



Dublin Port Masterplan 2040

Reviewed 2018

Strategic Environmental Assessment Environmental Report

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**Strategic Environmental Assessment
Environmental Report
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Strategic Environmental Assessment

Environmental Report

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ABBREVIATIONS

AA	Appropriate Assessment
ABP	An Bord Pleanála
ABR Project	Alexandra Basin Redevelopment Project
BAT	Best Available Technique
CFRAM	Catchment Flood Risk Assessment and Management
CSO	Combined Sewer Overflow
DAFM	Department of Agriculture, Food and the Marine
DCCAE	Department of Communications, Climate Action and the Environment
DCHG	Department of Culture, Heritage and the Gaeltacht
Defra	Department for Environment, Food and Rural Affairs
DHPLG	Department of Housing, Planning and Local Government
DPC	Dublin Port Company
DTTAS	Department of Transport, Tourism and Sport
EU	European Union
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
GSI	Geological Survey of Ireland
HEFS	High End Future Scenario
IFI	Inland Fisheries Ireland
IROPI	Imperative Reasons of Overriding Public Interest
IWDG	Irish Whale and Dolphin Group
LBAP	Local Biodiversity Action Plan
Lo-Lo	Lift-on Lift-off
MMO	Marine Mammal Observer
MRFS	Mid-range Future Scenario
NHA	Natural Heritage Area
NIEA	Northern Ireland Environment Agency

NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
NTA	National Transport Authority
OPW	Office of Public Works
OSPAR	(Oslo Paris) Convention on the protection of North-East Atlantic marine environment
PAM	Passive Acoustic Monitors
Ro-Ro	Roll-on Roll-off
SAC	Special Area of Conservation
SAM	Static Acoustic Monitors
SDZ	Strategic Development Zone
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SFRA	Strategic Flood Risk Assessment
SPA	Special Protection Area
SPAR	South Port Access Road
TII	Transport Infrastructure Ireland
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WFD	Water Framework Directive

NON-TECHNICAL SUMMARY

DESCRIPTION OF THE DUBLIN PORT MASTERPLAN 2040

Dublin Port Company (DPC) proposed to guide the development of Dublin Port for the period from 2012 to 2040 with the Dublin Port Masterplan. The 30 year time period covered by the Masterplan is long, and therefore it requires periodic reviews to ensure that it remains relevant and to achieve its central objective of providing a clear vision for the development of the Port into the future. The Dublin Port Masterplan 2040 is the first of these reviews (conducted in 2017/2018).

The Masterplan 2040 informs the development of Dublin Port. The Masterplan 2040 will cover the period from 2017 to 2040. This is the first review of the Dublin Port Masterplan 2012 - 2040. The purpose of the Masterplan 2040 is to:

- Plan for future sustainable growth and changes in facilitating seaborne trade in goods and passenger movements to and from Ireland and the Dublin region in particular.
- Provide an overall context for future investment decisions.
- Reflect and provide for current national and regional policies, local guidelines and initiatives.
- Ensure there is harmony and synergy between the plans for the Port and those for the Dublin Docklands Area, Dublin City and neighbouring counties within the Dublin Region.
- Give some certainty to customers about how the Port will develop in the future to meet their requirements.

The geographic scope of the Masterplan 2040 will include both marine and land areas. These marine areas include the navigation channel, berths and the approach channel. The land areas covered in the Masterplan 2040 comprise of:

- The core Dublin Port Estate in Dublin City (includes Northern Port Lands on the north side of the River Liffey and Southern Port Lands on the Poolbeg Peninsula).
- Recently acquired lands adjacent to Dublin Airport to be developed as Dublin Inland Port.
- The road connections linking these three separate land areas, including the Dublin Port Tunnel and the connection to the south port area, to be developed as part of the NTA's Transport Strategy for the Greater Dublin Area 2016-2035, that is, the South Port Access Road (SPAR).

The Masterplan 2040 sets out the proposed rationale for the Plan, the growth forecast for the Port, and the infrastructure proposals to meet the anticipated growth. This Masterplan 2040 seeks to provide the necessary framework to allow these essential infrastructure proposals to be brought

forward for planning and other consents and to be constructed in time to meet demand. The Masterplan is also intended to indicate to all of the Port's stakeholders how the Port will be developed to meet their needs in the years ahead.

MAIN OBJECTIVES OF THE MASTERPLAN

The Masterplan 2040 has been prepared to meet a number of strategic objectives identified by Dublin Port Company (DPC) as necessary to facilitate the effective operation of the Port in the period to 2040. The key objectives are set out in **Section 3.4** of this report and Section 3 of the Masterplan, and are grouped under the following headings:

- ***Port Functions (PF1 – PF7)***
- ***Investment and Growth (IG1 – IG2)***
- ***Integrating with the City (IC1 – IC3)***
- ***Movement and Access (MA1 – MA6)***
- ***Environment and Heritage (EH1 – EH6)***
- ***Recreation and Amenity (RA1 – RA3)***
- ***Security (S1)***
- ***Future Review (FR1)***

A compatibility appraisal has also been undertaken in **Section 3.4** to demonstrate the links and similarities of the Masterplan Objectives and the Strategic Environmental Objectives.

RELATIONSHIP WITH RELEVANT PLANS, PROGRAMMES AND POLICIES

A review of the Plans, Policies and Programmes relevant to the Masterplan 2040 was carried out at International, European, National, Regional and Sub-Regional scales. This exercise was carried out with a view to establishing the hierarchical position of the Masterplan 2040, the influence these Plans and Programmes will have on the Masterplan 2040 and how the Masterplan 2040 will interact with their objectives. These are summarised within **Section 6** of this report and their interactions with the Masterplan are given in **Appendix D**.

ENVIRONMENTAL BASELINE

An environmental baseline was produced by SEA environmental topic. The purpose this was to demonstrate the relevant aspects of the current state of the environment, the environmental characteristics of areas likely to be affected, the existing key environmental issues and the evolution

of the environment in the absence of the Plan. This was the environmental information to be used in the assessment of potential impacts of proposed developments.

Biodiversity, Flora and Fauna

The area around the Dublin Port Estate, particularly the core Dublin Port Estate, is of high ecological value, with a variety of habitats and species of conservation concern which are protected under a number of European and national designations. There are three SACs within 1 km of the Port Estate, namely the South Dublin Bay SAC, North Dublin Bay SAC and Rockabill to Dalkey Island SAC. There are two SPAs within 1 km of the Port Estate, namely the South Dublin Bay and River Tolka SPA, and North Bull Island SPA. There are two Ramsar sites within 1 km of the Port Estate, namely the North Bull Island Ramsar site and the Sandymount Strand/Tolka Estuary Ramsar site. The core Dublin Port Estate and the surrounding area is located within the Dublin Bay Biosphere. Nationally designated sites within 1 km of the Port Estate include five proposed Natural Heritage Areas (pNHAs) and one national nature reserve. The Dublin City Biodiversity Action Plan 2015 – 2020 notes the North Bull Island and the River Liffey as being habitats of importance in terms of biodiversity.

Construction projects, such as development of Dublin Port, have the potential for direct and indirect impacts on international, national and local designated sites, habitats and species. The construction phase of development at the Dublin Port Estate has the potential for increased disturbance to local habitats and species. Many of the infrastructure proposals described in the Masterplan 2040 will require new marine infrastructure to be constructed and operated. Marine engineering construction carries an inherent risk of accidental release of suspended sediments or polluting substances to the marine environment. The risk of suspended sediments and / or contaminants escaping into the marine environment provides a hydrological pathway of effect leading to a deterioration of water-dependent designated sites and species in close vicinity to the Dublin Port Estate.

Population and Human Health

The 2016 census data held by the Central Statistics Office (CSO, 2016) show there to be approximately 570,000 people living within 5 km of the Dublin Port Estate. The highest population densities are found in areas within and around Dublin City Centre. The core Dublin Port Estate is located within the Dublin City Council administrative area. The Dublin Inland Port is located within the Fingal County Council administrative area.

Dublin Port is a key part of the economic and social infrastructure in Dublin. The Port is a key provider of both employment and social amenities. It is an objective of the Dublin Port Masterplan to promote Dublin Port for recreation and amenity, and this has been implemented with projects such as the opening of Dublin Port Centre to reintegrate the Port with the City in 2017. The operation of Dublin Port has the potential for a certain amount of disturbance to the community, as it is an accumulation of a large number of industrial operations over a large area. However these impacts are coupled to the port benefits of employment, recreation and amenity.

Construction activities associated with the development of Dublin Port may lead to short term disturbances to the local community. Longer term impacts on the local community may also arise from the increased volumes of throughput passing through the Port in the future. However it is a policy imperative for DPC that the development and operation of the Port must benefit the City and people of Dublin.

Geology, Soils and Landuse

The geology of the core Dublin Port Estate consists mostly of by dark grey to black limestone and shale, and is overlain by urban sediments. The geology of the Dublin Inland Port consists mostly of argillaceous bioclastic limestone and shale, and is overlain predominantly by till. Two Irish Geological Heritage (IGH) sites are within or in the vicinity of the Dublin Port Estate.

The Dublin Port Estate is a predominantly industrialised area, with relatively small non-urbanised land use types being directly impacted from development. As a result, development will occur mostly on developed land and changes in land use will be minimal. The core Dublin Port Estate is a predominantly coastal area, however it has low susceptibility to coastal erosion and this is unlikely to change with further engineered development of the Port.

As a historically highly industrialised area, areas within and in the vicinity of the core Dublin Port Estate have the potential to be contaminated, such as Alexandra Basin West. Development within and in vicinity of these areas may result in the potential for mobilisation of contaminated sediments.

Water

The River Basin Management Plan (RBMP) for Ireland 2018-2021 was developed to satisfy the requirements of the Water Framework Directive (WFD) and classifies all waterbodies within Ireland. The Dublin Port Estate overlies one groundwater body which is at “good” status. Three river water bodies intersect the Dublin Port Estate, two of which are at “poor” status and one is at “good” status. Two transitional water bodies lie adjacent to the core Dublin Inland Port and are both classified as “moderate”. One coastal water body lies adjacent to the core Dublin Inland Port and is classified as “good”. There are four Industrial Emission Directive (IED) sites and 14 SEVESO establishments located within the Dublin Port Estate. Consideration must be given to these sites and the potential for pollution events arising from spillages, discharges and flooding.

Given the location of the Dublin Port core lands in Dublin Bay and the Tolka estuary, and at the mouth of the River Liffey, there is the potential for flood risk. The existing port facilities in Dublin Bay are mostly at risk from coastal flooding, while the Dublin Inland Port facilities, which are near to Dublin Airport, are potentially at risk of surface water flooding.

DPC has implemented measures to reduce water usage at Dublin Port. A 97% reduction in water usage has been recorded since 2007. Monthly water sampling of surface water effluent and potable water is ongoing in the core Dublin Port Estate, with samples tested by an independent laboratory.

With the development of Dublin Port as part of the Masterplan 2040 there is the potential for impacts to water body status, flood risk, water usage and wastewater generated at the Port. The development of Dublin Port will also lead to opportunities to improve water quality, water usage and wastewater generated. There will be the potential to improve infrastructure such as the drainage system throughout the Port Estate to replace the combined system with a separate foul and storm water system, which could result in a decrease in wastewater generated as well as the protection of water bodies from foul water during storm events.

Air, Noise and Vibration

The Dublin Port Estate lies within the most urbanised area in the country with high development density and industrial operations. Breaches in air quality indicators have been recorded by DPC and the EPA, and are likely to be a result of the highly industrialised nature of this environment including high car, HGV and ship numbers, and the industrial operations ongoing at the Port. Volumes of traffic and port operations are inherently linked to increases in noise and vibration within the area. The Masterplan 2040 has the potential to increase air emissions, noise levels and vibration levels both in the short term construction phase and after in the operation of the Port, however monitoring will be ongoing and measures can be put into place to mitigate for negative effects.

Climatic Factors

Within the Dublin area, annual average air temperatures (measured at Dublin Airport) from 1981-2010 were 9.8°C, with an average of 3.9 hours of sunshine per day. Mean annual rainfall over this period was 758 mm, with an average of 42 days per year when rainfall amounts exceed 5 mm. Within Ireland the predicted impacts of climate change are likely to include increases in the frequency and intensity of rainfall, the increases in peak flows in rivers, a rise in sea levels and increased storminess. These effects of climate change are likely to increase pluvial, fluvial and coastal flooding and will require future development to be adaptable or resilient to future climatic changes and its associated impacts. Dublin Port should be developed with climate change in mind to ensure future drainage and flood risk requirements are taken into account.

Dublin Port inherently has a high carbon footprint which ties into its industrial nature. However DPC is active in its efforts to reduce GHG emissions which are contributing to climate change through their reduction in energy consumption. Measures undertaken by DPC to reduce port-related greenhouse gas (GHG) emissions have resulted in a 17% improvement in energy performance at Dublin Port in comparison to 2012 levels.

Material Assets and Infrastructure

Dublin Port is a key material asset on the island of Ireland and handles nearly 50% of Ireland's trade. The main activity of the Port is freight handling. The Masterplan 2040 predicts the throughput at Dublin Port in 2040 to be 77 million tonnes, which is a yearly increase of 3.3%. This increase in

materials will require the local and regional infrastructure to be capable of handling these volumes. Transport infrastructure will be impacted by these increases and must be adaptable to the changes. New and improved transport infrastructure will likely to be required. There is also the potential for increased energy requirements and increased waste generation at Dublin Port resulting from the predicted increases in throughput.

Cultural, Architectural and Archaeological Heritage

There are a number of heritage features within the Dublin Port Estate including five recorded monuments, three Recorded Protected Structures and eight records of sites of architectural heritage importance on the National Inventory of Architectural Heritage (NIAH). The Pigeon House Road and Great South Wall have been identified as Zones of Archaeological Interest, and the Great South Wall is also classified as a Conservation Area. In addition, the Irish Shipwrecks database records 20 shipwrecks off the coast of Dublin.

Any construction activity has the potential for direct negative impacts on heritage features and their setting, especially in areas rich in maritime heritage within the core Dublin Port Estate. There is however the potential for the development to uncover new heritage features and to enhance existing heritage through incorporation into the detailed design.

Landscape and Visual Amenity

The core Dublin Port Estate is a highly industrialised area located in a prominent coastal position in Dublin. The Dublin Inland Port is located in an agricultural area on the outskirts of Dublin City. There are no areas designated for their landscape within the Dublin Port Estate, however the North Bull Island National Special Amenity Area is located north of the Northern Port Lands. In addition, Dublin Bay was awarded a UNESCO Biosphere designation in 2015.

The Dublin Port Estate is predominantly industrial in nature. Any construction activity has the potential for further temporary, negative impacts on landscape and visual amenity. With detailed planning of development, there is the potential for an opportunity to enhance the visual amenity of the area, opening up the Port for public use and recreation. It is a policy of DPC to enhance port features into the landscape, as is evident from its resurrection of an iconic 1960s crane adjacent to the Port Centre in the core Dublin Port Estate.

Evolution of the Environment in the Absence of the Masterplan 2040

The evolution of the environment in the absence of the Masterplan 2040 was assessed in this SEA Environmental Report. In the absence of the Masterplan 2040 Dublin Port would continue to be developed as outlined in the Dublin Port Masterplan 2012. The likely future impacts of this are provided by environmental topic in **Section 5.11** of this report. It is predicted that to continue to implement the Masterplan 2012 would lead to Dublin Port reaching capacity of 60 million tonnes well

before 2040. The development proposals from the Masterplan 2012 would continue to be pursued with no alternatives proposed at the strategic level.

ENVIRONMENTAL OBJECTIVES, TARGETS AND INDICATORS

Strategic Environmental Objectives (SEOs) were developed as part of the SEA to use in assessment of the two alternatives available to the Masterplan, 1 – Continue with the Masterplan 2012 developing the Port to 60m tonne capacity, which is also the Do Nothing Scenario, or 2 – Develop Dublin Port to 77m tonne capacity with the proposals from the Masterplan 2040. These two options were assessed against the SEA Objectives to examine the likely significant environmental impacts of the Masterplan 2040. This assessment is strategic, with the aim of reporting likely impacts at the regional level to reflect the scale at which the development options are being planned. Indicators, targets and scoring guidelines were developed to help provide a consistent assessment of the development options. **Table 1** demonstrates the environmental objectives, targets and indicators used in the assessment.

Table 1 Strategic Environmental Objectives, Targets and Indicators

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
Biodiversity, Flora and Fauna	1	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna within and in the vicinity of Dublin Port.	A	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	Status, condition, area and number of European sites and species.	To maintain or enhance European sites and species, in line with conservation objectives.
			B	Preserve, protect, maintain and where possible enhance nature conservation sites/biospheres and protected species or other known species of conservation concern.	Status, condition, area and number of international, national and local conservation designations and their species.	To maintain or enhance sites of international, national or local importance, in line with conservation objectives.
			C	Preserve, protect, maintain and where possible enhance undesignated fauna, flora and habitats.	Status and condition of undesignated known fauna, flora and habitats.	To maintain or enhance the status and condition of undesignated known fauna, flora and habitats.
Population & Human Health	2	Minimise the risk to and provide benefit for the community and human health.	A	Minimise risk to human health and risk to life within the local community.	Perceived health/disturbance to the local community and number of port-related accidents.	No negative impacts on the health of the community from port-related activities.
			B	Provide social infrastructure and amenity facilities for the local community.	Numbers and quality of social infrastructure and amenity facilities in the area.	Greater numbers of and improved social infrastructure and amenity facilities in the area.
			C	Provide employment for the local community.	Direct and indirect employment created by DPC.	Long-term increase in employment opportunities associated with Dublin Port.
Geology, Soils & Landuse	3	Protect the coastline and soils / sediments.	A	Protect the coastline from erosion.	Areas and rates of coastal erosion rates within the Port Estate.	Protection of the coastline from erosion, with no wider impacts on coastal processes.
			B	Protect the soil and sediment from contamination.	There is the potential contamination and sterilisation of soils and sediments.	No contamination or sterilisation of soils and sediments in port lands and

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
						the vicinity of the Port.
Water	4	Minimise impacts on water quality, water resource and flood risk.	A	No negative impacts on the status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	Surface, groundwater and coastal water body status.	Contribute to achieving the WFD objectives.
			B	Reduce water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Reduced water consumption and waste water generation from port activities.
			C	No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	Flood risk in the area of port activities.	No flood risk at port facilities, with no transferred flood risk to the local area.
Air, Noise and Vibration	5	Minimise impacts on air quality, noise and vibration.	A	Minimise impacts on air quality in the area.	Predicted emissions and air quality from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
			B	Minimise noise impacts in the area.	Predicted noise levels from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
			C	Minimise vibration impacts in the area.	Predicted vibration levels from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
Climatic Factors	6	Minimise emissions of greenhouse gases and port carbon footprint	A	Minimise emissions of greenhouse gases and port carbon footprint from development and activity	Predicted greenhouse gas emissions. Carbon emissions	No increase in GHG emissions and carbon footprint from port development and activity per unit of freight and passenger throughput.

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
			B	Adaptation to potential climatic change.	Climate change influenced flood risk in the area of port activities.	No risk from climate change influenced flooding at port facilities with no transferred risk to the local area.
Material Assets & Infrastructure	7	Protect existing and develop new material assets and infrastructure.	A	Protect existing and develop new material assets and infrastructure.	Area of DPC facilities. Energy and transport infrastructure. Freight and passenger throughput.	Development of new port infrastructure with minimal disruption to existing material assets and infrastructure.
		Minimise wastes from DPC activities.	B	Reduce waste generation and increase the rates of reuse and recycling at the Port.	Tonnages of waste being directed to landfills from port activities. Tonnages materials being recycled or reused.	No increase in percentage of waste being directed to landfill and increase in percentage of reuse and recycling from port development and activity.
Cultural, Architectural & Archaeological	8	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	A	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate, with particular regard to local maritime and industrial heritage.	There is the potential loss of or damage to identified heritage sites and features, or their setting. Heritage features incorporated into the Port Estate.	No loss of or damage to identified heritage sites and features, or their setting, from port development and activity. Incorporation of heritage features into the Port Estate.
Landscape & Visual Amenity	9	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port	A	Protect, and where possible enhance, landscape / seascape character and visual amenity in the vicinity of the Port	Landscape / seascape quality, designated views, and scenic amenity.	No negative impacts on the local landscape / seascape, views and visual amenity designations.

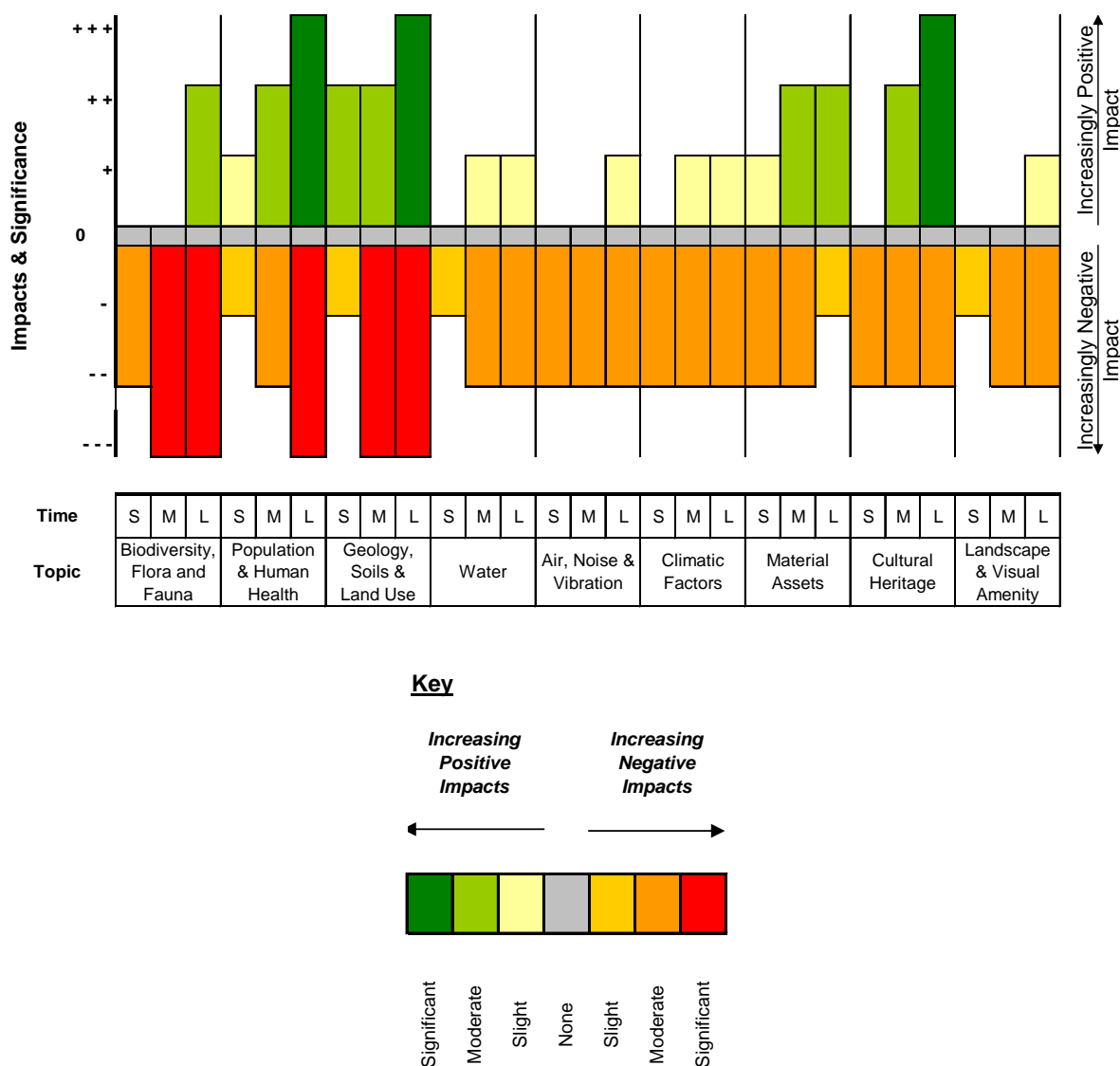
ENVIRONMENTAL ASSESSMENT

The two alternatives available to Dublin Port were assessed against the SEOs. A regional perspective of the potential main issues and impacts of each option are detailed by environmental topic area. All potential positive and negative impacts are presented individually, with a text description, and then a summary graphic. In addition, a summary of the overall balanced potential effect has been presented for each environmental issue area. The options have been assessed in the short, medium and long term for likely effects, whether they are positive or negative effects, and the significance of the effects. Both positive and negative impacts may occur at the same time. Impacts assessed for significance also include secondary effects, cumulative effects, synergistic effects, temporary and permanent effects, and the inter-relationship of effects. The assessment of the two options was also undertaken post-mitigation. Mitigation measures taken into account in the assessment are those committed to in the Plan and those that have come from detailed planning requirements from consented activities at the Port.

