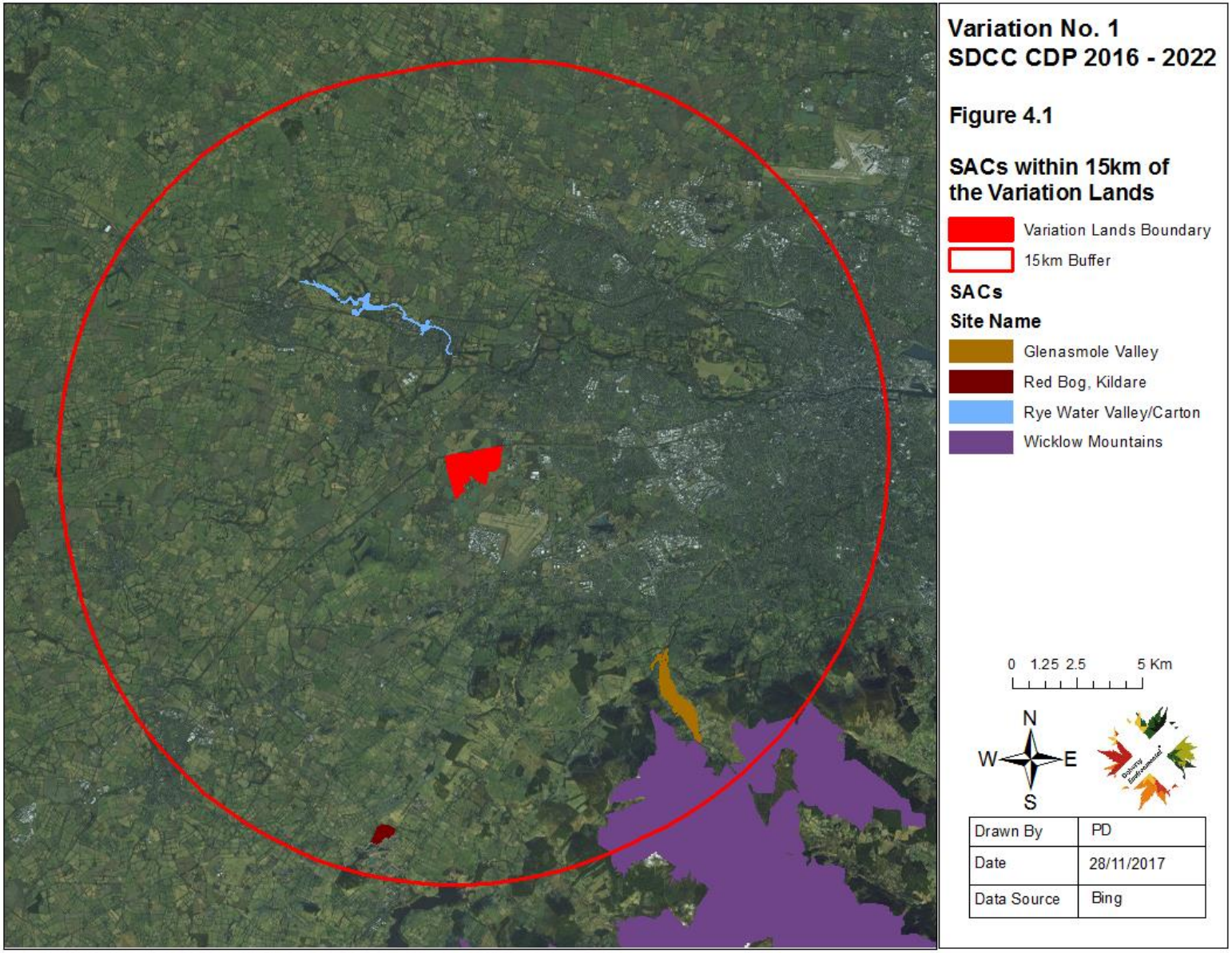
Potential impact pathways are restricted to hydrological and aerial pathways as these represent the principal emissions generated by activities at the project site. Any European Sites occurring downstream of, or otherwise linked to the Variation Lands via hydrological pathways are considered to occur within the zone of influence of the proposed Variation. Any European Sites occurring within a 5km radius of the Variation Lands are considered to occur within the zone of influence of the project. A 5km radius of the Variation Lands has been

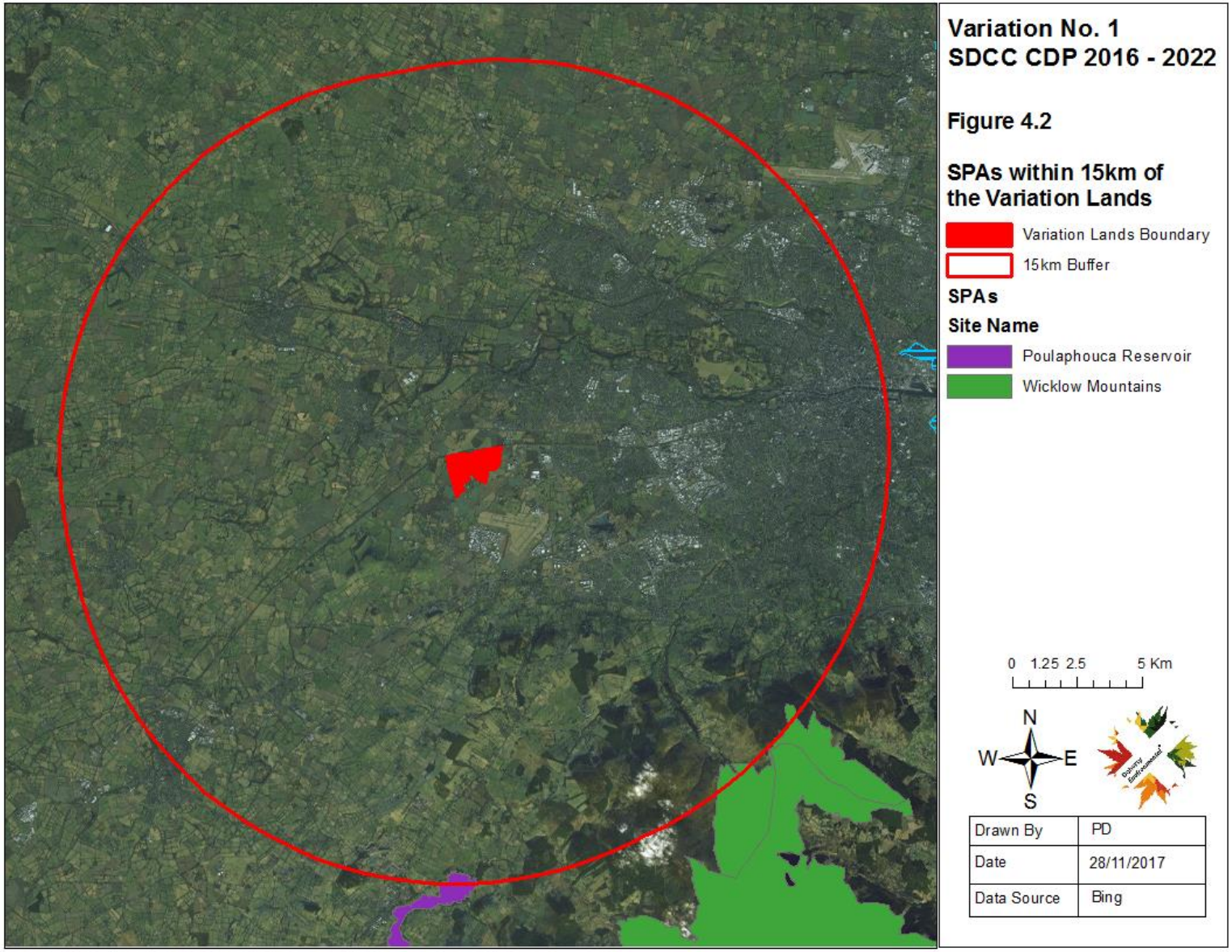
used as conservative distance with respect to potential future air emissions associated with industrial developments at the Variation Lands. The potential for qualifying species of surrounding European Sites to interact with the study area is also included as a potential impact pathway.