Option 1 – Dublin Port Masterplan 2012

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will result in long term increases in freight and passenger throughput in the long term, although this will be capped at 60 million tonnes per annum. There is the potential for medium and long term moderate to significant negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on material assets with construction activities in the medium term, this is likely to reduce to slight negative impacts in the operational phase, with greater freight and passenger throughput. Green amenity areas, including the greenways in the Northern and Southern Port Lands, which act as buffers between port activity and sensitive receptors, are likely to result in the potential for long term moderate benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

The NIS has concluded that developments in the short and medium term of the Masterplan 2012 have the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, and South Dublin Bay and River Tolka SPA.

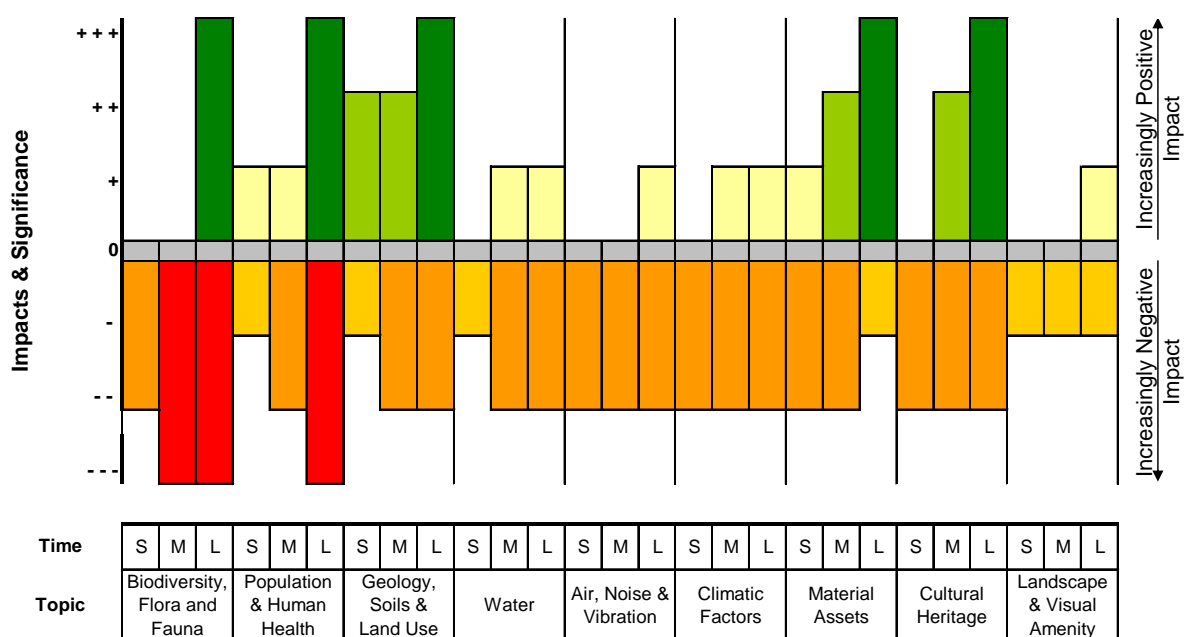


Option 2 – Dublin Port Masterplan 2040

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will provide port infrastructure likely that is capable of handling the 77 million tonnes of throughput per annum that is envisaged for 2040, resulting in long term significant benefits. There is the potential for medium and long term negative impacts on

biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on some material assets in the medium term during construction, this is likely to reduce to slight negative impacts in the operational phase with greater freight and passenger throughput. Green amenity areas, including the greenways in the Northern and Southern Port Lands, which will act as buffers between port activity and sensitive receptors, are likely to result in long term significant benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

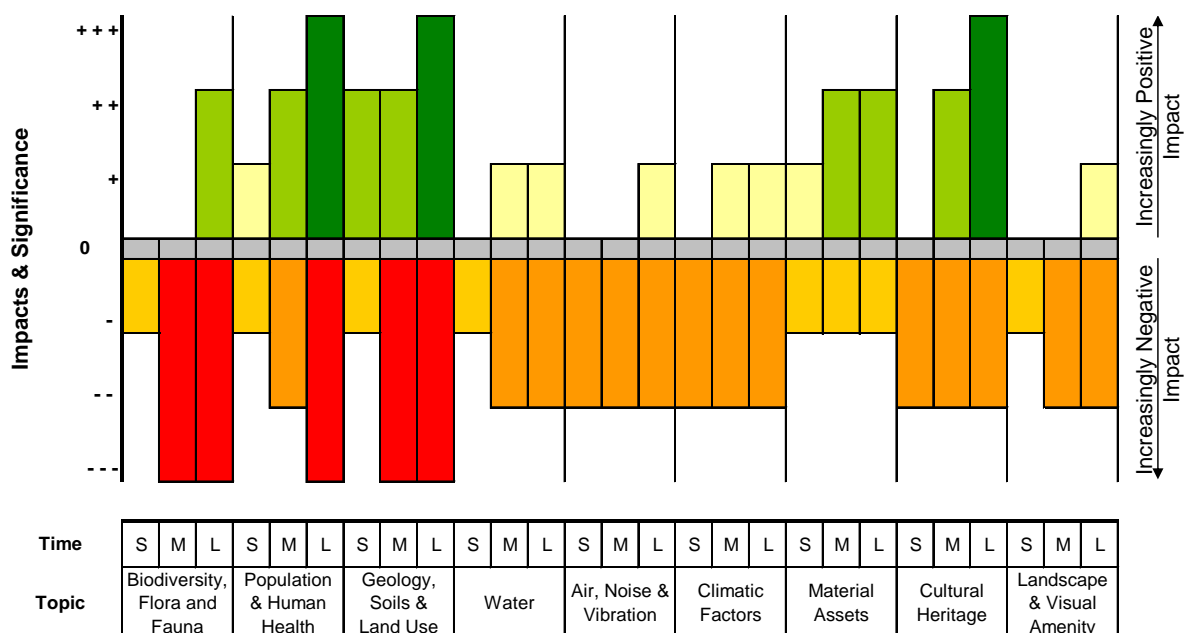
The NIS has concluded that developments in the short and medium term of the Masterplan 2040 have the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, and South Dublin Bay and River Tolka SPA.



Option 1 - Dublin Port Masterplan 2012 – With Plan Mitigation

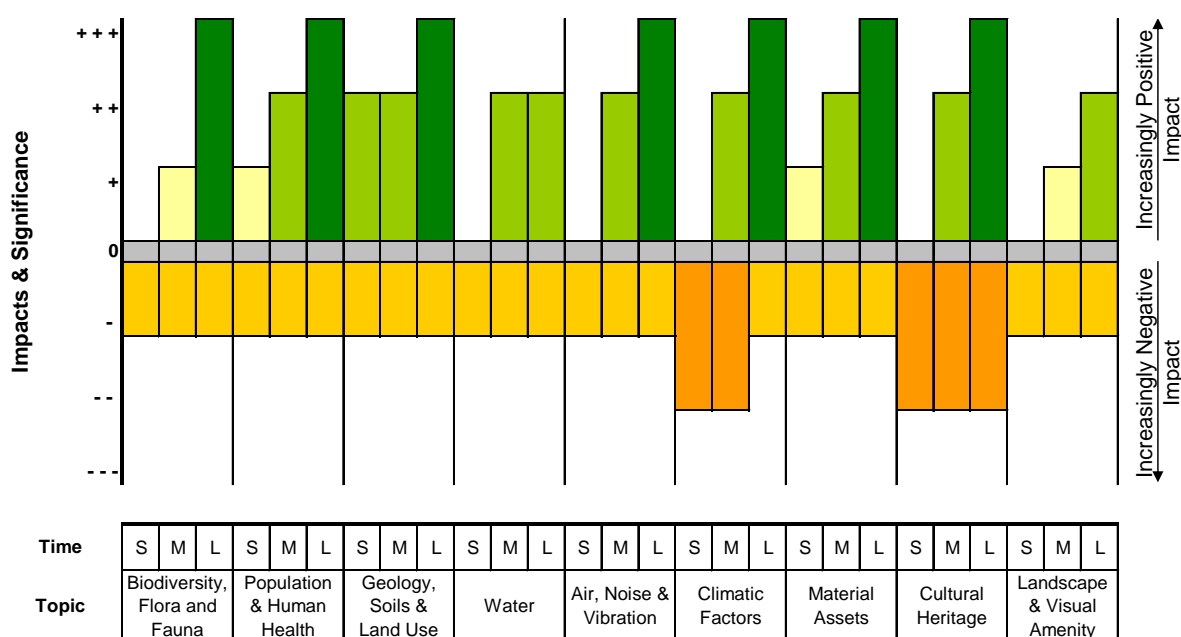
Mitigation measures that can be taken into account in the assessment of the Dublin Port Masterplan 2012 are those that were specified within the Masterplan and those that have come from detailed planning requirements from consented activities at the Port. These mitigation measures will result in the reduction of short term, moderate impacts to biodiversity, flora and fauna to slight negative

impacts, and reduce short term and medium term moderate negative impacts to material assets to slight negative impacts.



Option 2 - Dublin Port Masterplan 2040 – With Plan Mitigation

Mitigation measures that can be taken into account in the assessment of the Dublin Port Masterplan 2040 are those that are committed to within the Masterplan and those that have come from detailed planning requirements from consented activities at the Port. These mitigation measures will result in a reduction in short to long term negative impacts to biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, and landscape. These mitigation measures will result in an increase in short to long term positive impacts to biodiversity, flora and fauna, water, air, noise and vibration, climatic factors, material assets, and landscape.



MITIGATION

A number of measures have been proposed within the SEA Environmental Report and NIS to avoid, reduce, mitigate or compensate for the potential impacts of implementing the Masterplan 2040. Measures have also been proposed that can further enhance the proposed policies. This mitigation is detailed in **Section 9** of this report and has been taken across into Section 10 and Appendix 1 of the Masterplan 2040. The main mitigation is preventative, whereas more sustainable development proposals have been incorporated into the Masterplan 2040, whilst other mitigation measures proposed would involve best working practices and adherence to all relevant guidance and permitting.

OPTIONS COMPARISON

The potential impacts on the wider environment in the medium and long term with the implementation of the Masterplan 2040 have been identified as being an improvement in comparison to the potential impacts identified with the implementation of the Dublin Port Masterplan 2012. This is largely due to the omission of the Dublin Gateway Project, the use of the Dublin Inland Port away from sensitive receptors and the throughput at Dublin Port reaching 77 million tonnes per annum by 2040 with the implementation of the Masterplan 2040. Overall the Masterplan 2040 is a more sustainable development programme which allows for the achievement of the required 77m gross tonnes throughput per annum.

MONITORING

The SEA Directive requires that monitoring be carried out to identify at an early stage any unforeseen adverse effects due to the implementation of the Masterplan 2040. Monitoring will focus on aspects of the environment that are likely to be impacted by the Masterplan 2040. Where possible, indicators

have been chosen based on the availability of the necessary information and the degree to which the data will allow the target to be linked directly with the implementation of the Masterplan 2040. The proposed monitoring programme in **Table 2** is based on the Targets and Indicators established in the SEOs (given in Table 1). This monitoring has been adopted into Appendix 2 of the Masterplan 2040 and will be undertaken in the course of its adoption.

NEXT STEPS

Consultations on the Masterplan 2040, SEA Environmental Report and NIS are anticipated to commence in April 2018 and run for six weeks. Documents will be made available for viewing at the Dublin Port Centre premises and digitally via the DPC website.

Following completion of the consultation period, all comments will be collated and the Masterplan 2040, SEA Environmental Report and NIS will be reviewed and revised as necessary. Provided there are no objections or comments that will significantly alter the Masterplan 2040, the final version of the Masterplan 2040 can be drafted and adopted. This is anticipated to be in Q3 2018. Following release of the adopted Masterplan 2040 an SEA Statement will be drafted to summarise the process undertaken and identify how environmental considerations and consultations have been integrated into the final Masterplan 2040.

Please send all comments on the Masterplan 2040 or this SEA Environmental Report to:

By post	Alan Barr RPS LM Keatings Site Offices Alexandra Road D01VR70
By email	Alan.Barr@rpsgroup.com

Table 2 Environmental Monitoring of the Masterplan 2040

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
Biodiversity, Flora and Fauna	1	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna within and in the vicinity of Dublin Port.	A	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	Status, condition, area and number of European sites and species.	NPWS – Conservation Action Plans NPWS reporting on Irelands Habitats and Species – Article 17 Reports. NPWS reporting on the status of Irelands Birds – Article 12 Reports. DPC monitoring and reporting
			B	Preserve, protect, maintain and where possible enhance nature conservation sites/biospheres and protected species or other known species of conservation concern.	Status, condition, area and number of international, national and local conservation designations and their species.	Local Authority – Local Area Plans and County Development Plans. NPWS - Status of Protected Sites and Species in Ireland Reporting DPC monitoring and reporting
			C	Preserve, protect, maintain and where possible enhance undesignated fauna, flora and habitats.	Status and condition of undesignated known fauna, flora and habitats.	Local Authority – Local Area Plans and County Development Plans. DPC monitoring and reporting
Population & Human Health	2	Minimise the risk to and provide benefit for the community and human health.	A	Minimise risk to human health and risk to life within the local community.	Perceived health/disturbance to the local community and number of port-related accidents.	DPC, Local Authority and Emergency Services Reporting CSO statistics
			B	Provide social infrastructure and amenity facilities for the local community.	Numbers and quality of social infrastructure and amenity facilities in the area.	DPC, Local Authority
			C	Provide employment for the local community.	Direct and indirect employment created by DPC.	DPC & CSO statistics

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
Geology, Soils & Landuse	3	Protect the coastline and soils / sediments.	A	Protect the coastline from erosion.	Areas and rates of coastal erosion rates within the Port Estate.	EPA - CORINE landcover mapping. Local Area Plans and County Development Plans – myplan.ie OPW Coastal Protection Strategy Reviews
			B	Protect the soil and sediment from contamination.	Potential contamination and sterilisation of soils and sediments.	DPC monitoring and reporting EPA
Water	4	Minimise impacts on water quality, water resource and flood risk.	A	No negative impacts on the status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	Surface, groundwater and coastal waterbody status.	EPA – RBMP / WFD status reporting and updates. DPC monitoring and reporting
			B	Reduce water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Water usage and wastewater generated at the Port per unit of freight and passenger throughput.	DPC monitoring and reporting
			C	No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	Flood risk in the area of port activities.	DPC reporting OPW FRMP for UoM09 - Reviewed every 6 years
Air, Noise and Vibration	5	Minimise impacts on air quality, noise and vibration.	A	Minimise impacts on air quality in the area.	Predicted emissions and air quality from port activities.	EPA reporting DPC monitoring and reporting
			B	Minimise noise impacts in the area.	Predicted noise levels from port activities.	DPC monitoring and reporting
			C	Minimise vibration impacts in the area.	Predicted vibration levels from port activities.	DPC monitoring and reporting
Climatic Factors	6	Minimise emissions of greenhouse gases	A	Minimise emissions of greenhouse gases and port carbon footprint from	Predicted greenhouse gas emissions.	DPC monitoring and reporting

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
		and port carbon footprint		development and activity	Carbon emissions	
			B	Adaptation to potential climatic change.	Climate change influenced flood risk in the area of port activities.	DPC and Local Authority reporting OPW FRMP for UoM09 - Reviewed every 6 years
Material Assets & Infrastructure	7	Protect existing and develop new material assets and infrastructure.	A	Protect existing and develop new material assets and infrastructure.	Area of DPC facilities. Energy and transport infrastructure. Freight and passenger throughput.	DPC, Local Authority, ESB, Eirgrid, Eircom, BGE, Irish Water and EPA reporting.
		Minimise wastes from DPC activities.	B	Reduce waste generation and increase the rates of reuse and recycling at the Port.	Tonnages of waste being directed to landfills from port activities. Tonnages materials being recycled or reused.	DPC monitoring and reporting
Cultural, Architectural & Archaeological	8	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	A	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate, with particular regard to local maritime and industrial heritage.	Potential loss of or damage to identified heritage sites and features, or their setting. Heritage features incorporated into the Port Estate.	DPC, Local Authority and DCHG reporting.
Landscape & Visual Amenity	9	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port	A	Protect, and where possible enhance, landscape / seascape character and visual amenity in the vicinity of the Port	Landscape / seascape quality, designated views, and scenic amenity.	Local Authority – Landscape Character Assessments, County Development Plans and Local Area Plans. EPA - CORINE Landcover.

1 INTRODUCTION

1.1 BACKGROUND

This Strategic Environmental Assessment (SEA) Environmental Report has been prepared in accordance with the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 [S.I. 435/2004] and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 [S.I. 436/2004], and their recent amendments of European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 [S.I. 200/2011] and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 [S.I. 201/2011].

The purpose of this Environmental Report is to provide a formal and transparent assessment of the likely significant impacts on the environment arising from the Masterplan 2040, including consideration of reasonable options/alternatives.

1.2 STRATEGIC ENVIRONMENTAL ASSESSMENT

The SEA Directive requires that certain Plans and Programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, be subject to the SEA process. The SEA process is broadly comprised of the steps shown in **Figure 1.1**. These are given a summary description in **Table 1.1**.

Table 1.1 Summary Descriptions of Main Stages in SEA Process

Stage	Description	Status
Screening	Determines whether SEA is required for a Plan / Programme, in consultation with the designated statutory consultees.	Completed in May 2017
Scoping	Determines the scope and level of detail of the assessment for the SEA, in consultation with the designated statutory consultees.	Completed in December 2017
Environmental Assessment	Formal and transparent assessment of the likely significant impacts on the environment arising from the Plan / Programme, including all reasonable options. The output from this is an Environmental Report which must go on public display along with the Masterplan 2040.	Current Stage
SEA Statement	Summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme.	Anticipated Q3 2018

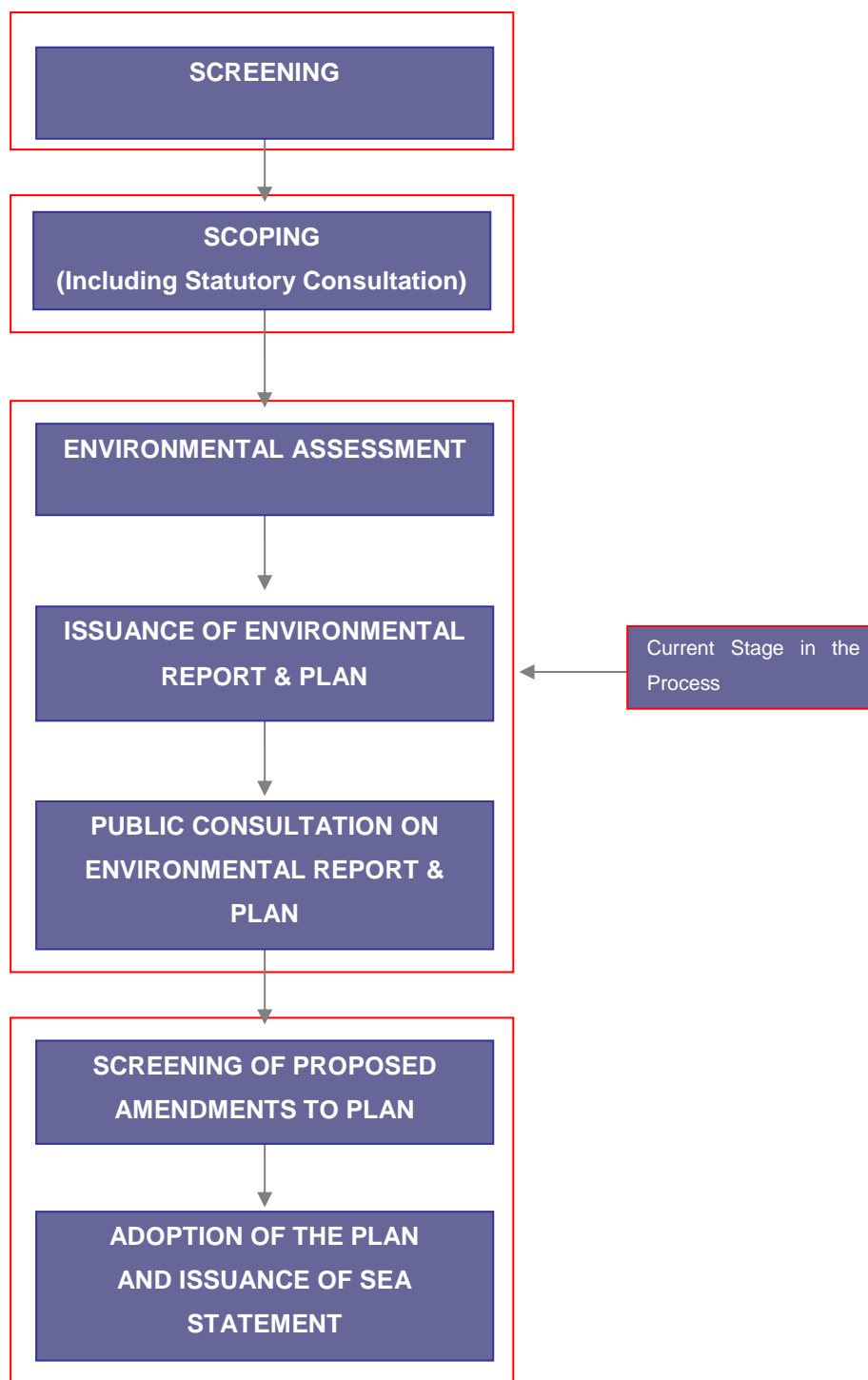


Figure 1.1 Overview of SEA Process

1.3 RESPONSIBLE AUTHORITY

Dublin Port Company (DPC) has assumed the role of Responsible Authority for the Masterplan 2040. Hence, the Masterplan 2040 is being developed by DPC.

1.4 STUDY TEAM

The study team that developed and created the Masterplan 2040, its SEA, and its Appropriate Assessment (AA) was made up of qualified and experienced engineers, scientists and planners. The SEA and AA professionals were involved throughout the Masterplan 2040 development process, which ensured that the wider environment was taken into consideration from the very earliest stages of the project, right the way through to the drafting of the Masterplan 2040.

1.5 SCREENING FOR SEA

On behalf of DPC, RPS carried out an SEA Screening in May 2017 for the Masterplan 2040 and determined that SEA of the Masterplan 2040 was required due to the following reasons:

- The outcome of the pre-screening check (details of which are in the Screening Report) indicate that SEA is required.
- The infrastructure development projects for Dublin Port included within the Masterplan 2040 have the potential to result in significant effects on the environment. Carrying out an SEA will allow for the early consideration of environmental issues.
- The Masterplan 2040 will form a framework for future projects and allocation of resources concerning the development of Dublin Port into the future.
- The Masterplan 2040 will influence spatial plans at both regional and local level.
- The Masterplan 2040 may require an assessment under Article 6 of the European Union (EU) Habitats Directive.

Information on the Screening Consultation Phase can be found in **Section 3.6** of this report with responses available in **Appendix A**.