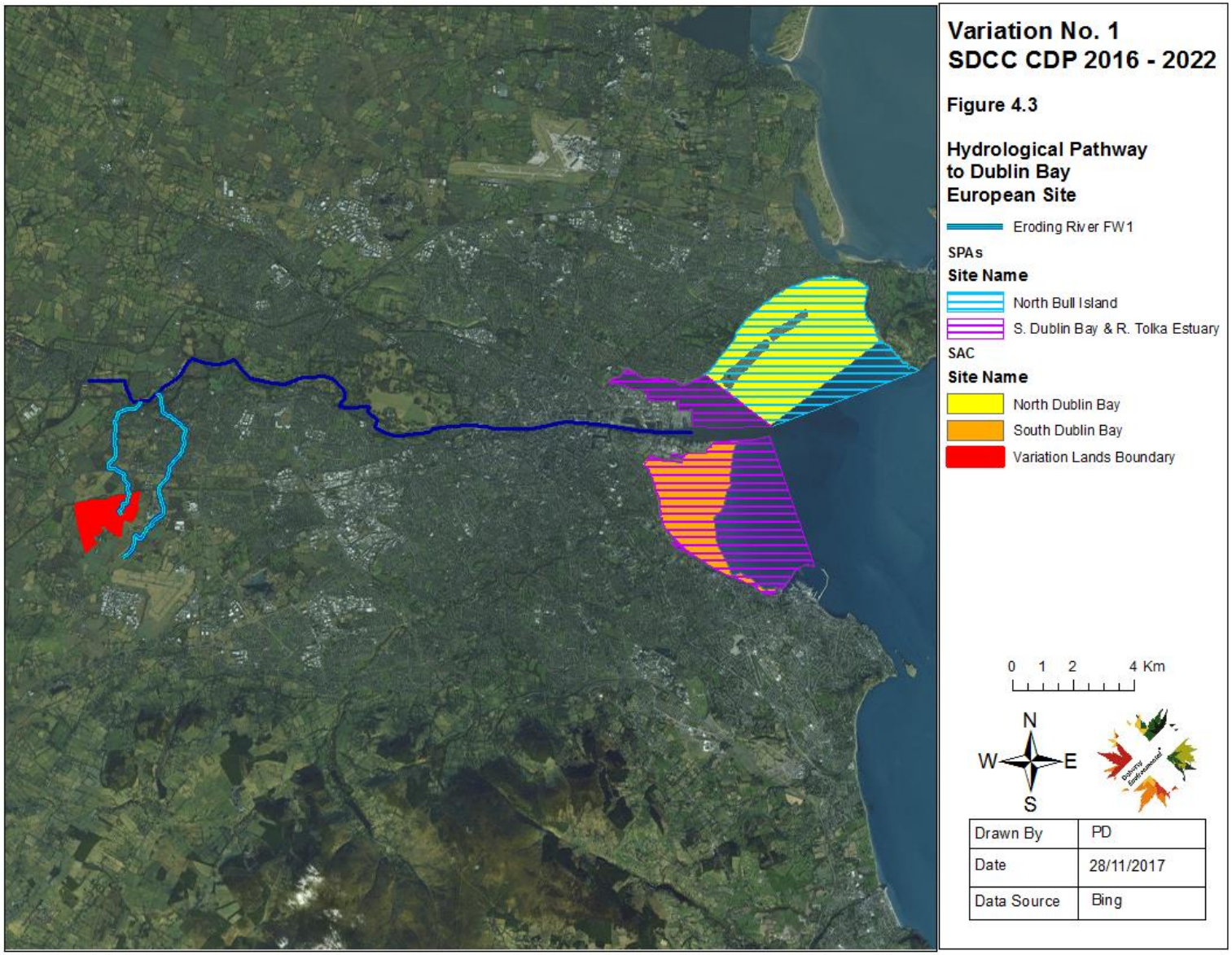
The receptors represent European Sites and their associated qualifying features of interest.

European Sites and their associated qualifying features are likely to occur in the zone of influence of the project only where the above pathways establish a link between the study area and European Sites or where the project site is likely to play an important role in supporting populations of mobile species that are listed as special conservation interests/qualifying species for surrounding European Sites. Table 4.1 provides a determination as to whether each European Site within a 15km buffer distance of the project site occur within the sphere of influence of the project. This determination has been undertaken in line with the following assessment questions:

- Is there a hydrological pathway linking the Project site to European Sites and does this pathway have the potential to function as an impact pathway?
- Are qualifying habitats of these European Sites at risk of experiencing impacts as a result of the project?
- Does the project site have the potential to interact with or support Annex II qualifying species/special conservation interest species of these European Sites?


Variation No. 1
SDCC CDP 2016 - 2022
Figure 4.1
SACs within 15km of the Variation Lands
Variation Lands Boundary
15km Buffer
SACs
Site Name
Glenasmole Valley
Red Bog, Kildare
Rye Water Valley/Carton
Wicklow Mountains
0 1.25 2.5 5 Km
N
W
E
S
Drawn By PD
Date 28/11/2017
Data Source Bing


Variation No. 1
SDCC CDP 2016 - 2022
Figure 4.2
SPAs within 15km of the Variation Lands
Variation Lands Boundary
15km Buffer
SPAs
Site Name
Poulaphouca Reservoir
Wicklow Mountains
0 1.25 2.5 5 Km
N
W
E
S
Drawn By PD
Date 28/11/2017
Data Source Bing


Variation No. 1
SDCC CDP 2016 - 2022
Figure 4.3
Hydrological Pathway
to Dublin Bay
European Site
Eroding River FW1
SPAs
Site Name
North Bull Island
S. Dublin Bay & R. Tolka Estuary
SAC
Site Name
North Dublin Bay
South Dublin Bay
Variation Lands Boundary
0 1 2 4 Km
N
W E
S
Drawn By PD
Date 28/11/2017
Data Source Bing