1.6 SCOPING FOR SEA

An SEA Scoping Report for the Masterplan 2040 was circulated on the 3rd August 2017 to the statutory consultees listed in **Section 1.8**. As a result of potential transboundary effects from the implementation of the Masterplan 2040, the scoping report was circulated on the 18th September 2017 to the relevant authorities for SEA in the UK listed in **Section 1.8**.

A scoping workshop was held in September 2017 to allow for statutory consultees to participate in the scoping phase of the Masterplan 2040. A revised scoping report was created to incorporate comments received from this workshop as well as those received during the statutory consultation period. Non-statutory stakeholders were provided with the revised Scoping Report on the 24th

November 2017 and all information was made publically available on the DPC website at this point. Comments on the Scoping Report were welcomed until the 22nd December 2017.

The purpose of this Scoping Report was to provide sufficient information on the Masterplan 2040 to enable the consultees to form an opinion on the appropriateness of the scope, format, level of detail, methodology for assessment and the consultation period proposed for the SEA Environmental Report. Information on the Scoping Consultation Phase can be found in **Section 3.6** of this report with responses available in **Appendix B**.

1.7 SEA GUIDANCE

Key guidance documents that have been used in the SEA for the Masterplan 2040 are listed in **Appendix C** of this SEA Environmental Report.

1.8 STATUTORY CONSULTEES FOR SEA

Under Article 6 of the SEA Directive, the competent authority preparing the Plan or Programme (in this case DPC) is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to be included in the SEA Environmental Report. Under S.I. 200 of 2011 these five statutory consultees are established as being the:

- Environmental Protection Agency (EPA);
- Department of Housing, Planning and Local Government (DHPLG);
- Department of Agriculture, Food and the Marine (DAFM);
- Department of Communications, Climate Action and the Environment (DCCAE); and
- Department of Culture, Heritage and Gaeltacht (DCHG).

Non-statutory stakeholders relevant to and included in the Masterplan 2040 consultation process are listed in **Section 3.6** of this Environmental Report.

In addition, transboundary effects have the potential to arise from the implementation of the Masterplan 2040. Currently 60% of trade through Dublin Port is with Great Britain. Given the transboundary impacts of port activities, consultees are from both Ireland and the UK. The relevant authorities for SEA in the UK are detailed below in **Table 1.2**.

Table 1.2 Statutory Stakeholders within the UK

Locality	Relevant Authorities
England	Natural England Environment Agency Historic England
Scotland	Scottish Environmental Protection Agency Scottish Natural Heritage Historic Environment Scotland
Wales	Cadw Natural Resources Wales
Northern Ireland	Northern Ireland Environmental Agency

1.9 APPROPRIATE ASSESSMENT

The Habitats Directive (Council Directive 92/43/EEC) on the conservation of natural habitats and of wild fauna and flora obliges member states to designate, protect and conserve habitats and species of importance in a European Union context. Article 6(3) of the Habitats Directive requires that “*Any plan or project not directly connected with or necessary to the conservation of a site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives.*” This Directive was initially transposed into Irish Law through several pieces of legislation; however these were consolidated into the European Communities (Birds and Natural Habitats) Regulations 2011. Any proposed plan or project in Ireland that has potential to result in a significant effect on a designated European Site will require an Appropriate Assessment (AA). Case law has determined that the likelihood need not be great, merely possible, and that the precautionary principle must apply as set out in European Commission Guidance and as required by CJEU case law (i.e. C 127/02 ‘*Waddenzee*’).

An AA Screening (Stage 1 of the AA process) was undertaken for the Masterplan 2040 in summer 2017, which demonstrated the potential European sites that may be negatively impacted by development in Dublin Port. The development of a Natura Impact Statement (Stage 2) was undertaken in parallel with the SEA process. The findings of the NIS were used to guide the development of the options to be considered as part of the Masterplan 2040 and SEA. The findings of the NIS have been integrated into this SEA Environmental Report and subsequently the Masterplan 2040. **Figure 1.2** demonstrates inter-relationships between the Masterplan 2040, SEA and AA.

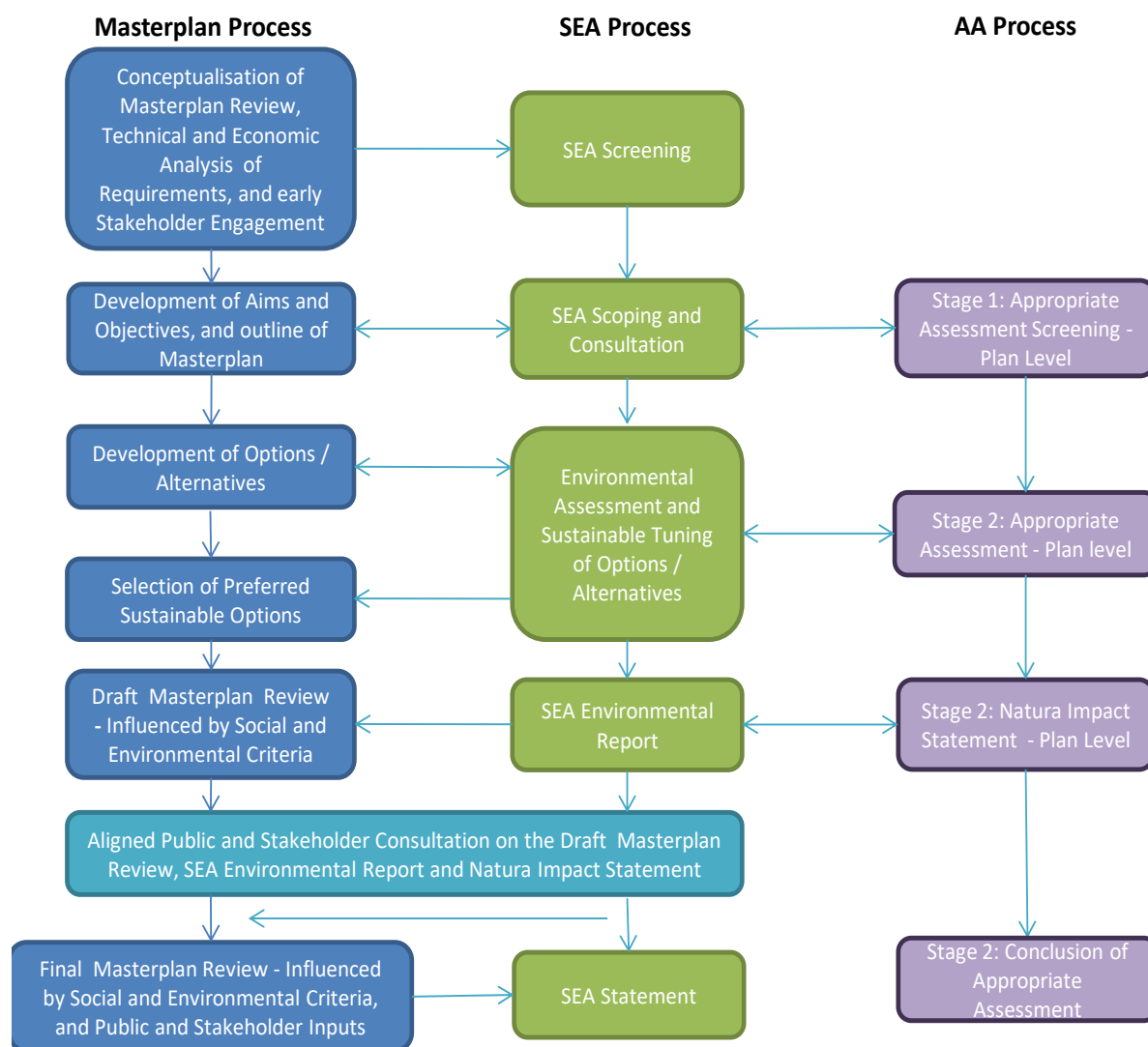


Figure 1.2 Inter-relationships between the Masterplan 2040, SEA and AA processes

2 DUBLIN PORT MASTERPLAN 2040

2.1 DUBLIN PORT

Dublin Port is the largest port on the island of Ireland and is an essential link for the country's international trade and transport requirements. The Port is owned and operated by DPC, a State-owned commercial company responsible for facilitating the movement of goods and people in an efficient and cost effective manner. Dublin Port is unique in Ireland as all cargo handling activities are provided by private sector companies in competition with each other. This blend of public ownership and private operation ensures that the competing requirements of economic necessity and environmental sustainability are managed to the benefit of the city and its citizens.

The type of goods and the manner in which they are transported fall into the following main categories:

- **Roll-on Roll-off (Ro-Ro):** Shipping services and activities where vehicles are driven on and off ferries or other specialised ships. Dublin Port handles 86% of Ireland's Ro-Ro freight traffic. Some services are freight only; others carry a combination of freight and passengers.
- **Lift-on Lift-off (Lo-Lo):** Containers carrying all types of goods. These are short sea vessels that link Ireland with ports mainly in northern Europe (including Rotterdam and Antwerp) but also ports in the UK, and the Mediterranean.
- **Bulk Liquid:** Dublin Port handles many different bulk liquid products including petrol, diesel and kerosene, but also non-petroleum liquids such as molasses. The liquid petroleum products are discharged from tanker ships at four dedicated berths in the north port area of the Port and then pumped through a pipeline system, to their storage tanks within the Port.
- **Bulk Solid:** Refers to the materials that are handled in bulk (such as grain, animal feeds, fertilizer, peat moss, cement, petroleum coke, furnace slag and scrap metals). Such commodities are handled on both the north and south sides of the Port. The materials are mostly loaded and discharged by grabs operated by dock mobile cranes.
- **Trade Vehicle Imports:** Refers to new and pre-owned cars, trucks and other vehicles. These vehicles are transported both on specifically designed large Ro-Ro ships and (increasingly) on Ro-Ro freight ferries alongside other freight (such as trailers and containers).
- **Project Cargoes:** This has included the structural components for the Aviva Stadium and mainline and suburban rail carriages.

As well as being the country's largest cargo port, Dublin is also the largest passenger port with a large passenger ferry and cruise business. As a passenger gateway, for example, Dublin Port is larger than Shannon Airport.

2.2 DUBLIN PORT MASTERPLAN 2012 TO 2040

The Dublin Port Masterplan was prepared to guide the development of Dublin Port for the period from 2012 to 2040. It presented a vision for the future operations at the Port and critically examined how the existing land use at Dublin Port can be optimized for the merchandise trade purpose. The Dublin Port Masterplan was adopted on 26th January 2012 following an extensive public consultation, stakeholder engagement and environmental assessment process.

The Masterplan was prepared by DPC in order to:

- Plan for future sustainable growth and changes in facilitating seaborne trade in goods and passenger movements to and from Ireland and the Dublin Region in particular.
- Provide an overall context for future investment options.
- Reflect and provide for current national and regional policies, local guidelines and initiatives.
- Ensure there is harmony and synergy between the plans for the Port and those for the Dublin Docklands Area, Dublin City and neighboring counties within the Dublin Region.
- Give some certainty to customers of DPC about how the Port will develop in the future to meet their requirements.

The Masterplan has been guided by the objectives of numerous EU and national policies which include Development Plans, Transportation Strategies and Biodiversity Plans. Since its introduction, the Masterplan has played a significant role in providing guidance and strategic context on the future of the Port not only to DPC but also to National and Local Government, statutory agencies and planning and development agencies. The Masterplan has informed the National Ports Policy, Transport Policy and guided the Planning and Permitting Authorities in determining policies and specific proposals concerning Dublin Port.

2.3 PROJECTS ARISING FROM DUBLIN PORT MASTERPLAN 2012 TO 2040

A number of development projects arose from the implementation of the Dublin Port Masterplan 2012. The first major development project granted planning permission was the Alexandra Basin Redevelopment (ABR) Project. Construction of the ABR Project commenced in November 2016 and includes the following:

- Works at Alexandra Basin West including construction of new quays and jetties, remediation of contamination on the bed of the basin, capital dredging to deepen the basin and to achieve the specified depths of -10 m Chart Datum (CD) at the new berths.
- Infilling of the Basin at Berths 52 and 53, and construction of a new river berth with a double tiered Ro-Ro ramp.

- Deepening of the fairway and approach to Dublin Port to increase the ruling depth from -7.8m CD to -10.0m CD.

Other smaller-scale development projects of the Dublin Port Masterplan which have been brought forward to planning include the construction of a revised road network, public realm and a 4 km greenway, all in the Northern Port Lands.

Further details of the ABR Project, consents and ongoing monitoring are discussed in **Section 7.1**.

2.4 DUBLIN PORT MASTERPLAN 2040

The 30 year time period covered by the Masterplan is long, and therefore it requires periodic reviews to ensure that it remains relevant and to achieve its central objective of providing a clear vision for the development of the Port into the future. The Masterplan 2040 is the first of these reviews. Since the Dublin Port Masterplan was published in 2012, there have been a number of significant developments which support this timely review, including:

- Economic recovery leading to a return to annual compounding growth in port volumes.
- Commencement of the ABR Project which, in itself, includes about one-third of the infrastructure development options originally identified in the Masterplan.
- Recovering control over 11.2 ha of Port lands making them available for redevelopment.
- Completion of a number of site redevelopments in Dublin Port to provide an additional 16.1 ha of accessible port lands.
- Redevelopment of 720 m of quay walls.
- Purchase by DPC of a 44 ha site adjacent to Dublin Airport for the development of a new Dublin Inland Port facility.
- Publication of the National Ports Policy, March 2013.
- Publication by the Competition Authority of its report Competition in the Irish Ports Sector, November 2013.
- Publication of DPC's Franchise Policy, May 2014.
- Publication by the National Transport Authority (NTA) of its Transport Strategy for the Greater Dublin Area, 2016 to 2035.
- Creation of the Dublin Bay Biosphere in June 2015 as a joint initiative by:

- DPC
 - Dublin City Council
 - Fingal County Council
 - Dun Laoghaire Rathdown County Council
 - DCHG
 - Fáilte Ireland
-
- Creation of the Poolbeg West Strategic Development Zone (SDZ) in May 2016.
 - Publication by Dublin City Council of the Dublin City Development Plan 2016 to 2021.
 - Changes in the international trading environment, including Brexit.

Changes in the demand levels for port infrastructure were recognised as the key element impacting on the timing of a review of the Dublin Port Masterplan. It is now clear that the level of demand for port infrastructure will likely be greater than initially anticipated due to a higher than originally envisaged level of growth in cargo volumes for the period to 2040. The Dublin Port Masterplan originally estimated that annual growth in cargo volumes would average 2.5% from 2010 to 2040 leading to a doubling to 60m gross tonnes by 2040. However on the basis of trade levels to date, DPC currently believes that volumes will double by 2032 and that by 2040 will have grown to 77 million tonnes, equating to a revised annual average growth rate of 3.3%. In addition, it is expected that passenger volumes will continue to grow to 2040, both from ferry passenger traffic and cruise vessels.

The Dublin Port Masterplan was originally produced in order to provide all of the Port's stakeholders with a clear view as to how the Port would be developed in the long-term. Now, five years on, there is more clarity as to how Dublin Port should be developed in order to meet the objectives set out in the Dublin Port Masterplan.

The Masterplan 2040 is intended to update and refine the infrastructure development options for Dublin Port and, in doing this, to ensure that the Dublin Port Masterplan continues to provide the best solution for the future sustainable development of Dublin Port through to 2040.

The land areas covered in the Masterplan 2040 are shown in **Figure 2.1** and comprise of:

- The core Dublin Port Estate in Dublin City (includes Northern Port Lands on the north side of the River Liffey and Southern Port Lands on the Poolbeg Peninsula).
- Recently acquired lands adjacent to Dublin Airport to be developed as Dublin Inland Port.
- The road connections linking these three separate land areas, including the Dublin Port Tunnel and the last mile connection between it and the south port area, to be developed as part of the NTA's Transport Strategy for the Greater Dublin Area 2016-2035, that is, the South Port Access Road (SPAR).

The core Dublin Port Estate and the Dublin Inland Port will collectively be referred to as the Dublin Port Estate or Dublin Port. The core Dublin Port Estate is located within the Dublin City Council administrative area and the Dublin Inland Port is located in the Fingal County Council administrative area.

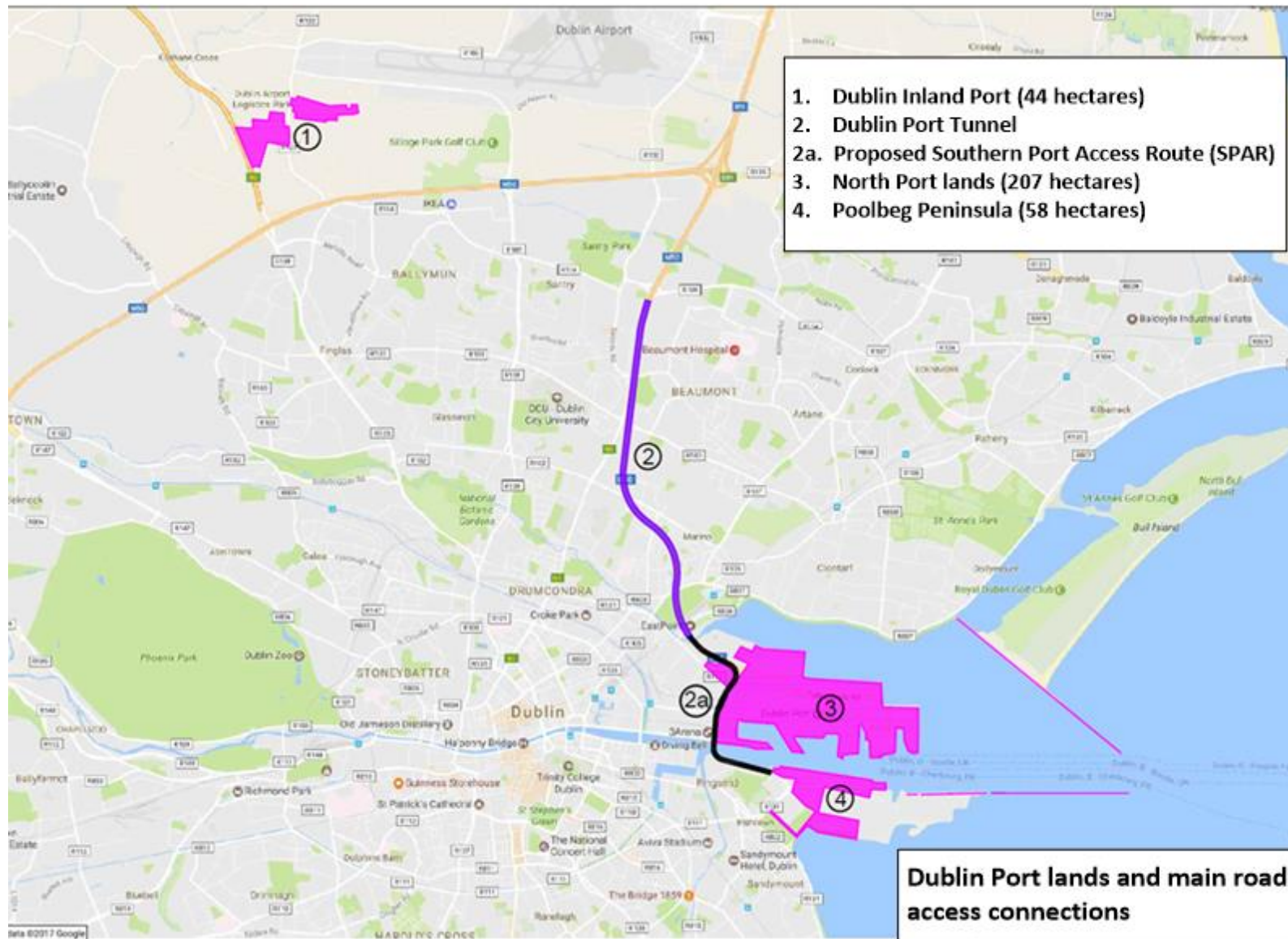


Figure 2.1 Land areas covered in the Masterplan 2040

3 METHODOLOGY AND CONSULTATIONS

The Masterplan 2040 has been developed to outline the development that is available to increase efficiencies and to provide additional throughput capacity at the Port to cater for the projected growth in port tonnage for the period from 2017 to 2040. This SEA Environmental Report has been produced to assess the environmental impacts of development arising from the Masterplan 2040 and to provide the environmental guidance to help create a more sustainable plan. In parallel to this, an NIS has been prepared to inform the decision making process, in terms of the potential for development to impact the integrity of any European site in view of that site's conservation objectives. Both environmental assessments have been central to the development of the Masterplan 2040.

3.1 ALTERNATIVE OPTIONS

The development of the Masterplan 2040 includes the consideration of alternative options to the planning of the Port's future. This consideration includes a scenario of "The Evolution of the Environment in the Absence of the Masterplan 2040" which comprises of the implementation of the Masterplan 2012. This is the basis for comparison with alternative options that prepare for potential further future growth in port demand, as detailed in **Table 3.1**. A technical assessment is used to determine the growth that any potential option can accommodate. The target for expansion is to achieve a throughput of 77 Million tonnes by 2040 (the predicted cargo volumes by this year). This value is utilised as a pass/fail criteria to screen and short list the options.

Table 3.1 Details of how the Options were identified in Technical Assessment

Long List of Options	Achieves Throughput of 77 M Tonnes (Technical Screening – Pass / Fail)	Achieves Throughput of 77 M Tonnes (Technical Screening – Reasoning)	Short List of Reasonable Options	Short Description
NO PORT EXPANSION				
No port expansion	Fail	Does not provide adequate expansion	No further Port Expansion once projects through the planning process are completed	The existing port lands continue the present day/ <i>status quo</i> operations and facility use, the ABR development, and other smaller projects (DPC internal roads, demolitions and associated upgrade works, and yards upgrades) which have been approved and are under construction form part of this regime.
OPTIMISE MAIN PORT LANDS				
Optimise throughput of existing facilities	Fail	Does not provide adequate expansion	Not Applicable	Increased capacity is provided by relatively minor improvements to the existing operations and facilities, towards maximising efficiencies and capacity use of brownfield sites.
Optimise throughput of existing facilities and increase berthage in North Port lands	Fail	Does not provide adequate expansion	Not Applicable	Increased capacity is provided by an additional eastern jetty and further quay development within the North Port area alongside relatively minor improvements to the existing operations and facilities, towards maximising efficiencies and capacity use of brownfield sites.
Optimise throughput of existing facilities and increase berthage in North Port and South Port lands	Fail	Does not provide adequate expansion	Not Applicable	Increased capacity is provided by an additional eastern jetty and further quay development within the North Port area and development of new quays within the South Port lands, alongside relatively minor improvements to the existing operations and facilities, towards maximising efficiencies and capacity use of

Long List of Options	Achieves Throughput of 77 M Tonnes (Technical Screening – Pass / Fail)	Achieves Throughput of 77 M Tonnes (Technical Screening – Reasoning)	Short List of Reasonable Options	Short Description
				brownfield sites, using existing road infrastructure linkages.
OPTIMISE MAIN PORT LANDS AND INCREASE PORT LANDS				
Rationalise existing facilities, increase berthage in the North Port and South Port lands, improve road infrastructure and infill adjacent to Port (part of Tolka Estuary).	Fail	Provides adequate expansion, however, the Art 6(4) process of the Habitats Directive (IROPI) would require no better alternative to exist (regardless of cost)	Not Applicable OPTION 1	Increased capacity is provided by infilling adjacent to the North Port lands (part of Tolka Estuary) and development of quays within the North Port and South Port lands, alongside rationalisation/relocation of the existing operations and facilities, towards maximising efficiencies and capacity use of brownfield sites, using enhanced road infrastructure linkages including new bridge across the River Liffey.
Rationalise facilities, increase berthage in North Port and South Port lands, improve road infrastructure and develop Inland Port.	Pass	Provides adequate expansion, within 2040 timescale	OPTION 2 - Rationalise facilities, increase berthage in North Port and South Port lands, improve road infrastructure and develop Inland Port.	Increased capacity is provided by the creation of a new Dublin Inland Port, and development of quays within the North Port and South Port lands, alongside rationalisation/relocation of the existing operations and facilities, towards maximising efficiencies and capacity use of brownfield sites and enhancing road infrastructure linkages including new bridge across the River Liffey.
Rationalise facilities, increase berthage in North Port and South Port lands, improve road infrastructure and develop additional Coastal Port Facility external to Dublin Port.	Fail	Provides adequate expansion, but not technically feasible within 2040 timescale and inconsistent with current national Ports Policy	Not Applicable	Increased capacity is provided by developing an additional coastal facility, and development of quays within the North Port and South Port lands, alongside rationalisation/relocation of the existing operations and facilities, towards maximising efficiencies and capacity use of brownfield sites and enhancing road infrastructure linkages including new bridge across the River Liffey.