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway**	**Is there an Aerial Pathway and does it have the potential to function as an Impact Pathway**	**Do the Project have the potential to interact with Mobile Species**	**Do European Sites occur within the Projects Zone of Influence?**
Rye Water Valley SAC	4km to the north	No. This SAC is located within a separate surface water catchment to the proposed Variation Lands.	Yes. The rezoning of the Variation lands to EE will make acceptable under the CDP planning framework the siting of industrial facilities within the Variation lands. Industrial facilities will have the potential to result in aerial emissions and future examination of the planning procedures with respect to such facilities with associated air emissions is required.	No. No mobile species are listed as qualifying features of interest for this SAC.	Yes. The potential for aerial emission pathways has been identified and further examination of this pathway is required.

Glenasmole Valley SAC	9.5km to the southeast	No. This SAC is designated for the presence of the Annex 1 habitats grassland habitats and petrifying spring. The grassland habitats do not rely on lotic processes while the spring relies on soligenous hydrological processes. Furthermore this SAC is located within a separate surface water catchment to the proposed Variation Lands.	No. This SAC is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. No Annex 2 species are listed as qualifying features of interest for this SAC.	No. No impact pathways link the Variation Lands to this SAC.
Wicklow Mountains SAC	10.9km to the southeast	No. This SAC is designated for the presence of the Annex 1 upland peatland and grassland habitats. Furthermore this SAC is located within a separate surface water catchment to the proposed Variation Lands.	No. This SAC is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	Yes. Otters are listed as an Annex 2 qualifying species of this SAC. Otters can roam widely, up to 20km from their home range and are also known to disperse widely and move between catchments. Individual otters associated with the population project by this SAC could interact with the Griffeen and Liffey Rivers occurring downstream	Yes. Otters associated with this SAC could occur downstream from the proposed Variation Lands and further examination of the proposed rezoning's influence on surface water quality downstream of the Variation Lands is

				from the proposed Variation Lands. Both watercourses provide suitable foraging and breeding habitat for otters.	required determine whether or not the proposed variation could have the potential to adverse affect suitable foraging and breeding habitat for otters.
Red Bog SAC	12.9km to the south	No. This SAC is designated for Annex 1 peatland habitats, namely transition mires and quaking bogs. These Annex 1 habitats are ombrotrophic in nature and there is no hydrological pathway linking these habitats or this SAC to the project site.	No. This SAC is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. No Annex 2 species are listed as qualifying features of interest for this SAC.	No. No potential impact pathways link the project site to this SAC.
Wicklow Mountain SPA	10.9km to the south	No. This is an upland SPA designated for its role in supporting merlin and Peregrine falcon. There	No. This SPA is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial	No. The study area is not predicted to play an important role in terms of the provision of roosting, nesting or foraging	No. No potential impact pathways link the project site to this SPA.

		is no hydrological pathway linking the study area to this SAC.	developments that may be accommodated by the proposed Variation Lands.	habitat for either merlin or Peregrine falcon.	
Poulaphouca Reservoir SPA	14.6km to the south	No. The wetland habitats associated with this SPA are located at a remote distance from the project site and no hydrological pathway connects the project site and associated activities to the wetland habitats of this SPA.	No. This SPA is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. This SPA is designated for its role in supporting populations of greylag goose and lesser black-backed gull. The study area is not predicted to play an important role in terms of providing suitable roosting, nesting or foraging habitat for either greylag goose and lesser black-backed gull. No black-backed gull were recorded at or in the vicinity of the Variation Lands during site surveys in September 2017 and during previous surveys in the vicinity of the Variation Lands (Tobins, 2015).	No. No potential impact pathways link the project site to this SPA.

South Dublin Bay SAC	27km downstream and 17km to the east	Yes, there is a hydrological pathway. This SAC is designated for the presence of coastal Annex 1 habitats. Surface water from the project site will eventually discharge to the River Liffey catchment and as shown on Figure 4.3, the River Liffey forms a hydrological pathway between the project site and this SAC. In addition all wastewater generated during the operation phase will be directed to the Ringsend Waste Water Treatment Plant (WwTP) for treatment prior to discharge to Dublin Bay. This SAC is located within the zone of influence of treated effluent of the Ringsend WwTP.	No. This SAC is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. No Annex 2 species are listed as qualifying features of interest for this SAC.	Yes. The potential hydrological pathways linking the Variation Lands to this SAC require further examination to establish whether or not they have the potential to function as impact pathways.