3.2 SEA ASSESSMENT

As illustrated in **Table 3.1**, there is one technically feasible option (Option 2) available to the Masterplan 2040 in order to meet a throughput of 77 million tonnes per annum by 2040, which is made up of several proposed, phased developments. The scenario of “The Evolution of the Environment in the Absence of the Masterplan 2040” has also been assessed in the short, medium and long term. This will be considered Option 1, which is also made up of a number of proposed, phased developments, as described in the Dublin Port Masterplan 2012. Consequently, two options are assessed within this SEA Environmental Report - Option 1 and Option 2. These options have been assessed in terms of their potential positive and negative impacts, and the significance of these impacts on the environment against the SEA objectives. The purpose of this is to predict and evaluate, as far as possible, the environmental effects of these proposed developments, highlighting any significant environmental problems and / or benefits that are likely to arise from their implementation. Where possible, this assessment has been quantitative, with a graphical output to aid public appreciation and understanding of the implications of the Plan.

The options have been assessed via a Baseline Led Assessment. This method involves the assessment of the proposed developments which make up the options against each of the following topics:

- Biodiversity, Flora & Fauna (BFF).
- Population & Human Health (PHH).
- Geology, Soils and Landuse (S).
- Water (W).
- Air, Noise & Vibration (ANV).
- Climatic Factors (C).
- Material Assets & Infrastructure (MA).
- Cultural, Architectural & Archaeological Heritage (H).
- Landscape & Visual Amenity (L).

The proposed developments arising from the options have been assessed in the short, medium and long term for likely effects, the significance of the effects, and whether they are positive or negative effects. The timeframe of the phasing of the development options will be taken into consideration during the assessment, with the baseline information to be included in the assessment changing, depending on the timeframe stage of the Plan. Other impacts that have been assessed for significance are secondary effects, cumulative effects, synergistic effects, temporary and permanent effects, and the inter-relationship of effects. The potential inter-relationships between the environmental topic areas were introduced within the SEA Scoping Report (Table 3.3). These inter-relationships have been incorporated within the assessment in **Appendix F** of this report.

All potential positive and negative impacts are presented individually, with a text description, and then a summary graphic. In addition, a summary of the overall balanced potential effect has been presented for each environmental issue area.

The scores assigned to impacts are from +3 to -3, as demonstrated in **Table 3.2**. The purpose of adding numerical scores is to assist in the ranking of the options and for potential incorporation of the environmental and social criteria into future decision making by the planning team, as this can easily be tied into a multi-criteria analysis of options if desired. Like the assessment, the scores will demonstrate both the positives and the negatives, and will not be conveyed in terms of net benefit or net loss, which can sometimes be misleading.

Table 3.2 Description of SEA Environmental Impact Scores

Score	Description
+ 3	Significant positive environmental impacts
+ 2	Moderate positive environmental impacts
+ 1	Slight positive environmental impacts
0	No environmental impacts
- 1	Slight negative environmental impacts
- 2	Moderate negative environmental impacts
- 3	Significant negative environmental impacts

3.3 SEA OBJECTIVES

The options are assessed against the SEA Objectives to examine the likely significant environmental impacts of their implementation. These are referred to as the Strategic Environmental Objectives (SEOs). This assessment is relatively strategic, with the aim of reporting likely impacts at the regional level to reflect the scale at which the options are being planned. The SEOs, Sub-Objectives, Indicators and Targets used are given in **Table 3.3**.

Table 3.3 Strategic Environmental Objectives

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
Biodiversity, Flora and Fauna	1	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna within and in the vicinity of Dublin Port.	A	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	Status, condition, area and number of European sites and species.	To maintain or enhance European sites and species, in line with conservation objectives.
			B	Preserve, protect, maintain and where possible enhance nature conservation sites/biospheres and protected species or other known species of conservation concern.	Status, condition, area and number of international, national and local conservation designations and their species.	To maintain or enhance sites of international, national or local importance, in line with conservation objectives.
			C	Preserve, protect, maintain and where possible enhance undesignated fauna, flora and habitats.	Status and condition of undesignated known fauna, flora and habitats.	To maintain or enhance the status and condition of undesignated known fauna, flora and habitats.
Population & Human Health	2	Minimise the risk to and provide benefit for the community and human health.	A	Minimise risk to human health and risk to life within the local community.	Perceived health/disturbance to the local community and number of port-related accidents.	No negative impacts on the health of the community from port-related activities.
			B	Provide social infrastructure and amenity facilities for the local community.	Numbers and quality of social infrastructure and amenity facilities in the area.	Greater numbers of and improved social infrastructure and amenity facilities in the area.
			C	Provide employment for the local community.	Direct and indirect employment created by DPC.	Long-term increase in employment opportunities associated with Dublin Port.
Geology, Soils & Landuse	3	Protect the coastline and soils / sediments.	A	Protect the coastline from erosion.	Areas and rates of coastal erosion rates within the Port Estate.	Protection of the coastline from erosion, with no wider impacts on coastal processes.
			B	Protect the soil and sediment from contamination.	There is the potential contamination and sterilisation of soils and sediments.	No contamination or sterilisation of soils and sediments in port lands and

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
						the vicinity of the Port.
Water	4	Minimise impacts on water quality, water resource and flood risk.	A	No negative impacts on the status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	Surface, groundwater and coastal water body status.	Contribute to achieving the WFD objectives.
			B	Reduce water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Reduced water consumption and waste water generation from port activities.
			C	No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	Flood risk in the area of port activities.	No flood risk at port facilities, with no transferred flood risk to the local area.
Air, Noise and Vibration	5	Minimise impacts on air quality, noise and vibration.	A	Minimise impacts on air quality in the area.	Predicted emissions and air quality from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
			B	Minimise noise impacts in the area.	Predicted noise levels from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
			C	Minimise vibration impacts in the area.	Predicted vibration levels from port activities.	No breaches of legislative standards or limits resulting from port development and activity.
Climatic Factors	6	Minimise emissions of greenhouse gases and port carbon footprint	A	Minimise emissions of greenhouse gases and port carbon footprint from development and activity	Predicted greenhouse gas emissions. Carbon emissions	No increase in GHG emissions and carbon footprint from port development and activity per unit of freight and passenger throughput.

Environmental Topic	Objectives		Sub-Objectives		Indicators	Targets
			B	Adaptation to potential climatic change.	Climate change influenced flood risk in the area of port activities.	No risk from climate change influenced flooding at port facilities with no transferred risk to the local area.
Material Assets & Infrastructure	7	Protect existing and develop new material assets and infrastructure.	A	Protect existing and develop new material assets and infrastructure.	Area of DPC facilities. Energy and transport infrastructure. Freight and passenger throughput.	Development of new port infrastructure with minimal disruption to existing material assets and infrastructure.
		Minimise wastes from DPC activities.	B	Reduce waste generation and increase the rates of reuse and recycling at the Port.	Tonnages of waste being directed to landfills from port activities. Tonnages materials being recycled or reused.	No increase in percentage of waste being directed to landfill and increase in percentage of reuse and recycling from port development and activity.
Cultural, Architectural & Archaeological	8	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	A	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate, with particular regard to local maritime and industrial heritage.	There is the potential loss of or damage to identified heritage sites and features, or their setting. Heritage features incorporated into the Port Estate.	No loss of or damage to identified heritage sites and features, or their setting, from port development and activity. Incorporation of heritage features into the Port Estate.
Landscape & Visual Amenity	9	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port	A	Protect, and where possible enhance, landscape / seascape character and visual amenity in the vicinity of the Port	Landscape / seascape quality, designated views, and scenic amenity.	No negative impacts on the local landscape / seascape, views and visual amenity designations.

3.4 DUBLIN PORT MASTERPLAN 2040 OBJECTIVES

The Masterplan 2040 has been prepared to meet a number of strategic objectives identified by DPC as necessary to facilitate the effective operation of the Port in the period to 2040. The key objectives are set out below:

Port Functions

PF1: Ensure the safe operation and sustainable development of the Port and its approach waters and provide appropriate infrastructure, facilities, services, accommodation for ships, goods, and passengers to meet future demand.

PF2: Optimise the use of the lands on the Port Estate through rationalising the distribution and location of specific areas of activity such as Ro-Ro, Lo-Lo, Ferry services, Cruise Ships, Liquid / Bulk Goods and storage areas with necessary reconfigurations of service facilities as required.

PF3: Recover lands that are not being used for critical port activity and re-use for such activity.

PF4: Develop quaysides adjacent to deep water to their maximum in accordance with environmental / licensing requirements.

PF5: Use new and developing technology to increase throughput to its maximum.

PF6: Identify configurations for extending berthage and storage that mitigate impact on adjacent environmentally sensitive / designated areas.

PF7: Provide adequate water depth to accommodate larger / deeper draught vessels in accordance with environmental / licensing requirements.

Investment and Growth

IG1: Utilise the Masterplan as a framework for investment and growth based on the Port's projected demand forecasts.

IG2: Maximise throughput by means of structured changes for land usage and cargo storage.

Integrating with the City

IC1: Achieve closer integration with the City and people of Dublin through a commitment to respect soft values associated with the location, operation and impact of the Port.

IC2: Promote movement linkages in the form of pedestrian and cycle routes.

IC3: Enhance the general aesthetics / visual impact of the Port around the interface with the City.

Movement and Access

MA1: Provide for a public transport route to serve passengers and those working within the Port to improve the modal transport split.

MA2: Develop a transport plan for the Port Estate in conjunction with the NTA and Dublin City Council.

MA3: Promote non-motorised sustainable transport modes, including cycling and walking.

MA4: Maximise the use of rail transport for goods to and from the Port.

MA5: Promote the provision of future transport infrastructure that facilitates shipping and related Port activities.

MA6: Enhance existing infrastructure to provide dedicated access / exit routes to Port facilities.

Environment and Heritage

EH1: Ensure a development framework that is compatible with the adjoining areas with particular regard for areas in Dublin Bay which are designated under the Habitats Directive and the Birds Directive. This development framework will also take account of the recommendations and mitigation measures arising from the SEA, AA and other relevant plans for the protection of natural resources, including the protection of water resources, designated and non-designated sites, aquatic ecology and protection against flood risk.

EH2: Integrate new development with the built and natural landscapes of the surrounding area.

EH3: Promote sustainable design in the natural and built environment.

EH4: Secure the preservation of all protected structures within the Port Estate.

EH5: To promote in the development of future port facilities the principles of universal design to make environments inherently accessible for those with and without disabilities.

EH6: A promotion of excellence and focus on good quality in design where possible.

Recreation and Amenity

RA1: Promote Dublin Port for recreation and amenity by highlighting walks and cycle routes offering facilities for bird watching and viewing wildlife as well as views of the bay and the wider environment as well as the activity within the Port.

RA2: Develop landmark attractions such as a Port Heritage Centre.

RA3: Maximise public access to the waterfront and enhance the public realm by landscaping and by high cleanliness standards.

Security

S1: Ensure that key areas of the Port retain good security provision in accordance with ISPS requirements.

Future Review

FR1: Identify a strategy for future review of the Masterplan against underlying assumptions and performance of the Port business and also assess how the Masterplan is achieving its objectives and targets.

An SEA compatibility appraisal was conducted to test the compatibility of the Masterplan 2040 Objectives with the SEOs established at the SEA scoping stage. **Table 3.4** demonstrates this compatibility. The purpose of this appraisal is to demonstrate how the Objectives of the Masterplan incorporate and reflect the environmental topics and SEOs from the SEA. Green boxes with a ✓ demonstrate where Masterplan and SEA Objectives are compatible, while red boxes with an X demonstrate where Masterplan and SEA Objectives are not compatible. Please note that Objectives not being compatible do not mean that they are in conflict, it only demonstrates where a Masterplan Objective and an SEA Objective are not similar.

Table 3.4 Compatibility of Objectives

Masterplan 2040 Objective	SEA Objective								
	BFF	PHH	S	W	ANV	C	MA	H	L
PF1	X	✓	X	X	X	X	✓	X	X
PF2	X	✓	X	X	X	X	✓	X	X
PF3	X	✓	X	X	X	X	✓	X	X
PF4	X	✓	X	X	X	X	✓	X	X
PF5	X	✓	X	X	X	X	✓	X	X
PF6	✓	✓	X	X	X	X	✓	X	X
PF7	X	✓	X	X	X	X	✓	X	X
IG1	X	✓	X	X	X	X	✓	X	X
IG2	X	✓	X	X	X	X	✓	X	X
IC1	X	✓	X	X	X	X	X	X	X
IC2	X	✓	X	X	✓	✓	✓	X	✓
IC3	X	✓	X	X	X	X	X	X	✓
MA1	X	✓	X	X	✓	✓	✓	X	X

MA2	x	x	x	x	x	x	✓	x	x
MA3	x	✓	x	x	✓	✓	x	x	✓
MA4	x	✓	x	x	✓	✓	✓	x	x
MA5	x	✓	x	x	x	x	✓	x	x
MA6	x	✓	x	x	x	x	✓	x	x
EH1	✓	✓	✓	✓	✓	✓	✓	✓	✓
EH2	✓	✓	x	x	x	x	✓	✓	✓
EH3	✓	✓	✓	✓	✓	✓	✓	✓	✓
EH4	x	x	x	x	x	x	x	✓	x
EH5	x	✓	x	x	x	x	x	x	x
EH6	x	✓	x	x	✓	✓	✓	x	✓
RA1	✓	✓	x	x	x	x	✓	x	✓
RA2	x	✓	x	x	x	x	✓	✓	✓
RA3	x	✓	x	x	x	x	x	x	✓
S1	x	✓	x	x	x	x	x	x	x
FR1	✓	✓	✓	✓	✓	✓	✓	✓	✓

It would be recommended at the next review of the Masterplan that the Objectives are reviewed and where possible incorporate more of the SEOs from the SEA, to further demonstrate that sustainability is at the core of future planning for Dublin Port development and operation.

3.5 DIFFICULTIES AND DATA GAPS

Difficulties were encountered in the development of the Masterplan 2040 and its SEA due to the greater baseline information being available for the core Dublin Port Estate compared to the Dublin Inland Port. As a result, to delve into significant project level detail for the core Dublin Port, as the information happens to be available, would not lead to a balanced assessment of options as this would not be possible for the Dublin Inland Port. A strategic level of assessment that is replicable across all geographic areas was essential. Detailed planning for the infrastructure options would however be expected to go into this project level information in the future, with new data collection and surveys as required. In addition, where data gaps were noted, specific mitigation and monitoring is recommended in order to rectify this.

The long timeframe of the Masterplan 2040 led to issues with establishment of baseline conditions, as the environment, port operations, legislation and policies are constantly changing. However the Dublin Port Masterplan is expected to be reviewed approximately every five years, with the environmental baseline conditions updated at this point to match these changes.

3.6 CONSULTATIONS

The SEA Screening Report was produced in May 2017 and was sent to the five statutory authorities listed in **Section 1.8**. Responses were received from the EPA and the DCHG, and can be found in **Appendix A** of this Environmental Report.

An SEA Scoping Report for the Masterplan 2040 was circulated in August 2017 to both the Irish and UK statutory consultees listed in **Section 1.8**. Non-statutory stakeholders were also provided with the SEA Scoping Report and all information was made publically available on the DPC website. The list of non-statutory stakeholders who were provided with the SEA Scoping Report for comment was as follows:

- Department of Transport, Tourism and Sport (DTTAS);
- Dublin City Council;
- Office of Public Works (OPW) including the Eastern Catchment Flood Risk Assessment and Management (CFRAM) Project;
- Electricity Supply Board (ESB);
- NTA;
- Inland Fisheries Ireland (IFI);
- Transport Infrastructure Ireland (TII);
- Bird Watch Ireland;
- Local Residents Associations;
- Local Amenity Groups;
- Dublin Port Tenants;
- Local Business Community The Heritage Council;
- An Taisce; and,
- Irish Nautical Trust.

Responses to the Scoping Report were received from the EPA, DCHG, TII, Northern Ireland Environment Agency (NIEA), Scottish Environmental Protection Agency (SEPA), Historic Environment Scotland, Historic England, Natural England, and Natural Resources Wales (NRW), all of which can be found in **Appendix B** of this SEA Environmental Report. In addition, a scoping workshop was held in September 2017 to allow for statutory consultees to participate in the scoping phase of the Masterplan 2040. All responses received for this consultation have been incorporated into the environmental assessments where feasible.

3.6.1 Proposed Consultation on the Dublin Port Masterplan 2040 and SEA Environmental Report

Consultations on the Masterplan 2040, SEA Environmental Report and NIS will commence in April 2018 and run for six weeks. Documents will be made available for viewing at Dublin Port Centre

(Alexandra Road, Dublin 1) and digitally via the DPC website:
<http://www.dublinport.ie/masterplan/masterplan-documents/>

4 DESCRIPTION OF THE DUBLIN PORT MASTERPLAN 2040

4.1 INTRODUCTION

Table 4.1 sets out the proposed elements of the Masterplan 2040 and identifies those to be assessed as part of the SEA and why. This information is provided to generate discussion during the consultation process and is subject to change based on the comments received.

Table 4.1 Proposed Elements of the Masterplan 2040 to be Assessed

	Masterplan 2040 Section	Will this be assessed in the SEA?
1	Foreword of the Masterplan 2040 detailing the role of DPC, the background of the Dublin Port Masterplan and relevant stakeholders.	No – This provides factual background information on DPC, the Dublin Port Masterplan and stakeholders.
2	An executive summary of the Masterplan 2040.	No – This provides a summary of the key points discussed in the later sections relating to Dublin Port, the Dublin Port Masterplan, environmental assessment, and future projects. Although these projects will be assessed, this will be in a later section.
3	The rationale for the Masterplan.	Yes – This provides a discussion about the purpose, consultation, status, objectives, SEA and AA, policy context, and a background to the development option detailed in a later section.
4	Details the economic forecasts relevant to DPC.	No – This provides factual information about the economic outlook for the Irish economy and how it links into anticipating future trends (and requirements) at Dublin Port.
5	Sets out the infrastructure proposals.	Yes – The infrastructure development option that is available will be assessed within the environmental report.
6	Describes the Port lands in terms of its value, nature of the development on the land, intensification of land use and safeguarding of the lands.	Yes – This is a description of how the land areas included within the Masterplan 2040 are used and will be used by DPC. The changes in land use will be assessed within the environmental report.
7	Details the transport and inland connectivity concerning the operation of Dublin Port.	Yes – The option related to transport within the Port will be assessed within the environmental report.
8	Outlines the social community and economic impacts of Dublin Port	No – This section describes the societal integration of the Port with Dublin City and its people, and the economic impact of the Port. Although there is a summary of potential methods allowing for an increase in the access of the Port to the public, the infrastructure option is considered in Section 5.
9	Sets out the safety and security in place at Dublin Port	No – This describes safety and security procedures at Dublin Port
10	Describes the environmental assessments undertaken to ensure that the Masterplan 2040 complies with relevant environmental legislation and to inform the process of identifying the suitable strategies that will,	No – This is a statement about the environmental assessments undertaken for the Masterplan 2040. This should however include guarantees that the Masterplan 2040 will comply with recommendations from the

	Masterplan 2040 Section	Will this be assessed in the SEA?
	where possible, enhance the environment.	environmental assessments.
11	Outlines the necessary steps in the implementation of the Masterplan 2040	No – This provides an outline of what is needed to be done in order to implement the Masterplan 2040 in a successful manner.
12	Outlines how the implementation of the Masterplan 2040 will be monitored and reported, and then reviewed and updated at regular intervals.	No – This is a statement about future monitoring, data collection and reporting for the Masterplan 2040. This should include mitigation and monitoring recommendations from the environmental assessments.

4.2 GEOGRAPHIC SCOPE

The land areas covered within the Masterplan 2040 are summarised in **Section 2.2** and illustrated in **Figure 2.1**. The geographic scope of the Masterplan 2040 will include activities occurring within the Port Estate, which includes both DPC land in the core Dublin Port Estate and DPC land in the Dublin Inland Port, activities occurring in the marine environment including the navigation channel, berths and the approach channel, and an area encompassing the SPAR.

The geographic scope of the environmental assessment within the SEA encompasses the following areas:

- An area of 1 km around the Port Estate (including dredge channels) for the assessment of: nationally designated biodiversity sites; geology, soils and land use; water; air, noise and vibration; climatic factors; material assets and infrastructure; culture, architecture and archaeology; and, landscape and visual amenity.
- An area of 5 km around the Port Estate for the assessment of population, as this is taken as being within a reasonable distance at which the population may be directly affected by the implementation of the Masterplan 2040.
- An area of at least 15 km around the Port Estate for the assessment of the potential impacts on European sites under the Habitats Directive. This buffer has been increased to 25 km in some instances for Natura 2000 sites that have a potential marine impact pathway from the Port Estate, as identified by the screening stage of the AA.

4.3 TEMPORAL SCOPE

The Dublin Port Masterplan covers the period from 2012 to 2040 with periodic reviews to be undertaken, as required. This Environmental Report relates to the first of its revisions – The Masterplan 2040. Phasing of the proposed developments in the Masterplan will take place in anticipated timeframes throughout the Plan period. These timeframes within the Masterplan have currently been split up as follows:

- 2017 – 2019 (2 years)
- 2019 – 2021 (2 years)
- 2021 – 2026 (5 years)
- 2026 – 2031 (5 years)
- 2031 – 2036 (5 years)
- 2036 – 2040 (4 years)

For the purposes of the SEA these phases of the Masterplan 2040 will be described as the short (2017 - 2021), medium (2021 - 2031), and long (2031+) term timeframes.

In addition to the timeframe of the development phasing, in line with the SEA Directive; there will be the consideration of short, medium and long-term impacts (including reference to secondary, cumulative, synergistic, permanent and temporary, positive or negative effects) during the assessment of the Masterplan 2040.

The baseline information to be included in the assessment of an option will change, depending on the timeframe stage of the Masterplan 2040. In this way, the short, medium and long term impacts of the projects making up an option will depend on the year the project is to be developed and the development that has preceded it, as this determines the baseline state of Dublin Port at that time. For example, development in the short term of the timeframe of the Masterplan 2040 will be concentrated on Northern Port Lands, resulting in the baseline information of this area differing between the short term and the medium term, when construction in this area will be complete.

5 BASELINE AND RELEVANT ENVIRONMENTAL ISSUES

5.1 INTRODUCTION

Included in the following section is a discussion of the environmental baseline for the Masterplan 2040 area. The baseline has been divided by topic into the issues requiring assessment under the SEA legislation. The purpose of the following section is to demonstrate the level of baseline environmental information to be used in the assessment of potential impacts of development. This baseline information will form the indicators which the development options will have the potential to impact upon. Future variation in these indicators due to the Masterplan 2040 will be monitored as part of the Masterplan 2040 and SEA. Unless otherwise stated, the environmental issues discussed in the following section are generally transected by or within 1 km of the potential development options.