North Dublin Bay SAC	27km downstream and to the east	Yes, see reasons outlined for South Dublin Bay SAC above.	No. This SAC is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. This SAC supports a population of the liverwort *Petalophyllum ralfsii*. This is a sedentary species, reliant on terrestrial dune slack habitats occurring on Bull Island and there is no potential for the project to interact with this species.	Yes. The potential hydrological pathways linking the Variation Lands to this SAC require further examination to establish whether or not they have the potential to function as impact pathways.
North Bull Island SPA	27km downstream and to the east	Yes, see reasons outlined for South Dublin Bay SAC above	No. This SPA is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. This SPA is designated for its role in supporting a number of wetland bird species. Individuals associated with the SPA populations of these species are very unlikely to occur in the vicinity of the project site and there is no potential impact pathway (hydrological or aerial) linking the project site to the foraging and roosting ground upon which these species rely. Furthermore previous surveys in	Yes. The potential hydrological pathways linking the Variation Lands to this SAC require further examination to establish whether or not they have the potential to function as impact pathways.

				the vicinty of the Variation Lands did not record any evidence to suggest that special conservation interest bird species of this SPA relying on the proposed Variation Lands.	
South Dublin Bay & Tolka Estuary SPA	27km downstream and to the east	Yes, see reasons outlined for South Dublin Bay SAC above	No. This SPA is located at a remote distance from the proposed Variation Lands, which is predicted to lie outside the influence of any air emissions from future industrial developments that may be accommodated by the proposed Variation Lands.	No. This SPA is designated for its role in supporting a number of wetland bird species, including breeding terns. Individuals associated with the SPA populations of these species are very unlikely to occur in the vicinity of the project site and there is no potential impact pathway (hydrological or aerial) linking the project site to the foraging, nesting and roosting ground upon which these species rely. Furthermore previous surveys in the vicinty of the Variation Lands did not	Yes. The potential hydrological pathways linking the Variation Lands to this SAC require further examination to establish whether or not they have the potential to function as impact pathways.

				record any evidence to suggest that special conservation interest bird species of this SPA relying on the proposed Variation Lands.	

Table 4.1 above outlines the relationship between the project site and the European Sites occurring within the surrounding 15km buffer area and downstream at Dublin Bay. Of the six European Sites occurring within a 15km radius of the Variation Lands, two, namely Rye Water Valley SAC and Wicklow Mountains SAC, have been identified as occurring within the zone of influence of the proposed rezoning. The other four European Sites within the 15km buffer of the Variation Lands are located a sufficient distance from these lands to ensure, even in the event of emissions, that the concentration of such emissions are reduced to an insignificant level as a result of dispersion surrounding the lands.

Of the four European Sites occurring downstream at Dublin Bay, all have been identified as occurring within the zone of influence of the proposed rezoning.

The remainder of this Screening aims to identify whether the project will have the potential to result in likely significant effects to the following European Site:

1. Rye Water Valley SAC;
2. Wicklow Mountains SAC
3. South Dublin Bay River Tolka Estuary SPA
4. South Dublin Bay SAC
5. North Dublin Bay SAC
6. North Bull Island SPA

5.0 EUROPEAN SITES CONSERVATION OBJECTIVES

Conservation Objectives have been formulated for all six European Sites occurring within the zone of influence of the project. Site-specific Conservation Objectives (SSCOs) have been formulated for the four Dublin Bay European Sites and the Wicklow mountains SAC. Only generic Conservation Objectives have been formulated for the Rye Water Valley SAC.

The overall aim of the Habitats Directive and the Conservation Objectives for these European Sites is to maintain or restore the favourable conservation status of habitats and species of community interest.

The favourable conservation status of these habitats is achieved when:

- Its natural range, and area it covers within that range, is stable or increasing, and
- The ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined below.

The favourable conservation status of these habitats is achieved when:

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

The favourable conservation status special conservation interest bird species of SPAs is achieved when:

- to maintain at a stable level or increase the long-term population trend for all species is maintained at a stable level or increasing.
- no significant decrease in the range, timing or intensity of use or areas by special conservation interest species, other than that occurring from natural patterns of variation.

The favourable conservation status of wetland habitats of SPAs is achieved when:

- the permanent area occupied by wetland habitat maintained, other than that occurring from natural patterns of variation.

The following subsection list the qualifying feature of interest/special conservation interests of the European Sites occurring within the zone of influence of the project and their current conservation status. An assessment is also outlined in the following subsections to identify the qualifying features of interest/special conservation interests of these European Sites that occur within the zone of influence of the Variation Lands.

5.1 QUALIFYING FEATURES OF INTEREST/SPECIAL CONSERVATION INTERESTS OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT

Table 5.1 below lists the qualifying features of interest/special conservation interests of the six European Sites occurring within the zone of influence of the Variation Lands and identifies the interest features that occur within the zone of influence of the proposed rezoning.