5.2 BIODIVERSITY, FLORA & FAUNA

There is a variety of natural habitats within and in close vicinity of the Dublin Port Estate, protected by a range of designations. There are three Special Areas of Conservation (SACs) within 1 km of the Port Estate, namely the South Dublin Bay SAC, North Dublin Bay SAC and Rockabill to Dalkey Island SAC. These SACs are designated in accordance with the Habitats Directive (92/43/EEC) for the conservation of certain habitats and species. Special Protection Areas (SPAs) are designated under The EU Directive on the Conservation of Wild Birds (2009/147/EC), “The Birds Directive”, as areas that are important for rare and vulnerable bird species as they use them for breeding, feeding, wintering or migration. There are two SPAs within 1 km of the Port Estate, namely the South Dublin Bay and River Tolka SPA, and North Bull Island SPA. Together these SAC and SPA European sites form part of the Natura 2000 Network. Any development with the potential to impact upon a Natura 2000 designated site is likely to require AA under the Habitats Directive 92/43/EEC.

An AA Screening has been undertaken for the Masterplan 2040. This screening exercise established that 18 European sites (nine SACs and nine SPAs) have the potential to experience an impact from development arising from the Masterplan 2040. Details of these sites are found in **Table 5.1**. These sites require further investigation at Stage 2 AA.

Table 5.1 SACs and SPAs Screened in for Further Assessment

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
IE000204	Lambay Island SAC	<p><u>Conservation Objectives Specific Version 1.0 (22/07/13)</u> To maintain the favourable conservation condition of 2 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets; and of 2 no. Annex II species in the SAC, as defined by 5 no. attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] <p>Annex II Species</p> <ul style="list-style-type: none"> ▪ Grey seal (<i>Halichoerus grypus</i>) [1364] ▪ Harbour seal (<i>Phoca vitulina</i>) [1365] 	22km by sea
IE000208	Rogerstown Estuary SAC	<p><u>Conservation Objectives Specific Version 1.0 (14/08/13)</u> To maintain the favourable conservation condition of 7 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes)* [2130] 	24km by sea
IE000205	Malahide Estuary SAC	<p><u>Conservation Objectives Specific Version 1.0 (27/05/13)</u> To maintain the favourable conservation condition of 7 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • <i>Salicornia</i> and other annuals colonizing mud and sand [1310] • <i>Spartina</i> swards (<i>Spartinion maritima</i>) • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes") [2120] • *Fixed coastal dunes with herbaceous vegetation ("grey dunes") [2130] 	19km by sea

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
IE000199	Baldoye Bay SAC	<p><u>Conservation Objectives Specific Version 1.0 (19/11/12)</u> To maintain the favourable conservation condition of 4 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • <i>Salicornia</i> and other annuals colonizing mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] 	14km by sea
IE000202	Howth Head SAC	<p><u>Conservation Objectives Specific Version 1.0 (06/12/16)</u> To maintain the favourable conservation condition of 2 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • European dry heaths [4030] 	6.7km by sea
IE000206	North Dublin Bay SAC	<p><u>Conservation Objectives Specific Version 1.0 (06/11/13)</u> To maintain the favourable conservation condition of 9 no. Annex 1 habitat type in the SAC, as defined by a range of attributes and targets; and of 1 no. Annex II species in the SAC, as defined by 5 no. attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonizing mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • <i>Petalophyllum ralfsii</i> [1395] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes") [2120] • *Fixed coastal dunes with herbaceous vegetation ("grey dunes") [2130] • Humid dune slacks [2190] 	2.5km by sea 11.9km downstream of Dublin Inland Port
IE000210	South Dublin Bay SAC	<p><u>Conservation Objectives Specific Version 1.0 (22/08/13)</u> To maintain the favourable conservation condition of 1 no. Annex 1 habitat type in the SAC, as defined by 4 no. attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] 	Site abuts Dublin Port estate

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
IE003000	Rockabill to Dalkey Island SAC	<p><u>Conservation Objectives Specific Version 1.0 (07/05/13)</u> To maintain the favourable conservation condition of 1 no. Annex 1 habitat type in the SAC, as defined by 3 no. attributes and targets; and of 1 no. Annex II species in the SAC, as defined by 2 no. attributes and targets.</p> <p>Annex I Habitats</p> <ul style="list-style-type: none"> Reefs [1170] <p>Annex II Species</p> <ul style="list-style-type: none"> Harbour porpoise (<i>Phocoena phocaena</i>) [1351] 	6.6km by sea
IE003015	Codling Fault Zone SAC	<p><u>Conservation Objectives Generic Version 5.0 (15/08/16)</u> Site specific COs have not been published. The generic CO is to maintain or restore the favourable conservation condition of the Annex I habitat Submarine structures made by leaking gases [1180]. Conservation attributes and targets have not been published.</p>	33km seaward of Dublin Port
IE004024	South Dublin Bay & River Tolka Estuary SPA	<p><u>Conservation Objectives Specific Version 1.0 (09/03/15)</u> To maintain the favourable conservation condition of 13 no. Annex 1 species in the SPA, as defined by 2 no. attributes and targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target.</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A140] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Croicocephalus ridibundus</i>) [A179] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] 	Site abuts Dublin Port estate
IE004006	North Bull Island SPA	<p><u>Conservation Objectives Specific Version 1.0 (09/03/15)</u> To maintain the favourable conservation condition of 17 no. Annex 1 species in the SPA, as defined by 2 no. attributes and</p>	1.2km by air

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
		<p>targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Teal (<i>Anas crecca</i>) [A052] • Pintail (<i>Anas acuta</i>) [A054] • Shoveler (<i>Anas clypeata</i>) [A056] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Sanderling (<i>Calidris alba</i>) [A144] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Curlew (<i>Numenius arquata</i>) [A160] • Redshank (<i>Tringa totanus</i>) [A162] • Turnstone (<i>Arenaria interpres</i>) [A169] • Black-headed Gull (<i>Croicocephalus ridibundus</i>) [A179] 	<p>2.6km by sea</p> <p>11.9km downstream of Dublin Inland Port</p> <p>10km by air from Dublin Inland Port</p>
IE004016	Baldoye Bay SPA	<p>Conservation Objectives Specific Version 1.0 (27/02/13)</p> <p>To maintain the favourable conservation condition of 6 no. Annex 1 species in the SPA, as defined by a series of attributes and targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] 	<p>14km by sea</p> <p>6.7km by air from Dublin Port</p> <p>9.8km by air from Dublin Inland Port</p>
IE004113	Howth Head Coast SPA	<p>Conservation Objectives Generic Version 5.0 (15/08/16)</p> <p>To maintain the favourable conservation condition of the Annex 1 species in the SPA, as defined by a series of attributes and targets</p>	<p>9.3km by sea</p> <p>9.1km by air</p>

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
		Special Conservation Interests <ul style="list-style-type: none"> Kittiwake (<i>Rissa tridactyla</i>) [A188] 	
IE004117	Ireland's Eye SPA	<p>Conservation Objectives Generic Version 5.0 (15/08/16) To maintain the favourable conservation condition of the 5 no. Annex 1 species in the SPA, as defined by a series of attributes and targets</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> Cormorant (<i>Phalacrocorax carbo</i>) [A017] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] 	14km by sea 9.8km by air
IE004172	Dalkey Islands SPA	<p>Conservation Objectives Generic Version 5.0 (15/08/16) To maintain the favourable conservation condition of the 3 no. Annex 1 species in the SPA, as defined by a series of attributes and targets</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] 	9.3km by sea 9.1km by air
IE004025	Malahide Estuary SPA	<p>Conservation Objectives Specific Version 1.0 (16/08/13) To maintain the favourable conservation condition of 14 no. Annex 1 species in the SPA, as defined by a series of attributes and targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Pintail (<i>Anas acuta</i>) [A054] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] 	21km by sea 8.7km by air from Dublin Inland Port

Site Code	Site Name	Conservation Objectives & Qualifying Interests	Distance from Dublin Port
		<ul style="list-style-type: none"> • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Redshank (<i>Tringa totanus</i>) [A162] 	
IE004015	Rogerstown Estuary SPA	<p><u>Conservation Objectives Specific Version 1.0 (20/05/13)</u></p> <p>To maintain the favourable conservation condition of 11 no. Annex 1 species in the SPA, as defined by a series of attributes and targets; and of wetland habitats in the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, as measured by 1 no. attribute and target</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> • Greylag Goose (<i>Anser anser</i>) [A043] • Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Shoveler (<i>Anas clypeata</i>) [A056] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Redshank (<i>Tringa totanus</i>) [A162] 	<p>24km by sea</p> <p>11.7km by air from Dublin Inland Port</p>
IE004069	Lambay Island SPA	<p><u>Conservation Objectives Generic Version 5.0 (15/08/16)</u></p> <p>To maintain the favourable conservation condition of the 10 no. Annex 1 species in the SPA, as defined by a series of attributes and targets</p> <p>Special Conservation Interests</p> <ul style="list-style-type: none"> • Fulmar (<i>Fulmarus glacialis</i>) [A009] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Shag (<i>Phalacrocorax aristotelis</i>) [A018] • Greylag Goose (<i>Anser anser</i>) [A043] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] • Herring Gull (<i>Larus argentatus</i>) [A184] • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200] • Puffin (<i>Fratercula arctica</i>) [A204] 	<p>22km by sea</p> <p>19.2km by air from Dublin Inland Port</p>

A Stage 2 AA was undertaken in conjunction with this SEA Environmental Report. The findings of the NIS which was produced as part of Stage 2 of the AA have been incorporated into the assessment section (**Section 8** and **Appendix F**) of the report.

The Convention on Wetlands in Ramsar, Iran (1971), called the "Ramsar Convention", is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance. These designations are known as Ramsar sites. There are two Ramsar sites within 1 km of the Port Estate, namely the North Bull Island Ramsar site and the Sandymount Strand/Tolka Estuary Ramsar site. The SAC, SPA and Ramsar sites within the vicinity of the Port Estate are shown in **Figure 5.1**.

OSPAR Marine Protected Areas (MPAs) are sites identified under the OSPAR Convention to protect the marine environment of the North East Atlantic. No legislation is currently used in Ireland to legally underpin protected areas established to fulfil commitments under international conventions. Therefore, since the creation of OSPAR MPAs would not afford any legal protection to the relevant areas on their own, Ireland (like other OSPAR contracting Parties) established a number of its SACs as OSPAR MPAs for marine habitats. The North Dublin Bay MPA is located to the north-east of the Northern Port Lands.

In 1981, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) recognised the importance of Dublin Bay by designating North Bull Island as a Biosphere because of its rare and internationally important habitats and species of wildlife. To support sustainable development, UNESCO's concept of a Biosphere has evolved to include not just areas of ecological value but also the areas around them and the communities that live and work within these areas. There have since been additional international and national designations, covering much of Dublin Bay, to ensure the protection of its water quality and biodiversity. To fulfil these broader management aims for the ecosystem, the Biosphere was expanded in 2015. The Biosphere now covers Dublin Bay, reflecting its significant environmental, economic, cultural and tourism importance, and extends to over 300 km². This includes ecologically significant habitats such as the Tolka and Baldoyle Estuaries, Howth Head, Dalkey Island, Killiney Hill, and Booterstown Marsh.

Natural Heritage Areas (NHAs) are designated under the Wildlife Act (1976-2000) as they are considered important habitats which support animals or vegetation of importance. There are no NHAs within 1 km of the Port Estate. However there are five proposed Natural Heritage Areas (pNHAs), namely North Dublin Bay, South Dublin Bay, Royal Canal, Grand Canal, and Dolphins, Dublin Docks, as illustrated in **Figure 5.2**. These were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. The pNHAs are subject to limited statutory protection, but are recognised for their ecological value by planning and licensing authorities.

There are no national parks within 1 km of the Port Estate; however there is one national nature reserve within 1 km of the Port Estate, being the North Bull Island Nature Reserve which is located north of the Northern Port Lands. Nature Reserves are areas of importance to wildlife and are

protected under Ministerial order. There are no Salmonid Rivers or Lakes or Shellfish Waters within or in 1 km of the Port Estate. The National and Local designated sites within the vicinity of the Dublin Port Estate are shown in **Figure 5.2**.

In addition to these designated areas there are also sensitive and valued habitats and species which are reported by each council area in their Local Biodiversity Action Plans (LBAPs). These Plans establish the natural heritage value for the area and guide where development should be allowed to happen and what enhancement works could be undertaken to improve biodiversity. The Dublin City Biodiversity Action Plan 2015 – 2020 highlights the importance of North Bull Island (located north of the Northern Port Lands) which has been designated with a Special Amenity Area Order (a landscape of national importance for its aesthetic/recreational value) and the international and national designations mentioned above. This site supports nine habitats listed under Annex I of the EU Habitats Directive and a range of legally-protected species under the EU Habitats Directive, including petalwort (a species of liverwort), marsh fritillary butterfly, two species of seal (common and grey), three species of bat (common pipistrelle, soprano pipistrelle, and leisler's), and nationally and internationally-important numbers of 26 bird species. The River Liffey (which flows through and terminates within the core Dublin Port Estate) is also emphasised as an important habitat within the city, as it supports Atlantic salmon, brook lamprey, river lamprey and freshwater crayfish, which are legally-protected under the EU Habitats Directive. In addition, Dublin Bay supports a number of Annex II protected species listed in the EU Habitats Directive including grey seals, harbour seals and bottlenose dolphins.

The National Parks and Wildlife Service (NPWS) commissioned the Sand Dunes Monitoring Project from 2004 to 2006. The data collected as part of this project report a number of sand dunes within 1 km of the Port Estate, all located on North Bull Island within the North Dublin Bay SAC. The NPWS undertook the Saltmarsh Monitoring Project from 2006 to 2008, and reported a number of saltmarshes within 1 km of the Port Estate, also located on North Bull Island within the North Dublin Bay SAC.

Birdwatch Ireland and DPC launched a programme of waterbird monitoring and research within Dublin Bay called the Dublin Bay Birds Project which has been ongoing since 2013. The project has recently been extended for a further five years (2017-2022). As well as the Dublin Bay Birds Project, DPC have initiated a Birds Monitoring Programme as part of the conditions laid out for the ABR Project. Baseline information has been collected collaboratively between the two projects. This data relates to the Dublin Bay area and hence does not include the Dublin Inland Port.

The ABR Bird Monitoring Report 2016/2017 reported trends in bird species between 2012 and 2016/2017. The estimated total population of Black Guillemots in Dublin Port in 2016 was the lowest recorded to date, which is thought to be attributed to extreme wind conditions and severe storms. Tern colony sizes at a number of sites at Dublin Port have decreased between 2012 and 2016, with a decrease in nests. This is likely to be a result of reduced nesting space and a complete colony failure in 2012 which likely lowered recruitment rates in subsequent years. Further monitoring of a number of

wintering waterbird numbers is also undertaken yearly although no trends between years were discussed. The Dublin Port Masterplan has had no reported impacts on birds at the core Dublin Port to-date.

Project-specific monitoring for large-scale projects such as the ABR Project is ongoing. With regard the ABR Project, monitoring includes employing Marine Mammal Observers (MMOs) to ensure impacts of coastal works (including piling, demolition, dredging and dumping) are minimised, deployment of four Static Acoustic Monitors (SAMs) and two Passive Acoustic Monitors (PAMs) to detect calls of marine mammals in the area, monitoring of bird species as described above (the Dublin Bay Birds Project data feeds into baseline data for the ABR Project), and undertaking benthic, river lamprey, seal, bat and Invasive Alien Species (IAS) surveys. Non-native, invasive species could be a threat to the native flora and fauna in the area. The European Communities (Birds and Natural Habitats) Regulations, 2011, provide a list IAS in Ireland. Eighteen of these species have been recorded in Dublin City. DPC published an IAS plan as part of the ABR Project in 2016 which included an initial IAS risk assessment to identify those IAS that are likely to be relevant and present risks of introduction or dispersal during the project. This assessment was undertaken in an area of the core Dublin Port Estate. None of the 18 IAS found in Dublin City were found to be present during the IAS survey undertaken by an ecologist in 2016.

An AA Screening Report for the proposed boundary treatment works within the Dublin Inland Port was undertaken in 2016. The site under investigation for this study covers the western land parcel of the Dublin Inland Port. The area is described is being dominated by lands formerly managed as a golf course which is now akin to a dry meadows and grassy verges habitat. Coarse grass is common in this area with scattered parcels of immature woodland. There is a lack of background information relating to the biodiversity at the Dublin Inland Port in comparison to the core Dublin Port Estate.

Key Issues

Dublin Port is a historically highly industrialised area, which supports a number of important species and habitats within this predominantly port environment. In addition, there is an array of internationally, nationally and locally protected sites and species in close vicinity to the core Dublin Port Estate which are capable of surviving with port operations ongoing. The operation of Dublin Port allows for some of these designated habitats and species to thrive. For example, the building of the Bull Wall in 1825 resulted in the change in tidal effects and sedimentation which led to the development of North Bull Island with all of its associated habitats and species, and port operations such as transferring grain from ships to grain stores supplies many bird species with food which is imperative to their survival.

Construction projects, such as development of Dublin Port, have the potential for direct and indirect impacts on international, national and local designated sites, habitats and species. The construction phase of development at the Dublin Port Estate has the potential for increased disturbance to local habitats and species. Many of the infrastructure proposals described in the Masterplan 2040 will

require new marine infrastructure to be constructed and operated. Marine engineering construction carries an inherent risk of accidental release of suspended sediments or polluting substances to the marine environment. The risk of suspended sediments and / or contaminants escaping into the marine environment provides a hydrological pathway of effect leading to a deterioration of water-dependent designated sites and species in close vicinity to the Dublin Port Estate. Appropriate mitigation and control strategies by DPC will be necessary in order to reduce the likelihood of the introduction of IAS to the Dublin Port Estate from other areas within and outside Ireland, the spread of IAS from the Dublin Port Estate along the City's rivers and canals, and the movement of soil and other materials between construction sites.

Although there is the potential for damaging impacts of development on biodiversity within and in close vicinity to the Port Estate, the development of Dublin Port may also provide the opportunity for habitat creation and enhancement, along with increasing the public awareness of local biodiversity, flora and fauna issues, which could give greater protection and appreciation in the long term.

DPC plan to establish the true Natural Environmental Capital of the port, with a view to monitoring this capital in the future as an essential set of indicators for sustainable port operation and development.

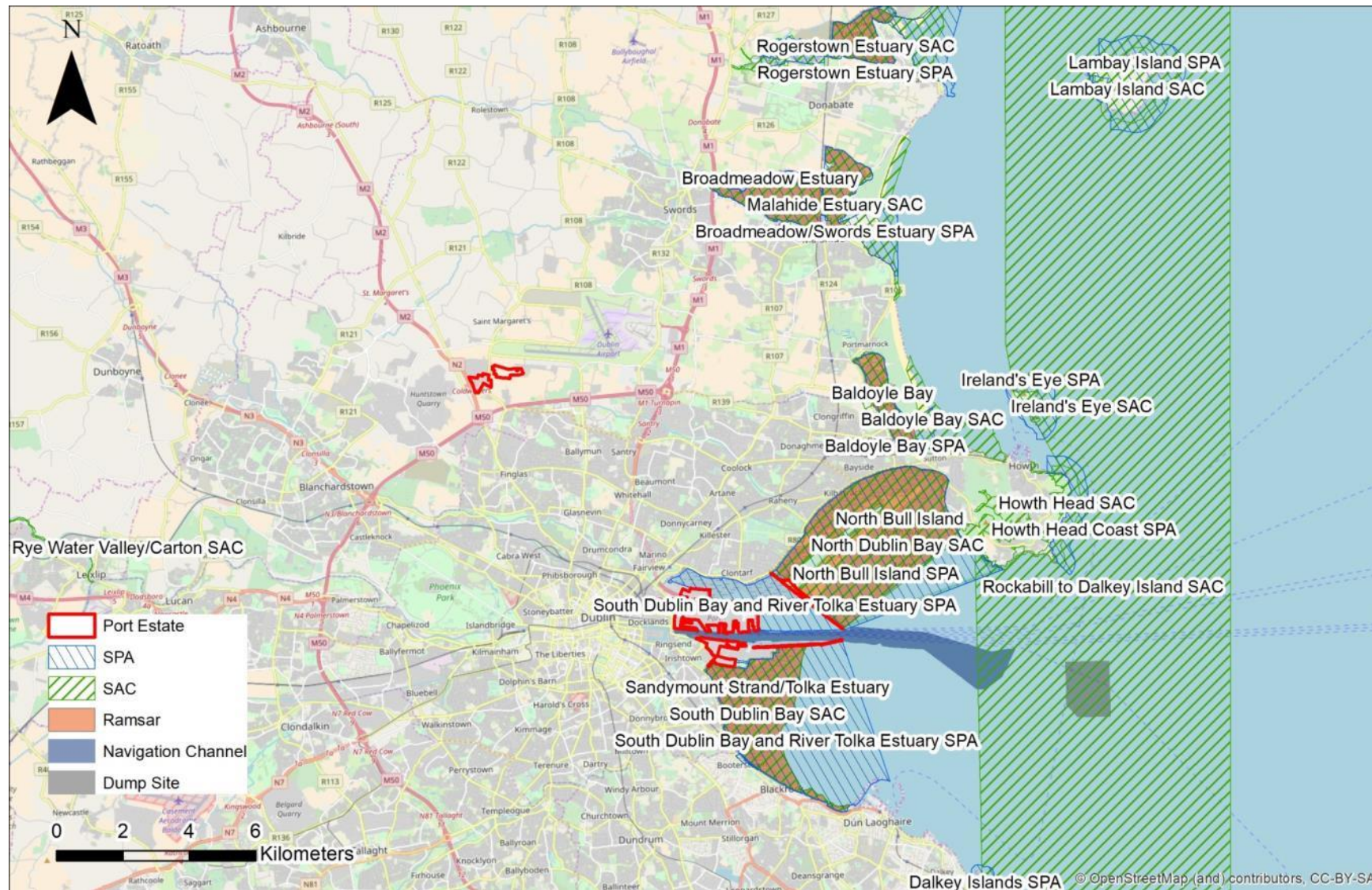


Figure 5.1 Sites with International Environmental Designations

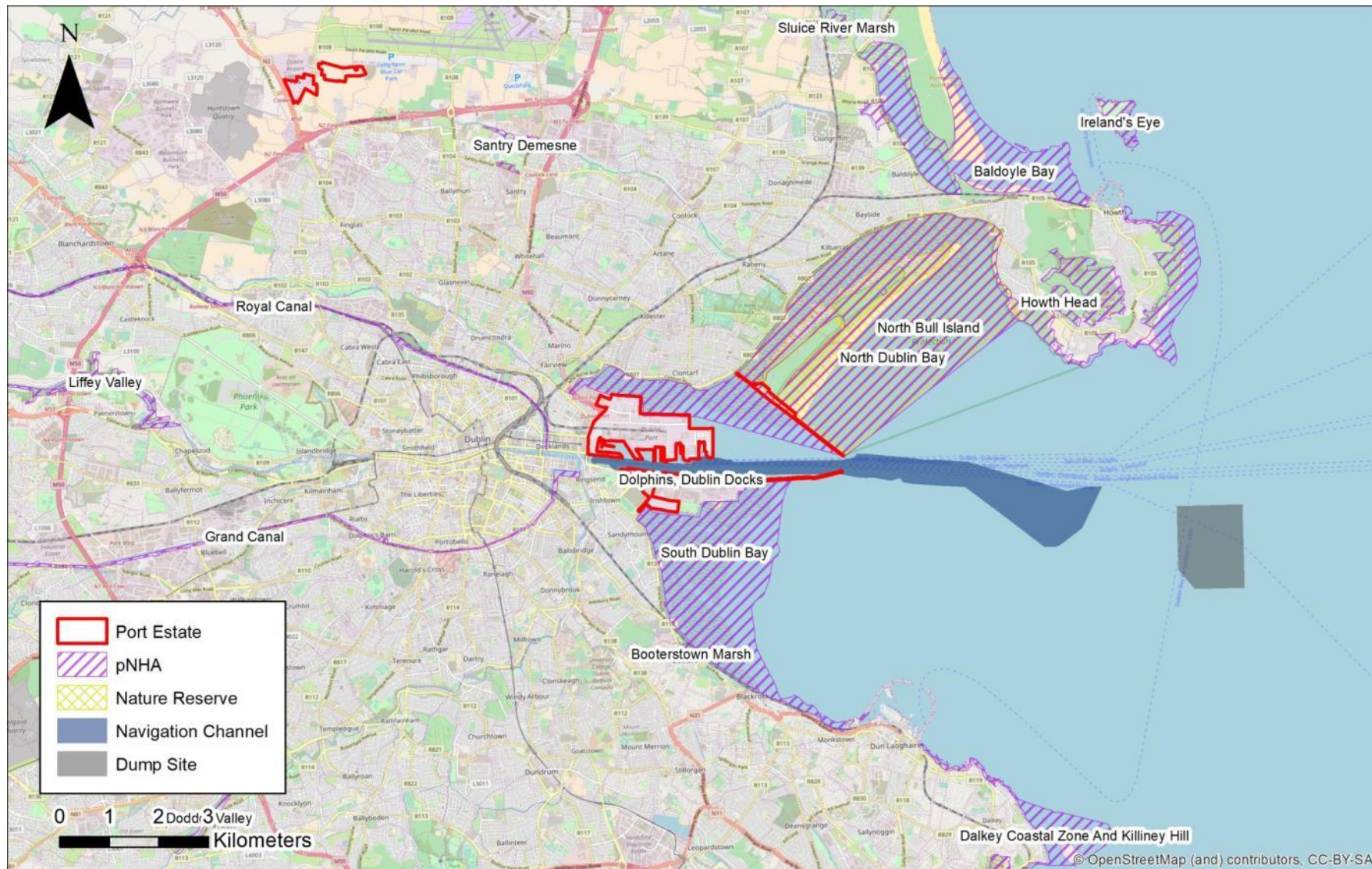


Figure 5.2 Sites with National Environmental Designations

5.3 POPULATION & HUMAN HEALTH

From the 2016 census within Ireland there was found to be approximately 570,000 people living within 5 km of the Dublin Port Estate. **Figure 5.4** illustrates the population density per km² within and in the vicinity of the Dublin Port Estate, based on 2016 census data. The highest population densities are found in areas within and around Dublin City Centre. The local communities likely to be impacted by the implementation of the Masterplan 2040 are illustrated in **Figure 5.4**.

The core Dublin Port Estate is located within the Dublin City Council administrative area. The 2016 census results for Dublin City Council reveal a total population of 554,554, of which 272,270 were male and 282,284 were female. The population was made up of 98,671 people under the age of 18 and 455,883 people 18 years and older. The 2016 census results reveal that 7% of the population aged 15+ within Dublin City Council were unemployed having lost or given up a previous job. This is below the 2016 national average unemployment rate of 12.9%. Within Dublin City Council 56% of people considered themselves to be in very good health, 27% in good health, 8% in fair health and 2% in bad or very bad health. The percentage of people in bad or very bad health in Dublin City Council is slightly above the national average of 1.6%.

The Dublin Inland Port is located within the Fingal County Council administrative area. The 2016 census results for Fingal County Council reveal a total population of 296,020, of which 145,240 were male and 150,780 were female. The population was made up of 83,615 people under the age of 18 and 212,405 people 18 years and older. The 2016 census results reveal that 6% of the population aged 15+ within Fingal County Council were unemployed having lost or given up a previous job. This is below the 2016 national average unemployment rate of 12.9%. Within Fingal County Council 62% of people considered themselves to be in very good health, 26% in good health, 6% in fair health and 1% in bad or very bad health. The percentage of people in bad or very bad health in Fingal County Council is below the national average of 1.6%.

Dublin Port provides considerable employment both directly and indirectly. The EU Commission has indicated that for every additional million tonnes passing through a port there is the creation of an average of 300 new jobs in the port region (OECD, 2013). Between the beginning of the Dublin Port Masterplan 2012 and 2016 there has been an additional 7 million tonnes of throughput (both imported and exported) passing through Dublin Port, resulting in the creation of around 2,100 jobs directly and indirectly.

The number of permanent employees employed directly by DPC is illustrated in **Figure 5.3**. Employment numbers have increased since the implementation of the Masterplan 2012, with 148 employees recorded in 2016. In addition to this the developments at the Port directly create employment through construction and then indirectly through the various material supply chains and workers services.

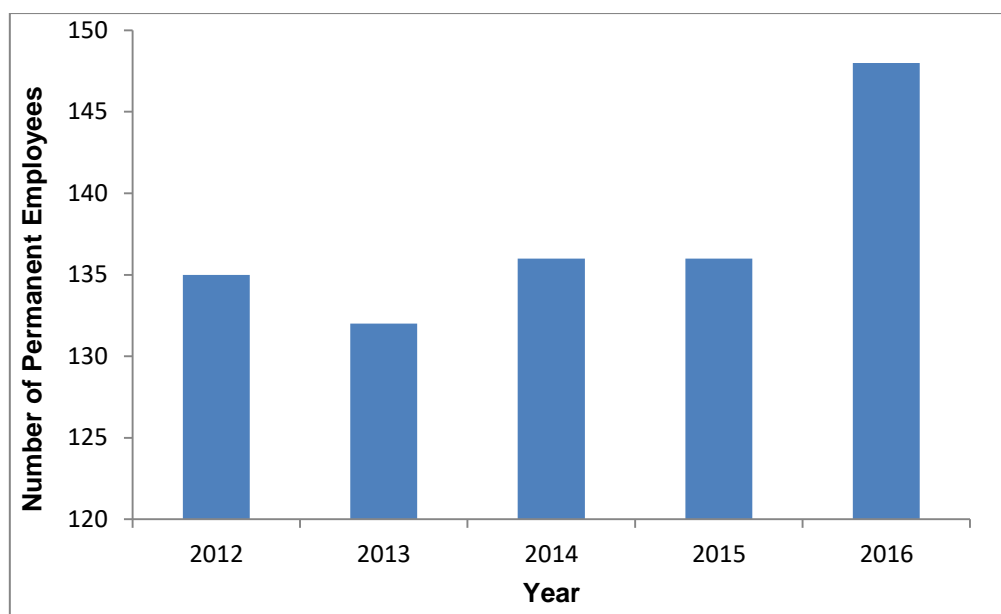


Figure 5.3 **Number of DPC Permanent Employees**

Key Issues

Dublin Port is a key part of the economic and social infrastructure in Dublin. The Port is a key provider of both employment and social amenities. It is an objective of the Dublin Port Masterplan to promote Dublin Port for recreation and amenity, and this has been implemented with projects such as the opening of Dublin Port Centre to reintegrate the Port with the City in 2017, and the annual River Fest which is held by DPC over the June Bank holiday weekend to provide a number of port and water-related activities, and entertainment to the public. The operation of Dublin Port has the potential for a certain amount of disturbance to the community, as it is an accumulation of a large number of industrial operations over a large area. However these impacts are coupled to the port benefits of employment, recreation and amenity.

Construction activities associated with the development of Dublin Port may lead to short term disturbances to the local community. Longer term impacts on the local community may also arise from the increased volumes of throughput passing through the Port in the future. However it is a policy imperative for DPC that the development and operation of the Port must benefit the City and people of Dublin. Greater numbers of and improved social infrastructure and amenity facilities will likely become available to the local community. In addition the development of more facilities at Dublin Port over the period of the Masterplan will bring new opportunities to the local community and beyond for employment creation as a result of both indirect and direct impacts of the Masterplan.

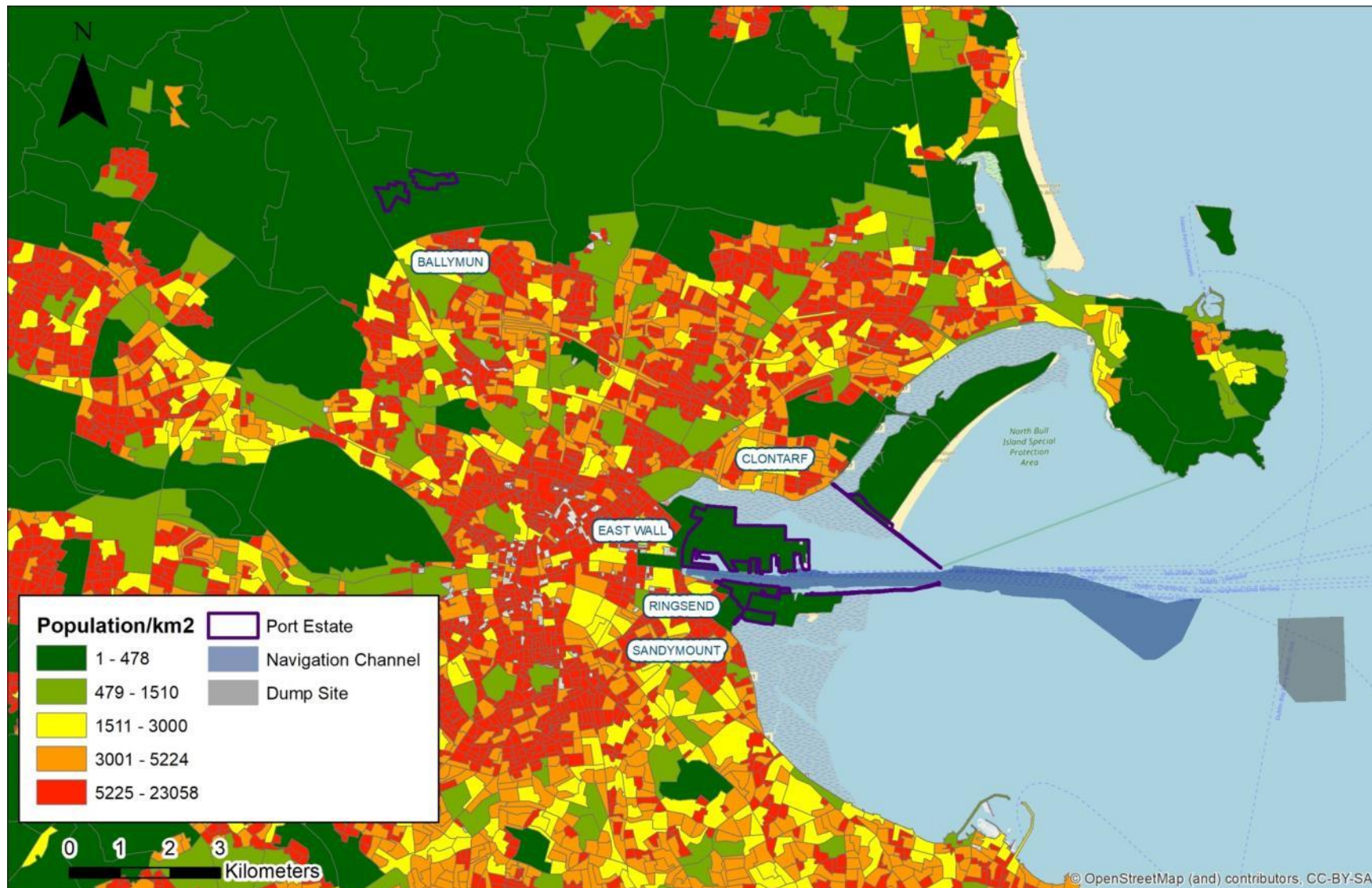


Figure 5.4 Population Density (population/km²) by Small Area from 2016 Census with the Local Communities

5.4 GEOLOGY, SOILS & LANDUSE

The core Dublin Port Estate is predominantly underlain by dark grey to black limestone and shale, with smaller areas of calcareous shale and limestone conglomerate. This area is overlain by urban sediments. The Dublin Inland Port is predominantly underlain by argillaceous bioclastic limestone and shale. This area is overlain by mostly till which is derived from limestones, and small amounts of outcropped bedrock.

Table 5.2 describes the main land uses within the Dublin Port Estate and their relative proportions. The predominant land use within the Dublin Port Estate is industrial and commercial units which are found in the core Dublin Port Estate. Land uses associated with a coastal location are also found in the core Dublin Port Estate, and include sea ports, sea and ocean, estuaries, intertidal flats and, beaches dunes and sand. The land parcel of the Dublin Inland Port on the left is a disused golf course (sport and leisure facilities land use) and the land parcel on the right is a field (agricultural land use). The Dublin Inland Port is located west of Dublin Airport, directly adjacent to the Dublin Airport Logistics Park. It is connected directly to the N2 National Road and is approximately 1 km north of the M50 Motorway.

Table 5.2 Main Land Use Types within the Dublin Port Estate

Rank	Land Use	Total Area (km ²)	Relative Percentage (%)
1	Industrial or commercial units	1.44	46
2	Sea ports	0.79	26
3	Sport and leisure facilities	0.17	7
4	Non-irrigated arable land	0.13	7
5	Sea and Ocean	0.11	4
6	Discontinuous urban fabric	0.09	3
7	Estuaries	0.09	3
8	Intertidal flats	0.07	2
9	Beaches, dunes, sand	0.03	1
10	Pastures	0.01	1

The Geological Survey of Ireland (GSI) is currently identifying sites of geological interest across the country that are in need of protection through NHA designation. A committee of expert geologists provides an initial list of sites which then undergo a process of survey, reporting and review, to provide recommendations regarding NHA status or otherwise. Such sites are named Irish Geological Heritage (IGH) sites. The core Dublin Port Estate is located south of the North Bull Island IGH site. The island is a recent result of human intervention in Dublin Bay in the last 200 years, and comprises sand flats and associated beach, dune, lagoon and slack features. The Dublin Inland Port is located

500 m east of the Huntstown Quarry IGH site. This site is a working limestone quarry showing base of Tober Colleen Formation where it directly overlies Waulsortian Limestones.

Analysis of the sediment found within Alexandra Basin West and the navigation channel has been undertaken as part of the ABR Project. The areas which were investigated are illustrated in **Figure 5.5**. Sediment within Alexandra Basin West was found to be contaminated, sediment with the western region of the navigation channel was found to be lightly contaminated, and sediment in the eastern region of the navigation channel was not found to be contaminated. Post-dredging requirements for these sediments as part of the ABR Project are noted in **Figure 5.5**.

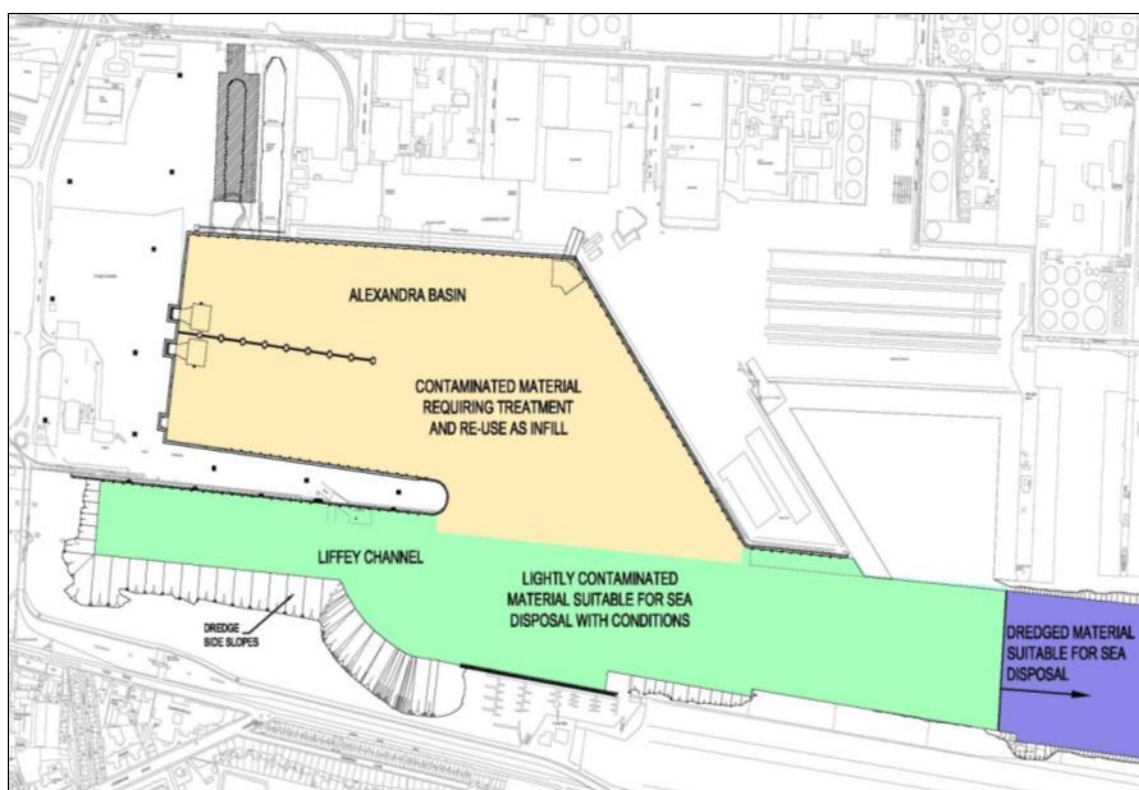


Figure 5.5 Sediment Analysis of the Sediment in Alexandra Basin West and the Navigation Channel. Source: EIA of the ABR Project

The Heritage Council has produced interactive mapping illustrating the level of coastal soil susceptibility, i.e. the level of vulnerability to erosion processes. This aims to identify and classify areas of the Irish coastline that are at risk of erosion from seaward erosion based on the predominant subsoil types. All areas of glaciofluvial sands and gravels, which are underconsolidated soft sediment subsoils, were given a 'High' ranking. Tills (or 'boulder clays'), which are consolidated soft sediments, were given a 'Moderate' ranking. Areas of bedrock outcrop along the coast were given a 'Low' ranking. The coastal soil susceptibility within and in the vicinity of the core Dublin Port is illustrated in **Figure 5.6**. This land is comprised of hard infrastructure and therefore is not susceptible to seaward erosion. In close vicinity to the core Dublin Port are North Bull Island and an area of Sandymount

which are highly susceptible to seaward erosion. Development of Dublin Port is not expected to affect this.



Figure 5.6 Coastal Soil Susceptibility Map. Red: high susceptibility, blue: medium susceptibility, green: low susceptibility. Source: Heritage Maps DPC

Key Issues

The Dublin Port Estate is a predominantly industrialised area, with relatively small non-urbanised land use types being directly impacted from development. As a result, development will occur mostly on developed land and changes in land use will be minimal. The core Dublin Port Estate is a predominantly coastal area, however it has low susceptibility to coastal erosion and this is unlikely to change with further engineered development of the Port. Mitigation measures may need to be instigated in any circumstances where a risk exists.

As a historically highly industrialised area, areas within and in the vicinity of the core Dublin Port Estate have the potential to be contaminated, such as Alexandra Basin West. Development within and in vicinity of these areas may result in the potential for mobilisation of contaminated sediments.

5.5 WATER

The draft River Basin Management Plan (RBMP) for Ireland 2018-2021 is being developed to satisfy the requirements of the Water Framework Directive (WFD) and classifies all waterbodies according to their chemical, biological and hydromorphological status with overall status ranging from bad to high,

including monitoring data collected between 2013 and 2015. The RBMP aims to prevent the deterioration of water bodies and to protect, enhance and restore them with the aim of achieving at least good status, and to achieve compliance with the requirements for designated protected areas.

The lands of all the Dublin Port Estate overlie one groundwater body, namely the Dublin Urban groundwater body. This groundwater body is of “good” status. Due to its coastal location, the core Dublin Port Estate is not located within any river water bodies. The Dublin Inland Port intersects three river water bodies, two of which (Santry_010 and Tolka_040 water bodies) are classified as “poor with upwards trend” and one (Ward_030 water body) which is classified as “good”. The Liffey Estuary Lower transitional water body lies between the Northern and Southern Port lands. In addition, the Northern Port Lands extend into the Tolka Estuary transitional water body. Both transitional water bodies are classified as “moderate” and both are at risk of deteriorating or being at less than “good” status in the future. The North and South Bull walls of the core Port Estate extend into the Dublin Bay coastal water body which is classified as “good”. This water body is not at risk of deteriorating or being of less than “good” status in the future. The Santry, Tolka, Liffey Estuary Lower, Tolka Estuary and Dublin Bay water bodies are designated as Heavily Modified Water Bodies (HMWBs). HMWBs are defined under the WFD as being water bodies which, as a result of physical alterations by human activity, are substantially changed in character and cannot, therefore, meet good ecological status. As a result HMWB’s have the less stringent WFD objective of ‘good ecological potential’ in place. The assessment of morphology for these HMWBs within **Appendix F** reflects these objectives.

Within the Dublin Port Estate there are four Industrial Emission Directive (IED) sites – an ESB generating station, a hazardous waste transfer facility, a metal company and a DPC site to treat dredged material unsuitable for dumping at sea. Flooding of these potentially contaminative sites has the potential to generate new pathways for pollutants to reach waterbodies and result in failure to achieve WFD objectives. Emissions, discharges and spills from these sites also have the potential to pollute water bodies within and in the vicinity of the Port, impacting on their WFD status.

The Seveso III Directive (2012/18/EU) is concerned with the prevention of major accidents that involve dangerous substances and the limitation of their consequences for humans and the environment. It applies to establishments where dangerous substances are produced, used, handled or stored. The Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the “COMAH Regulations”) implement this Directive in Irish law. There are 14 SEVESO establishments located within the core Dublin Port Estate. Consideration must be given to these sites and the potential for pollution events arising from spillages, discharges and flooding.

A Strategic Flood Risk Assessment (SFRA) has been undertaken as part of the development of the Masterplan 2040. The SFRA demonstrated that based on the predicted present day fluvial flood extents for the 0.1%, 1% and 10% AEP events, neither the core Dublin Port Estate nor the Dublin Inland Port are at risk of fluvial flooding. The SFRA demonstrated that based on the predicted present day coastal flood extents for the 0.1%, 0.5% and 10% AEP events, the core Dublin Port Estate is at

risk from 0.5% and 0.1% AEP tidal flooding. Due to its inland location, there is no coastal flood risk at the Dublin Inland Port. The SFRA demonstrated that based on the predicted present day pluvial flood extents for the 0.5%, 1% and 10% AEP events, areas of the core Dublin Port Estate are at risk of pluvial flooding. However there is no history of flooding from the existing storm drainage system. The Dublin Inland Port and the surrounding lands are low lying and flat and therefore the risk of significant flooding from overland flow would be considered low, with the site not being considered to be at risk from pluvial flooding.

DPC undertakes a number of programmes in order to reduce water usage at the Port and prevent deterioration in water quality. This includes a water reduction programme which was initiated in 2007 which aims to systematically eliminate leakages throughout the Port. Since the programme began in 2007 a 97% reduction in water usage has been recorded, as illustrated in **Figure 5.7**. Between 2012 when the Masterplan was implemented and 2016 there has been a 42% reduction in the water usage at the Port. Therefore, while throughput at Dublin Port has increased by around 7 million tonnes between 2012 and 2016, water consumption has nearly halved. Monthly water sampling of surface water effluent and potable water is ongoing in the core Dublin Port Estate. Samples are taken by the DPC Water Team, tested by an independent laboratory, and are reviewed by the EHS Specialist and Maintenance & Services Manager on a monthly basis.