Table 5.1: Qualifying Features of Interest/Special Conservation Interests Occurring Within the Zone Of Influence of the Variation Lands

European Site	Qualifying Interest	Does the qualifying feature of interest/special conservation interest occur within the Sphere of Influence of the Project
Rye Water Valley SAC	Petrifying springs with tufa formation (Cratoneurion)	Yes. This habitat supports sensitive bryophytes including brown moss communities of international conservation importance. These bryophytes are sensitive to aerial emissions. For instance critical levels of ammonia concentration in air for this type of community is 1.0 µg-NH^3/m^3 (Cape et al. 2009).
	Vertigo angustior (Narrow-mouthed Whorl Snail)	Yes. The deposition of aerial pollutants on supporting spring habitats will have the potential to negatively affect the status of this qualifying species.

	Vertigo moulinsiana (Desmoulin's Whorl Snail)	Yes. The deposition of aerial pollutants on supporting spring habitats will have the potential to negatively affect the status of this qualifying species.
Wicklow Mountains SAC	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Natural dystrophic lakes and ponds [3160]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Northern Atlantic wet heaths with Erica tetralix [4010]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	European dry heaths [4030]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.

	Alpine and Boreal heaths [4060]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Calaminarian grasslands of the Violetalia calaminariae [6130]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Blanket bogs (* if active bog) [7130]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Siliceous scree of the montane to snow levels (Androsacetalia	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions

	alpinae and Galeopsietalia ladani) [8110]	that may arise as a result of future development within these lands.
	Calcareous rocky slopes with chasmophytic vegetation [8210]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Siliceous rocky slopes with chasmophytic vegetation [8220]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	No. Examples of this habitat are located at remote distances from the Variation Lands and will not occur within the zone of influence of any emissions that may arise as a result of future development within these lands.
	Lutra lutra (Otter) [1355]	Yes. As noted in Table 4.1 above Otters can roam widely, up to 20km from their home range and are also known to disperse widely and move between catchments. Individual otters associated with the population project by this SAC could interact with the Griffeen and Liffey Rivers occurring downstream from the proposed Variation Lands. Both watercourses provide suitable foraging and breeding habitat for otters.

South Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Annual vegetation of drift lines	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Salicornia and other annuals colonising mud and sand	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Embryonic shifting dunes	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Annual vegetation of drift lines	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Salicornia and other annuals	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the

	colonizing mud and sand	potential to link the project to this qualifying habitat.
	Spartina swards (Spartinion maritimae)	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Petalwort (Petalophyllum ralfsii)	No. This species is reliant on humid dune slacks occurring within the terrestrial environment. This dune slacks will not be influenced by hydrological emissions.
	Mediterranean salt meadows (Juncetalia maritimi)	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to this qualifying habitat.
	Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	No. This is a terrestrial habitat that will not be influence by hydrological emissions.

	Fixed coastal dunes with herbaceous vegetation (grey dunes)	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
	Humid dune slacks	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
North Dublin Bay SPA	Light-bellied Brent Goose (*Branta bernicla hrota*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Shelduck (*Tadorna tadorna*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Teal (*Anas crecca*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Pintail (*Anas acuta*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Shoveler (*Anas clypeata*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are

		linked to potential hydrological emissions from the Variation Lands.
	Oystercatcher (*Haematopus ostralegus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Golden Plover (*Pluvialis apricaria*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Grey Plover (*Pluvialis squatarola*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Knot (*Calidris canutus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Sanderling (*Calidris alba)*	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Dunlin (*Calidris alpina*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.

	Black-tailed Godwit (*Limosa limosa*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Bar-tailed Godwit (*Limosa lapponica*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Curlew (*Numenius arquata*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Redshank (*Tringa totanus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Turnstone (*Arenaria interpres*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Black-headed Gull (*Larus ridibundus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.

	Wetlands & Waterbirds	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to littoral wetland habitat.
South Dublin Bay River Tolka Estuary SPA	Light-bellied Brent Goose (*Branta bernicla hrota*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Oystercatcher (*Haematopus ostralegus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Ringed Plover (*Charadrius hiaticula*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Grey Plover (*Pluvialis squatarola*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Knot (*Calidris canutus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.

	Sanderling (*Calidris alba*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Dunlin (*Calidris alpina*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Bar-tailed Godwit (*Limosa lapponica*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Redshank (*Tringa totanus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Black-headed Gull (*Croicocephalus ridibundus*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Roseate Tern (*Sterna dougallii*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.

	Common Tern (*Sterna hirundo*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Arctic Tern (*Sterna paradisaea*)	Yes. This species relies on mudflats and other littoral qualifying habitats/wetland habitats that are linked to potential hydrological emissions from the Variation Lands.
	Wetlands & Waterbirds	Yes. Hydrological pathways in the form of surface water and wastewater discharges will have the potential to link the project to littoral wetland habitat.

Following on from Table 5.2 above Table 5.3 provides a summary of the qualifying features of interest occurring within the zone of influence of the proposed Variation Lands. The qualifying features of interest are grouped into broader groups that will be referred to in the assessment sections below.

Qualifying feature Group	Qualifying feature of interest	Associated European Site
Freshwater/Aquatic Habitats	Petrifying springs with tufa formation (Cratoneurion)	Rye Water Valley SAC
Freshwater Aquatic Species	Vertigo angustior (Narrow-mouthed Whorl Snail)	Rye Water Valley SAC

	Vertigo moulinsiana (Desmoulin's Whorl Snail)	Rye Water Valley SAC
	Lutra lutra (Otter)	Wicklow Mountain SAC
Coastal/Littoral Habitats	Mudflats and sandflats not covered by seawater at low tide	South Dublin Bay SAC & North Bull Island SAC
	Annual vegetation of drift lines	South Dublin Bay SAC & North Bull Island SAC
	Salicornia and other annuals colonising mud and sand	South Dublin Bay SAC & North Bull Island SAC
	Spartina swards (Spartinion maritimae)	North Bull Island SAC
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	North Bull Island SAC
	Mediterranean salt meadows (Juncetalia maritimi)	North Bull Island SAC
Coastal/Littoral Bird Species	Special conservation interests wetland bird species	South Dublin Bay River Tolka Estuary SPA & North Dublin Bay SPA

6.0 DESCRIPTION OF ELEMENT OF THE PLAN THAT COULD RESULT IN LIKELY SIGNIFICANT EFFECTS TO QUALIFYING INTERESTS

The SEA Environmental Report of the proposed Variation No. 1 details the likely significant effects that have the potential to arise as a result of the proposed Variation. In terms of offsite impacts at European Sites it is considered that the elements of the proposed Variation that could result in likely significant effects relate to:

1. Potentially polluting emissions associated with surface water discharges from the Variation Lands to the surrounding surface water network,
2. Wastewater emissions from the Ringsend WwTP at Dublin Bay and
3. Air emissions from industrial facilities that are likely to be developed within the Variation Lands on foot of the proposed rezoning.

6.1 IN-COMBINATION EFFECTS

Other relevant Plans in the surrounding area include:

1. Clonburris Proposed SDZ Planning Scheme and Proposed Local Area Plan Environmental Report (August 2007);
2. Fortunestown Local Area Plan (2012);
3. Newcastle Local Area Plan (2012);
4. Ballycullen – Oldcourt Local Area Plan (2013);
5. South Dublin County Council Development Plan (2016-2022).
6. Clonburris SDZ Masterplan (2017)

A Habitats Directive Assessment has been prepared for each of these Plans. The Appropriate Assessment for the first five plans listed above were recently reviewed as part of the Clonburris SDZ Masterplan Screening for Appropriate Assessment (Scott Cawley, 2017). During this review similar potential impacts that have been identified for the proposed Variation were also identified for each of these Plans. In addition similar impacts were also identified for the Clonburris SDZ Masterplan.

These issues relate to:

- Potential transfer of harmful and contaminating substances through surface water drainage system which ultimately empties to Dublin bay, thereby providing a hydrological link to the suite of European sites located within the Bay;
- Provision of adequate wastewater treatment with regards to any additional loading which may result with proposed development.

7.0 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

Table 7.1 provides a Screening Assessment in line with EU Guidance (2001) Assessment Criteria used to examine the potential of the proposed Variation to adversely impact upon the range of qualifying features of interest/special conservation interests of European Sites occurring within the zone of influence of the Variation Lands.

Assessment Criteria	
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) to the qualifying interests of European Sites occurring within the zone of influence of the project:	
Size and Scale	The proposed variation will result in the rezoning of approximately 192 ha of land from RU, Rural Amenity area to EE, Enterprise and Employment area. On foot of the rezoning it is predicted that large scale commercial enterprise and industrial development will occur within the Variation Lands.
Land-take	The project does not involve any land-take from European Sites. The future development of the Variation Lands will result in the loss of arable land and improved agricultural grassland. The potential also exists for the loss of existing field boundary hedgerows and treelines.