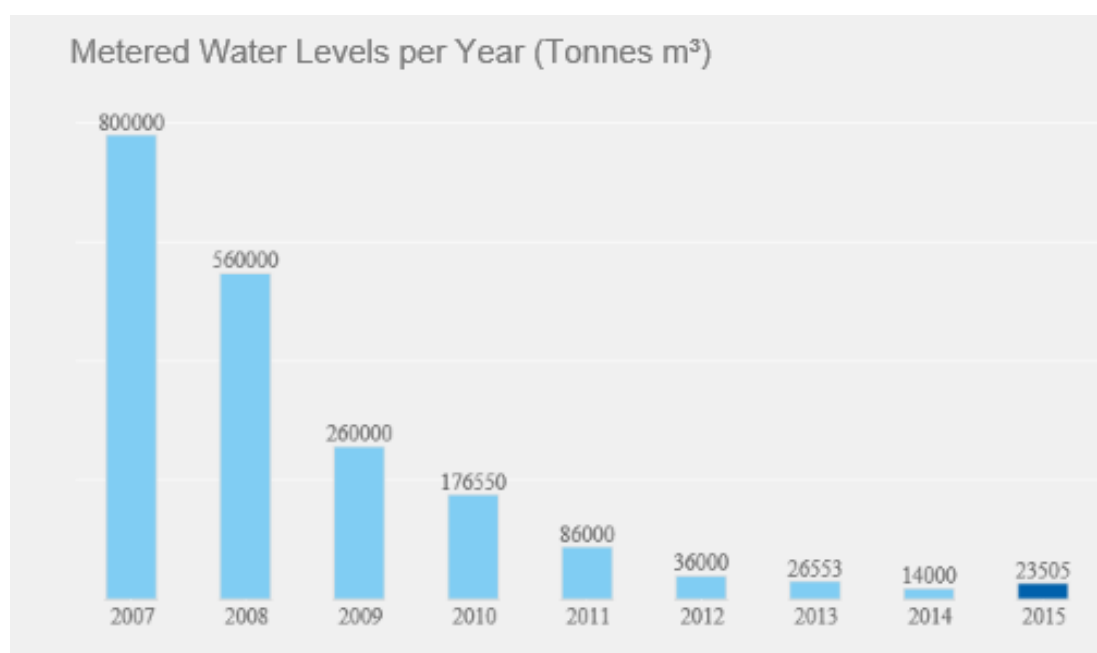


Figure 5.7 Metered Water Levels in Tonnes m³ per Year

The current Dublin Port drainage system is considered to be generally outdated with combined sewers found throughout the core Dublin Port Estate. This system results in an excess of water being pumped to the sewage treatment plant with both storm and foul water mixed together, thus increasing the wastewater generated at the core Dublin Port Estate.

Combined sewers have the potential to cause water pollution problems during combined sewer overflow (CSO) events when wet weather flows exceed the sewage treatment plant capacity and foul waters flow into local water bodies.

There is currently no baseline data on water usage or wastewater generated at Dublin Inland Port. However these attributes are expected to be monitored once this area is fully functioning.

Project-specific monitoring for the ABR Project includes the deployment of four water quality monitoring stations within the Liffey Estuary which monitor real-time turbidity, oxygen levels, salinity and temperature, and four monitoring stations within Dublin Bay (three within the dredging dump site and one south of the dump site acting as a control) which monitor real time turbidity levels. One of the Dublin Bay stations also records wave and current data.

Key Issues

With the development of Dublin Port as part of the Masterplan 2040 there is the potential for impacts to water body status, flood risk, water usage and wastewater generated at the Port. The strategic development option being proposed will need to fully consider any WFD implications and, wherever possible, link to, and support, the programme of measures within and in the vicinity of the Dublin Port Estate to improve ecological status of water bodies. Continued monitoring of water usage and wastewater generated will allow changes to be noted and mitigation to be applied if and when it is necessary.

The proposed development of the Port will allow for an increase in throughput at the Port, with likely increases in wastewater generated. Flooding of key water supply and water treatment facilities would present a pollution risk with associated impacts on human health, water quality and ecology; however flood risk management may provide opportunities to improve water quality within and in the vicinity of Dublin Port.

The development of Dublin Port will also lead to opportunities to improve water quality, water usage and wastewater generated. There will be the potential to improve infrastructure such as the drainage system throughout the Port Estate to replace the combined system with a separate foul and storm water system, which could result in a decrease in wastewater generated as well as the protection of water bodies from foul water during storm events.

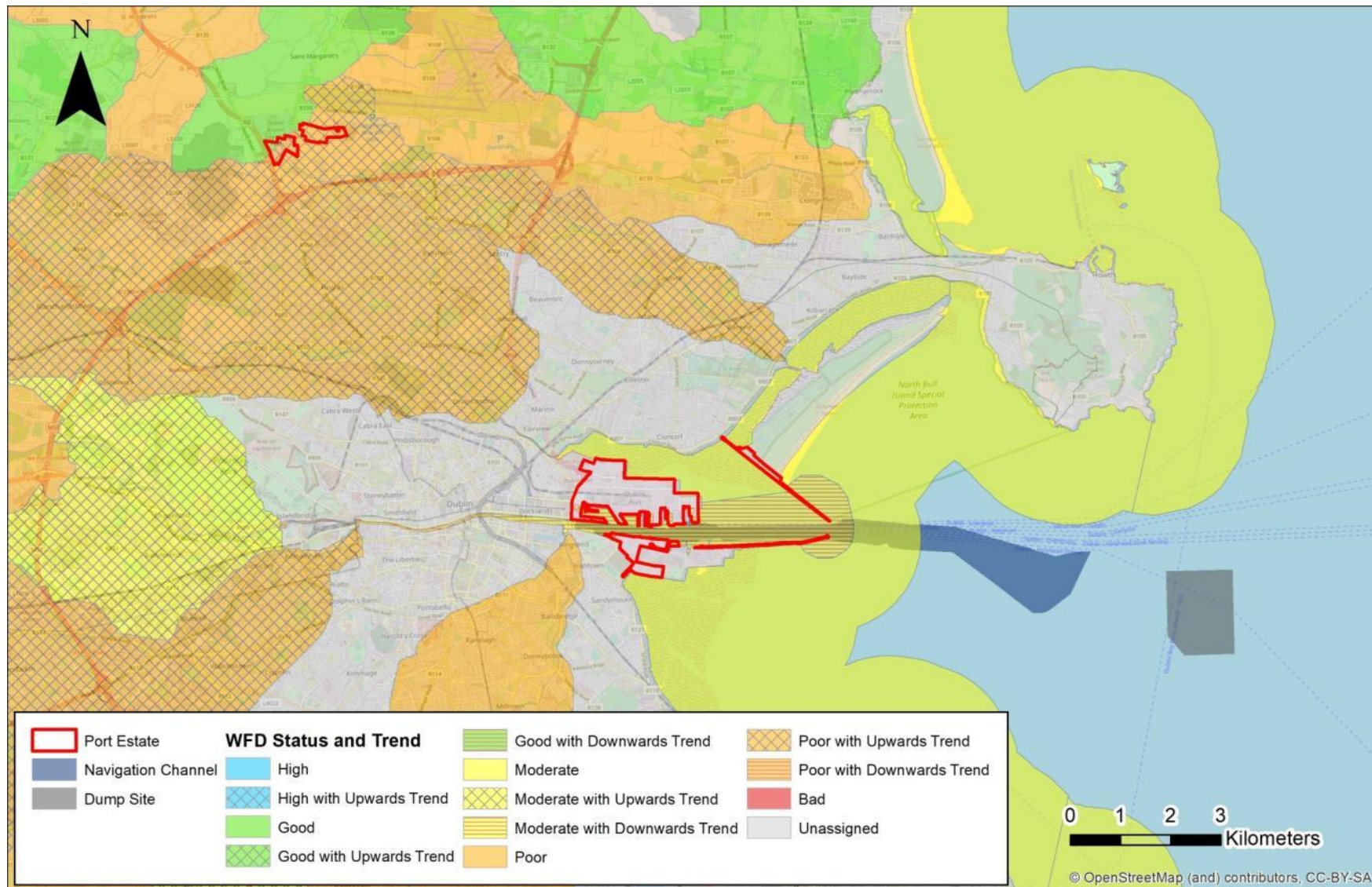


Figure 5.8 WFD Status and Trend of Waterbodies (2010-2015)

5.6 AIR, NOISE AND VIBRATION

The EPA has overall responsibility for the co-ordination of ambient air quality monitoring in Ireland, and it manages a network of air quality stations throughout the country as part of the National Ambient Air Quality Network. **Figure 5.9** illustrates the network of air quality monitoring stations around the Dublin Port Estate. There are no EPA automatic air quality monitoring stations within the Dublin Port Estate. The closest station to the core Dublin Port Estate is Ringsend which is directly south of the Southern Port Lands. Since 2012, continuous monitoring for nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and Particulate Matter (PM₁₀) has been ongoing at the Ringsend monitoring station. In the “2013 Ambient Air Monitoring in Ringsend, Dublin 4” report, it was stated that concentrations of Carbon monoxide, SO₂ and Benzene were below their respective lower assessment thresholds for the period from February 2009 until March 2012. Concentrations of NO₂ and PM₁₀ exceeded their associated lower assessment thresholds for the protection of human health however were below their upper assessment threshold for this same period. The closest monitoring station to the Inland Port is in Finglas 2.5 km away. Particulate Matter (PM_{2.5}) is measured at this station. Although there are no published reports detailing results from the Finglas site, the EPA website (October 2017). states that current air quality here is “Good”.

DPC implements air quality monitoring within and in close vicinity to the core Dublin Port Estate, with their 24 monitoring locations illustrated in **Figure 5.10**. This monitoring is carried out for NO₂, SO₂, PM₁₀, PM_{2.5} and total depositional dust. Air quality was monitored on six occasions in 2014 and 2015 (one in 2014, one over 2014 and 2015, and four in 2015). Data were assessed against legislative limits. This monitoring has been extended from 2017 for a further four years. The most recent results from 2014/2015 indicated that:

- SO₂ levels were monitored at 18 monitoring stations (A1 – A18) and were recorded as being below the EU limit value of 20 µg/m³.
- There were a number of breaches in the EU annual average limit value of 40 µg/m³ for NO₂ over a number of monitoring stations. A total of 14 stations out of 18 (A1 – A18) recorded breaches when data were averaged over the six individual monitoring events.
- PM_{10/2.5} monitoring was carried out at two monitoring stations (D5 and D6). No breaches of the EU limit values (40 µg/m³ for PM₁₀ and 25µg/m³ for PM_{2.5}) occurred throughout the six monitoring events.
- Total depositional dust monitoring was carried out at four monitoring stations (D1 – D4) over four occasions (from 2014 to 2015). Severe breaches persisted at monitoring station D3 over the four monitoring events with a maximum value of 920mg/m²/day recorded. The D3 monitor is located on Coal Quay on the Southern Port lands directly adjacent to the quay wall. Unloading of material from ships at this location is likely to be resulting in these high depositional dust levels. Total depositional dust levels at all other monitoring stations were below the Irish EPA recommended limit value of 350mg/m²/day.

The following SO₂ and NO₂ trends were found between 2014 and 2015:

- SO₂ levels were similar between the two years.
- The overall compliance levels of NO₂ improved by 67% between 2014 and 2015 across all monitoring stations.

The Environmental Noise Regulations 2006 set out a requirement for the assessment of noise impact through the use of strategic noise maps. Dublin City Council has produced noise maps in 2017 for all road noise sources which cover the western portion of the core Dublin Port Estate only. These maps report areas of desirable and undesirable noise levels arising from traffic levels for the daytime and night time. The daytime sound level noise map shows the East Link Road to have 'undesirable' noise levels (sound levels greater than 70 decibels) and the rest of the western area of the core Dublin Port Estate to be mostly 'satisfactory' (between 55 and 70 decibels) with small areas being 'desirable' (less than 55 decibels). The night time sound level noise map shows the same extents as the daytime map. It describes Alexandra Road, the East link Bridge, and a small section of the East Wall Road as having 'undesirable' sound levels (greater than 55 decibels). The rest of the East Wall Road and the Tolka Quay Road have 'satisfactory' sound levels (between 50 and 55 decibels). Some small pockets have 'desirable' sound levels (less than 50 decibels). Fingal County Council produced noise maps in 2012, which report areas of desirable and undesirable noise levels arising from traffic levels for the daytime and night time. These maps cover the western region of the Dublin Inland Port. The daytime sound level noise map shows the western area of the Dublin Inland Port adjacent to the N2 road to have 'undesirable' noise levels with this decreasing to 'satisfactory' east of this road. The night time sound level noise map shows the same, with the western area adjacent to the N2 road having 'undesirable' sound levels with the rest of the area having 'satisfactory' levels.

Project-specific monitoring for the ABR Project includes the deployment of two permanent dust monitoring stations in the vicinity of sensitive receptors which monitor dust deposition levels. Two permanent noise monitoring stations have been deployed alongside the dust monitoring stations in order to measure time averaged sound pressure levels (Equivalent Sound Level or LAeq) over one hour intervals. Underwater noise levels analysis from piling and dredging operations has taken place to assess the risk of these noise-producing activities on marine mammals. Vibration monitoring is undertaken as required to monitor ABR-related piling and construction works in the vicinity of structures that might be affected by these works.

Key Issues

The Dublin Port Estate lies within the most urbanised area in the country with high development density and industrial operations. Breaches in air quality indicators have been recorded by DPC and the EPA and are likely to be a result of the highly industrialised nature of this environment including high car, HGV and ship numbers, and the industrial operations ongoing at the Port. Volumes of traffic and port operations are inherently linked to increases in noise and vibration within the area. The

Masterplan 2040 has the potential to increase air emissions, noise levels and vibration levels both in the short term construction phase and after in the operation of the Port, however monitoring will be ongoing and measures can be put into place to mitigate for negative effects.

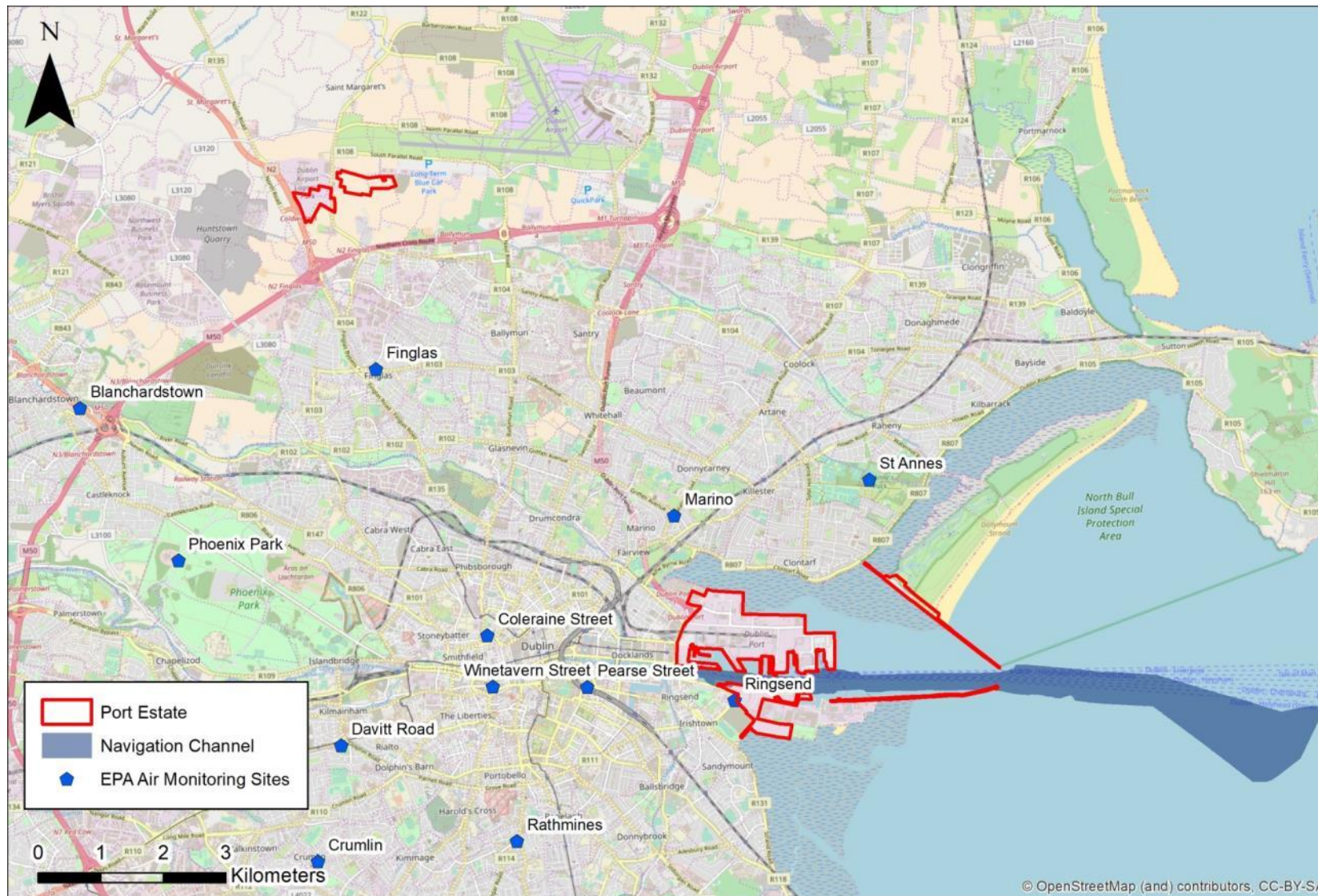


Figure 5.9 EPA Ambient Air Monitoring Stations



Figure 5.10 DPC Ambient Air Monitoring Stations

5.7 CLIMATIC FACTORS

Within the Dublin area, annual average air temperatures (measured at Dublin Airport, Dublin) from 1981-2010² were 9.8°C, with an average of 3.9 hours of sunshine per day. Mean annual rainfall over this period was 758 mm, with an average of 42 days per year when rainfall amounts exceed 5 mm.

According to the United Nations Intergovernmental Panel on Climate Change (2007) there is “unequivocal” evidence of climate change and furthermore:

"most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." (Climate Change 2007, IPCC, Fourth Assessment Report AR4)

Climate change could have considerable impacts on riparian and coastal developments on the island of Ireland from increases in flood risk, with sea level rise already being observed and wetter winters being anticipated across the island. These potential impacts could have serious consequences where all of the main cities are on the coast and many of the main towns are on large rivers. This could also have significant consequences for the coastal Dublin Port areas.

Guidance for the application of climate change in terms of flood risk is provided in ‘Assessment of Future Scenarios for Flood Risk Management’ (OPW, 2009). This recommends that two potential future scenarios are considered: Mid-Range Future Scenario (MRFS) which represents a ‘likely’ future scenario; and High End Future Scenario (HEFS) which represents a more extreme potential future scenario. Based on these two scenarios the OPW recommends allowances for climate change in relation to river flows and sea level as shown in **Table 5.3**.

Table 5.3 Allowances for Future Scenarios

Criteria	Mid-Range Future Scenario	High End Future Scenario
Extreme rainfall depths	+20%	+30%
Flood flows	+20%	+30%
Mean sea level rise	+500mm	+1000mm

Even just taking the mid-range future scenario demonstrates the increased risk of future fluvial, coastal and pluvial flooding at Dublin Port facilities. Given the location of Port at the mouth of several main rivers and at the entrance to Dublin Bay the Masterplan will need to take these potential increases in flows, sea levels and depths into account in the planning for any future facilities.

Climate change is one of the key challenges in Ireland today. Under the EU Commission’s Climate and Energy Package, Ireland is required to deliver a 20% reduction in greenhouse gas (GHG) emissions by 2020 (relative to 2005 levels). It is therefore a duty of DPC to minimise port-related GHG

emissions such as carbon dioxide which is instrumental in causing climate change. The energy consumption of Dublin Port gives an indication of GHG emissions resulting from Dublin Port operations. The DPC 2016 Sustainability Report noted that the final Total Energy consumption was in excess of 18,069 GWh in 2016, comprising of 43.6% electricity, 42.6% transport fuels for vessels and vehicles, and 13.6% for space heating. The Total CO₂ emissions at Dublin Port between 2009 and 2016 are illustrated in **Figure 5.11**.

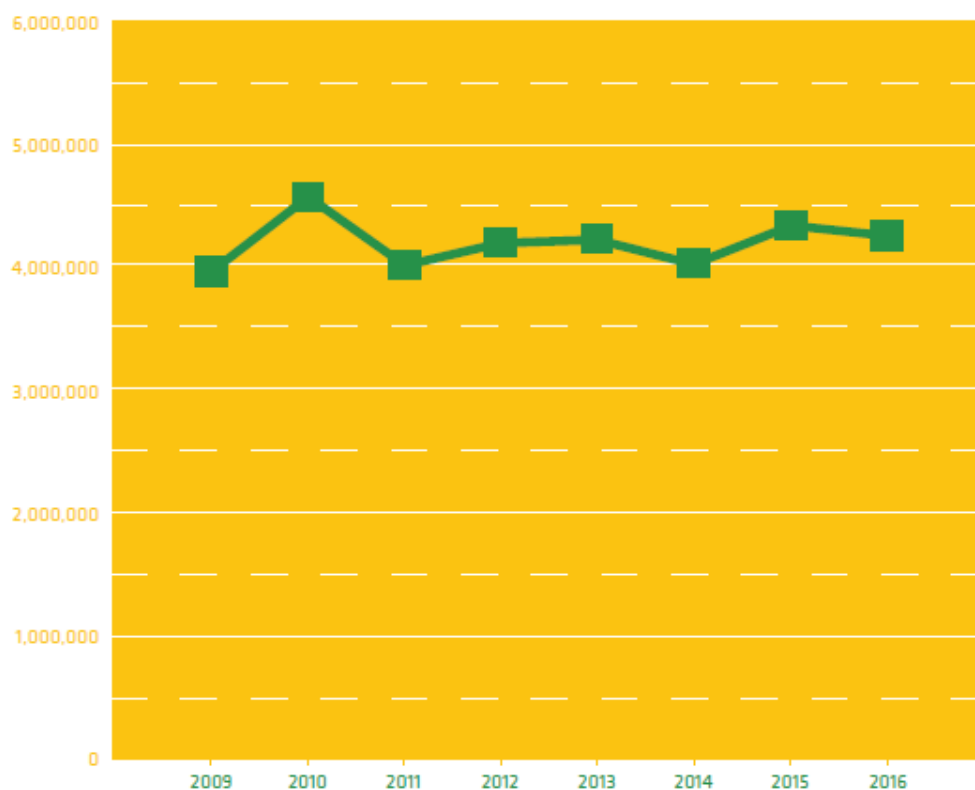


Figure 5.11 Total CO₂ Emissions at Dublin Port. The x axis represents years and the y axis represents kgCO₂.

DPC and the Sustainable Energy Authority of Ireland (SEAI) signed a joint energy efficiency agreement in 2012, resulting in DPC and SEAI aiming to achieve a 33% energy efficiency improvement by 2020. The third National Energy Efficiency Action Plan (NEEAP 3) reaffirmed Ireland's commitment to delivering a 20% reduction in energy demand across the whole of the economy by 2020, along with a 33% reduction in public sector energy use. As of December 2016, DPC has achieved a 17% improvement in energy performance (**Figure 5.12**). This is 5.4% below the target "guide path" for this point in time. As the activities of Dublin Port grow or contract, energy use is likely to rise or fall. As a result, the main ('Level 1') Energy Performance Indicator is energy use (TPER) per tonne of volume throughout. In order to meet the 2020 target of a 33% energy efficiency improvement DPC needs to achieve a 5.1% improvement each year, between 2017 and 2020 across its major energy consumers.