Distance from European sites or key features of the site	The nearest European Sites to the Variation Lands is the Rye Water Valley SAC, located approximately 4km to the north.
Resource requirements	No resources associated with the above listed European Sites will be required for, or utilised by the project.
Emissions	***Surface Waters*** Surface water generated at the proposed Variation Lands during the development and operation of future projects will drains to the surrounding surface water network which eventually drains to Dublin Bay. The inadequate provision of surface water management measures will have the potential to result in adverse effects to water quality that could in turn negatively affect the conservation status of European Sites at Dublin Bay. As part of the proposed Variation a suite of environmental protection measures have been prescribed so that likely significant effects to the water quality of receiving watercourses are avoided. Avoiding such effects will in turn eliminate the potential for surface watercourse to function as a hydrological pathway between the Variation Lands and the littoral qualifying habitats and species (as listed in Table 5.3) occurring at Dublin Bay. The environmental protection measures for all future developments at the proposed Variation Lands, as detailed in Section 2 above and the SEA ER represent a best practice approach to the management of surface water at development sites. This measures will guide the future

development of enterprise and employment facilities at the Variation Lands so that the risk to water quality will be minimised.

Wastewater

With capacity issues at Ringsend WWTP, additional potential pollutant loading from potential waste water discharge at the proposed rezoned lands could lead to negative impacts on environmentally sensitive sites adjacent to the WWTP. Plans are in place by Irish Water for an upgrade of the Ringsend WWTP and for an additional WWTP in North County Dublin. Suitable municipal wastewater treatment would be required to be in place to facilitate the location of industrial activities which generate wastewater at the proposed rezoned lands.

Air

Potential industrial activities may lead to air emissions from industrial stacks associated with the activities and from additional traffic volumes that may arise. Planning conditions and potential Environmental Protection Agency (EPA) granted Industrial Emissions (IED) or Integrated Pollution Control (IPC) licences for industry to be located in Grangecastle west will control any potential significant air emissions.

Noise

The proposed Variation Lands are located at a remote distance from European Sites and any noise generated at these lands will not have the potential to negatively affect the conservation status of these European Sites. Noise disturbance to otters using the Grand Canal to the north of the Variation Lands will be minimised by implementing 30m and 50m buffer zones along the canal. Any otters using the Griffeen River and River Liffey will be located at a remote distance from the Variation Lands and will not be sensitive to noise generated at these lands.

	Light Light emissions from the proposed Variation Lands will not have the potential to disturbance surrounding European Sites due to the distance between the proposed Variation Lands and these sites. The avoidance of light pollution along the Grand Canal to the north of the proposed Variation Lands is a key reason that underpins the recommendation in the SEA ER that 30m and 50m buffers be implemented adjacent to the Grand Canal pNHA. The implementation of such buffers will ensure that lighting associated with the future development of the proposed Variation Lands will not significantly disturb otters using the canal.
Excavation requirements	No excavations will be completed within or in close proximity to European Sites.
Describe any likely changes to qualifying features arising as a result of:	
Reduction of habitat area	The proposed Variation Lands are located at a remote distance from all qualifying habitats identified as occurring within the zone of influence of the Variation. The implementation of management measures as outlined above will ensure that potential impact pathways associated with hydrological and air emissions are eliminated.
Disturbance of key species	The implementation of the environmental protection measures outlined in Section 2 above during all project phase development and operation phases will ensure that significant disturbance to qualifying species of European Sites occurring within the zone of influence of the Variation Lands are avoided.

Habitat or species fragmentation	The proposed Variation Lands will not have the potential to result in the fragmentation of qualifying habitats or the habitats upon which qualifying habitats species rely.
Reduction in species density	Provided all environmental protection measures are implemented during the future development and operation of enterprise and employment facilities at the proposed Variation Lands there will be no potential for such developments to cause a reduction in the density of qualifying species occurring within the zone of influence of the Variation Lands.
Changes in key indicators of conservation status	The indicators of conservation status for the key habitats and species occurring within the zone of influence of the project include the percentage change in long-term populations of species; changes in the natural range of habitats and species; and the extent of habitat available to maintain the species population. Provided all environmental safeguards are implemented and detailed in an agreed method statement the project will not involve any direct or indirect effects to the existing population, range and available habitat of qualifying species of the SAC.
Describe any likely impacts on European Sites as a whole in terms of:	
Interference with key relationships that define the structure and function of the site	The structure and function of the European Sites occurring within the zone of influence of the proposed Variation are defined by both biotic and abiotic processes. As outlined above, all other potential impacts arising from the proposed Variation will not result in significant effects to the qualifying habitats and species or the key relationships that define the structure of the SAC.

Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.
It has been concluded that, provided all environmental safeguards are implemented at the project stage likely significant effects to the European Sites occurring within the zone of influence of the proposed Variation Lands will be avoided. Therefore a Stage 2 Appropriate Assessment is not required.

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