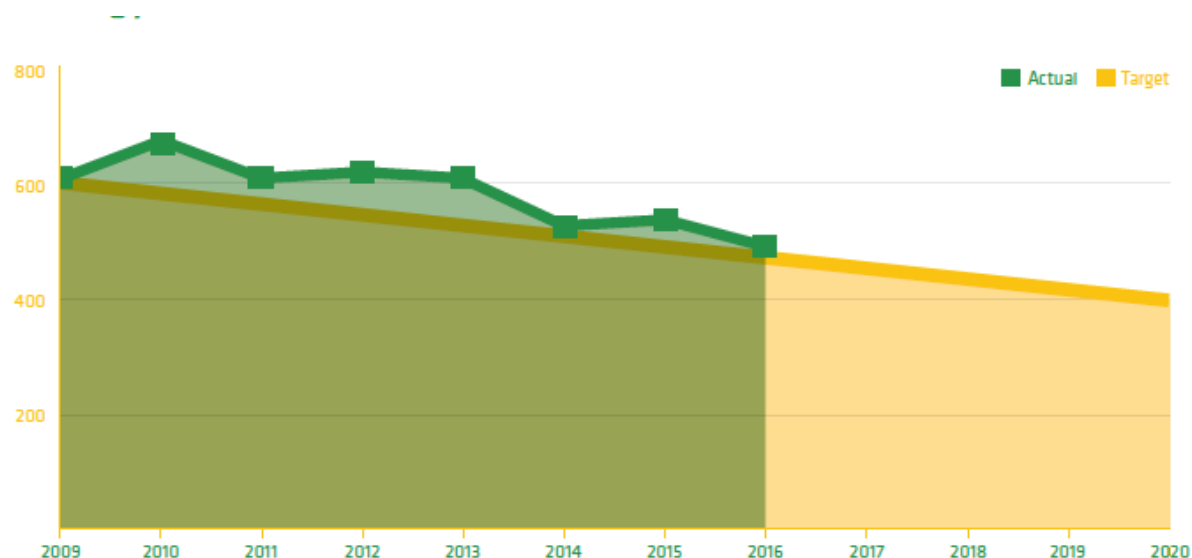


Figure 5.12 Energy Performance Indicators 2016. The x axis represents years and the y axis represents energy performance (energy use (TPER) per tonne of volume throughput).

Key issues

The predicted impacts of climate change are likely to include increases in the frequency and intensity of rainfall, the increases in peak flows in rivers, a rise in sea levels and increased storminess. These effects of climate change are likely to increase pluvial, fluvial and coastal flooding and will require future development to be adaptable or resilient to future climatic changes and its associated impacts. Dublin Port should be developed with climate change in mind to ensure future drainage and flood risk requirements are taken into account.

Dublin Port inherently has a high carbon footprint which ties into its industrial nature. However DPC is active in its efforts to reduce GHG emissions which are contributing to climate change through their reduction in energy consumption. In addition, DPC has installed a wind turbine (and is investigating the potential for a second turbine) to generate renewable energy, thereby further reducing port-related GHG emissions. With the increase in throughput at Dublin Port as envisaged in the Masterplan 2040, DPC should ensure a continuation in its efforts to minimise its carbon footprint from port development and activity per unit of freight and passenger throughput.

5.8 MATERIAL ASSETS

Dublin Port is a key material asset on the island of Ireland with both historical and economic importance. The Port handles nearly 50% of Ireland's trade. It is the largest of the three base ports on the island of Ireland, the others being Belfast and Cork. The main activity of the Port is freight handling, with a wide range of vessels, from large container carriers to small diesel lighters, visiting daily. Ro-Ro ferry services run regularly across the Irish Sea to Holyhead in Wales, Liverpool in England and in the summer months and at Christmas to Douglas, Isle of Man. Approximately two-

thirds of Ireland's port traffic goes via Dublin Port with volumes passing through the Port increasing yearly. Volume figures for 2016 showed an annual increase of 7.6% in Ro-Ro units from 2015, an increase of 8.1% in Lo-Lo units, an increase of 2% in trade vehicles, an increase of 4.1% in bulk liquids, an increase of 15.3% in bulk solids and an increase of 17.2% in cruise visits. The increase in both imported and exported throughput since the implementation of the Dublin Port Masterplan 2012 is illustrated in **Figure 5.13**. The predicted throughput at Dublin Port in 2040 is 77 million tonnes equating to an annual average growth rate of 3.3%. As part of the Masterplan 2040 a Strategic Transportation Study was undertaken to ascertain the impacts on the local and regional road network of this anticipated growth of 3.3% per year from 2018 to 2040.

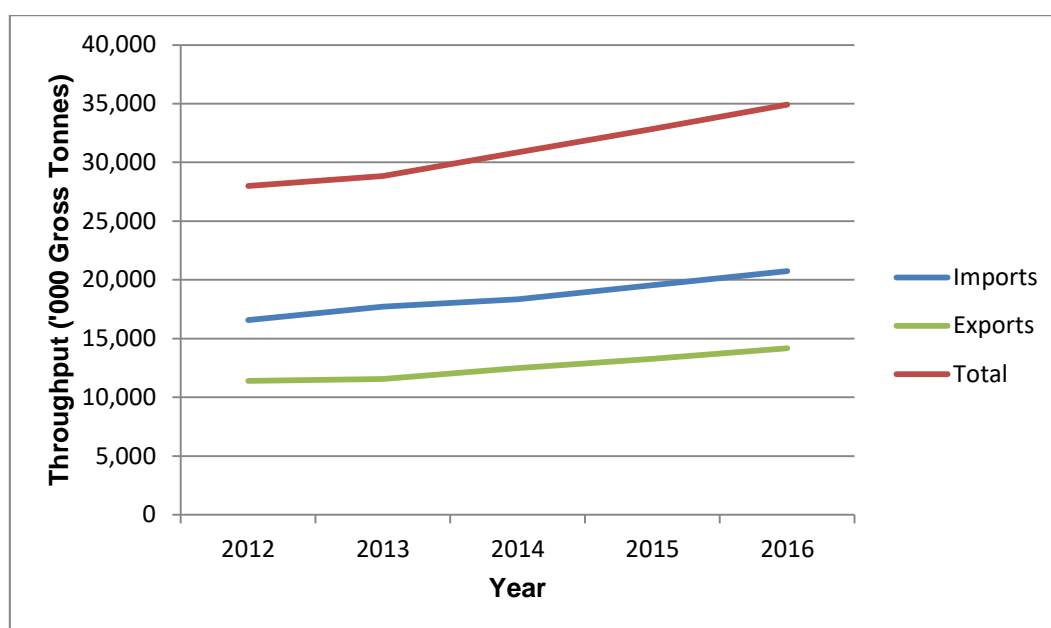


Figure 5.13 Throughput at Dublin Port from 2012 to 2016

As the major port in Ireland, it is imperative that Dublin Port is well connected to Ireland's road network. The Dublin Port Tunnel is a two-lane dual carriageway connecting the core Dublin Port Estate with the M50 and M1, close to Dublin Airport. The tunnel was opened in 2006. It relieves surface road congestion in Dublin city centre by diverting HGVs from the core Dublin Port Estate directly onto the motorway network. From here traffic from the Port can navigate easily to all parts of the country. It is anticipated that the Dublin Port Tunnel has adequate capacity to accommodate an increased traffic growth of 3.3% per year up to 2040. The Dublin Inland Port lies directly north of the M50 and directly east of the N2, having excellent connectivity to the strategic road network.

Dublin Port is also directly connected to the rail route. A train track travels into the core Dublin Port Estate and is used numerous times a day to bring freight to and from the Port. The route is via a level crossing across East Wall Road and along Alexandra Road where the road space is shared between road users and the freight service train. Three trains arrive from Tara Mines five days a week to bring mineral ore to the core Dublin Port Estate in order for it to be shipped abroad, and six International Warehousing and Transport trains travel to the core Dublin Port Estate from Ballina every week.

There is a well-developed train transport network within 1 km of the core Dublin Port Estate including intercity railway lines, local /suburban railway (the DART) and trams (Luas). The Docklands train station, Clontarf DART station, and Point and Spencer Dock Luas stops are all located within 1 km of the core Dublin Port Estate.

The North Wall Power Station is located within the Dublin Port Estate in the Northern Port Lands. This is a thermal plant which burns natural gas with distillate oil as back up in order to produce energy. Within Ireland, ESB controls the electricity generation and network infrastructure. The nationwide electricity transmission system allows for the transmission of large volumes of electricity from generation stations. There is one ESB HV substation within the Dublin Port Estate, which is also in the Northern Port Lands. This North Wall substation has a voltage of 220 kV. DPC installed a small wind turbine (11kW) in 2012 which was reported to have produced a total of over 62,500KwH between 2012 and 2015, an average of just under 43KwH per day which is the equivalent of powering just under five houses per day.

There are four Industrial Emissions Directive (IED) sites within the Dublin Port Estate, one of which is ESB's North Wall Station. The Indaver Hazardous Waste Transfer Station is located in the Northern Port Lands. Hazardous waste arrives at this facility where it is inspected. The waste is then transported from the facility, through Dublin Port, and onwards to its final destination in Europe. The Indaver site also contains a solvent recovery facility which provides an alternative recovery option for much of the solvent waste that would otherwise be exported for incineration. The Hammond Lane Metal Company Limited IED site is located in the Southern Port Lands. This is a metal recycling site which recovers, or recovers and disposes, non-hazardous waste with a capacity exceeding 75 tonnes per day. In addition, as part of the ABR Project, DPC obtained an Industrial Emissions Licence (IEL) for the treatment of dredged material unsuitable for dumping at sea. The IED site for this IEL covers the treatment and fill areas only in the eastern region of the Northern Port Lands.

As a member state of the EU, Ireland is obliged to focus on waste prevention, reuse, maximising recycling and using waste as a fuel in replacement of fossil fuels, as stated in the Waste Framework Directive (Directive 2008/98/EC). In order to achieve the objectives of this Directive, DPC has implemented a waste management programme which monitors waste produced at the Port. Recycling rates at Dublin Port in 2016 were recorded as being 98%, the highest rate ever recorded at the Port (**Figure 5.14**). In addition, DPC has monitored the percentage of waste being directed to landfill since 2010. The percentage of waste being directed to landfill has decreased since 2010, as illustrated in **Figure 5.15**.

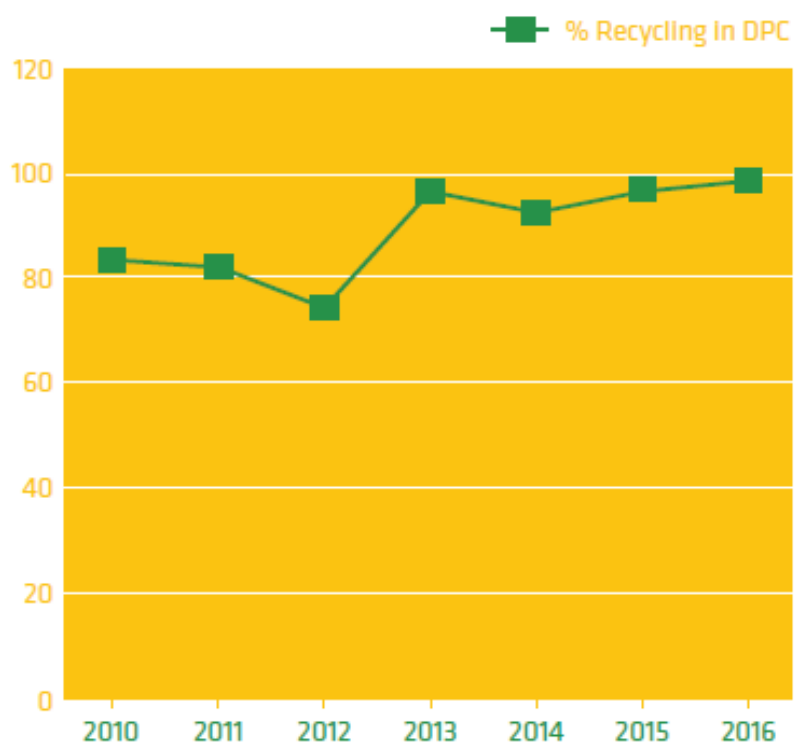


Figure 5.14 Recycling rate at Dublin Port. The X-axis represents years and the Y-axis represents recycling rates.

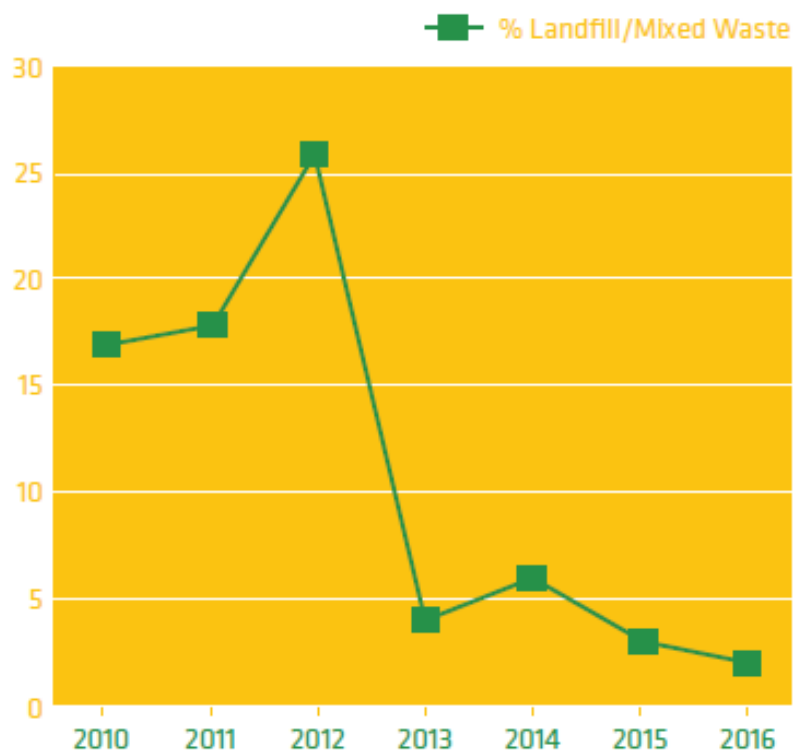


Figure 5.15 Percentage of landfill/mixed waste produced by DPC. The X-axis represents years and the Y-axis represents percentage of landfill/mixed waste.

Key Issues

The Masterplan 2040 predicts the throughput at Dublin Port in 2040 to be 77 million tonnes, which is a yearly increase of 3.3%. This increase in materials will require the local and regional infrastructure to be capable of handling these volumes. Transport infrastructure will be impacted by these increases and must be adaptable to the changes. New and improved transport infrastructure will likely to be required. There are a number of existing major material assets at Dublin Port including the North Wall Power Station and development will need to be planned appropriately to ensure that these sites are not affected by both short term construction disturbance and long term increases in volumes passing through Dublin Port. There is also the potential for increased energy requirements at Dublin Port resulting from the increases in throughput. With development in the Port leading to an increase in throughput and people passing through the Port it is likely that there will be an increase in waste generated. Appropriate planning and mitigation measures will be necessary to ensure that waste generated at the Port is minimised and recycling rates remain high.

5.9 CULTURAL, ARCHAEOLOGICAL & ARCHITECTURAL HERITAGE

The Dublin Port Estate hosts a number of archaeological and architectural heritage sites which are afforded varying levels of protection under national legislation such as the National Monuments Acts (1930 to 2004) and the Planning and Development Act (2000). These sites include:

- Records of Monuments and Places (RMP) – the National Monuments Service (www.archaeology.ie) holds responsibility for maintaining this inventory of sites of archaeological significance which pre-date the eighteenth Century (including records of those which historically have been destroyed). These sites are established under the National Monuments Acts. There are currently five recorded monuments within the Port Estate. These include three enclosures in the Dublin Inland Port, and a sea wall and battery in the Southern Port Lands.
- Records of Protected Structures – The Planning and Development Act 2000 requires Local Authorities to compile a “Record of Protected Structures” as part of the County Development Plan. These are structures, or part thereof, which are considered to be of architectural value. Many of these structures also appear on the NIAH list and can be water-related features such as bridges, weirs, walls and embankments. There are three Recorded Protected Structures located in the core Dublin Port Estate, namely the Bull Wall timber bridge, bathing shelter on Bull Wall (there are six shelters recorded as one Protected Structure) and Poolbeg Lighthouse. There are no Recorded Protected Structures in the Dublin Inland Port.
- National Inventory of Architectural Heritage (NIAH) – is a record of sites of architectural heritage importance in Ireland dating from the start of the eighteenth century up to the present day which are established under the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999. The National Inventory of Architectural Heritage also maintains an inventory of historic gardens and demesnes. There are currently eight records in the NIAH within the core Dublin Port Estate. These include two electricity

substations, a dry dock, two buildings and three granaries. There are no NIAH records within the Dublin Inland Port.

The Dublin City Development Plan 2016-2022 has mapped Zones of Archaeological Interest which are based on the Record of Monuments and Places maps 1994. The Pigeon House Road is a Zone of Archaeological Interest, and this extends east for the entirety of the Great South Wall. The Great South Wall is also classified as a Conservation Area.

Irish Shipwrecks database contains a searchable database of ship wrecks on and off the Irish Coast. The database has been obtained from original sources such as Admiralty and Board of Trade Wreck Returns, The Life Boat Journal, Lloyd's List and contemporary newspapers. The Irish Shipwrecks database records 20 shipwrecks off the coast of Dublin.

Key Issues

Any construction activity has the potential for direct negative impacts on heritage features and their setting, especially in areas rich in maritime heritage within the core Dublin Port Estate. There is however the potential for the development to uncover new heritage features and to enhance existing heritage through incorporation into the detailed design. The developments could be a step towards the overall preservation and even restoration of this architectural heritage. The Masterplan 2040 will give DPC the opportunity to increase the awareness and access of these sites to the public.

5.10 LANDSCAPE & VISUAL AMENITY

The core Dublin Port Estate is a highly industrialised area located in a prominent coastal position in Dublin. The seascape and industrial nature of Dublin Port is renowned in Ireland. The Dublin Inland Port is located in an agricultural area on the outskirts of Dublin City. There is no national database of designated landscape areas in Ireland. Sensitive areas of landscape are identified at Local Authority level through City / County Development Plans. The Dublin City Development Plan 2016-2022 identifies that the majority of the core Dublin Port estate is zoned as Zone Z7, which has the objective 'to provide for the protection and creation of industrial uses and facilitate opportunities for employment creation'. The only exception is the Bull Wall which is zoned as Zone Z9, which has the objective 'to preserve, provide and improve recreational amenity and open space and green networks'. The Dublin Inland Port lies within the Fingal South and Blanchardstown North regions identified in the Fingal Development Plan 2017-2023. The Dublin Inland Port is zoned as General Employment, which has the objective 'to provide opportunities for general enterprise and employment'.

Although there are no areas designated for their landscape within the Dublin Port Estate, the North Bull Island National Special Amenity Area is located north of the Northern Port Lands. This is a landscape of national importance for its aesthetic/recreational value. As a Special Amenity Area, Dublin City Council manages North Bull Island for both nature conservation and recreation. In addition, Dublin Bay was awarded a UNESCO Biosphere designation in 2015. An objective of the

Dublin City Development Plan 2016-2022 is to promote the city landscapes, including rivers, canals and bays, as a major resource for the city and forming core areas of green infrastructure network. It is a policy of the Plan to incorporate open space into the green infrastructure network for the city, providing a multifunctional role including urban drainage, flood management, biodiversity, outdoor recreation and carbon absorption.

Key Issues

The Dublin Port Estate is predominantly industrial in nature. Any construction activity has the potential for further temporary, negative impacts on landscape and visual amenity. However in the longer term, it is unlikely that development at this already industrialised site will have significant additional negative impacts. With detailed planning of development, there is the potential for an opportunity to enhance the visual amenity of the area, opening up the Port for public use and recreation. It is a policy of DPC to enhance port features into the landscape, as is evident from its resurrection of an iconic 1960s crane adjacent to the Port Centre in the core Dublin Port Estate.

5.11 EVOLUTION OF THE ENVIRONMENT IN THE ABSENCE OF THE DUBLIN PORT MASTERPLAN 2040

In the absence of the Masterplan 2040, i.e. Option 1, Dublin Port would be developed as outlined in the Dublin Port Masterplan 2012. When this Masterplan was published, the throughput at Dublin Port was predicted to reach 60 million tonnes by 2040, with an annual growth rate of 2.5% per annum. It is now clear in 2018 that the level of demand for port infrastructure will likely be greater than originally anticipated due to a higher than originally envisaged level of growth in cargo volumes for the period to 2040. As a result, these growth figures have been updated, with the throughput at Dublin Port now predicted to be 77 million tonnes by 2040, equating to a growth rate of 3.3% per annum. Therefore, in the absence of the Masterplan 2040 Dublin Port would not be capable of dealing with this revised predicted throughput. In addition, in the absence of the Masterplan 2040 DPC would not have purchased the 44 ha plot of land known as the Dublin Inland Port and the SPAR would not be developed.

In the absence of the Masterplan 2040 it is likely that biodiversity both within and in the vicinity of the core Dublin Port Estate will be impacted from development projects arising from the Dublin Port Masterplan pre-mitigation. There is the potential direct impacts from development are likely to include habitats loss or degradation of protected and natural habitats, disturbance of or direct harm to wildlife through noise, vibration, emissions or recreational pressure, release and re-suspension of sediment and contaminants into surrounding watercourses and loss of feeding resources. There is the potential for indirect impacts to include indirect habitat degradation as a result of changes such as increased road traffic and emissions, disturbance to habitats and species due to increased vessel usage, water pollution risks, recreational pressure, and erosion of habitats by changes in currents. However, mitigation measures and project-specific AAs are likely to result in these negative impacts being

minimised. In the absence of the Masterplan 2040 the Dublin Inland Port is likely to have been bought and developed by another operator, if not DPC. Therefore the land is likely to be taken over by human development at some point. The exact impacts on the local biodiversity would depend on the type of development however it is likely that there would be disturbance impacts similar to that of the Dublin Inland Port development, with permanent loss of undesignated flora and the disturbance to and displacement of fauna that use the area.

The CSO predicts the Dublin population to increase by between 96,000 and 286,000 depending on the internal migration pattern used for the period from 2016 and 2031. This is unlikely to be impacted by the implementation of the Masterplan 2040. In the absence of the Masterplan 2040 it is likely that there will be disturbance impacts on the local community from development at the core Dublin Port Estate. The increase in cargo volumes is likely to impact the local community with greater operations at the core Dublin Port Estate and an increase in traffic and people to the local area. As the Dublin Inland Port is situated in a non-residential region of Dublin, there are unlikely to be direct disturbance impacts on the population in this area in the absence of the Masterplan 2040. The local community of the core Dublin Port Estate will likely be provided with social infrastructure and amenity facilities in the absence of the Masterplan 2040, as this is a DPC policy noted in the Masterplan 2012. The employment created by DPC is dependent on the throughput at Dublin Port, with greater throughput resulting in greater employment opportunities. The Masterplan 2012 allows for 17 million tonnes less of throughput by 2040 than the Masterplan 2040, resulting in the creation of less employment opportunities. As a result of the limited development and operation of the Port in the absence of the Masterplan 2040, the population of Ireland will be impacted negatively by the 17 million tonnes less than required cargo passing through the Port in 2040.

In the absence of the Masterplan 2040 development projects arising from the Dublin Port Masterplan have the potential to impact on coastline erosion, and contamination and sterilisation of soils and sediments. For example, dredging operations are likely to impact on erosion and accretions rates. However mitigation measures are likely to be included within the development option in order to protect the coastline from erosion and protect the soil and sediment from contamination. The contamination and sterilisation of soils at the Dublin inland Port is likely to remain unchanged, however would depend on any future development and land use changes at this site.

Water quality is likely to be impacted by development arising from the Dublin Port Masterplan. There is the potential direct impacts may include an increase in suspended solids arising from both maintenance and capital dredging, direct contamination of water bodies from construction of developments, loss of surface water body area due to proposed Ro-Ro jetty and reclamation, and contamination of the groundwater body during construction of developments and pollutants being accidentally discharged during operation. There is the potential indirect impacts are likely to include the deterioration of water quality during construction and operation of developments. Project-specific design and construction planning consideration will be implemented for all development projects in order to protect waterbodies from these potential impacts. There is unlikely to be any impacts on

water usage and wastewater generated at Dublin Port per unit of freight and passenger throughput. It is generally considered that flood risk will continue to increase in Ireland, although flood risk management frameworks have informed the Masterplan which allow for DPC to identify appropriate flood risk management measures.

The Dublin Port Estate is located in a highly industrialised area of Dublin. Breaches in air quality limits have been recorded around the core Dublin Estate. Occasional breaches are likely to occur with development at Dublin Port resulting in emissions. Dust, noise and vibration levels are likely to increase at the core Dublin Port with development ongoing in the short term, and greater volumes of cargo passing through the Port in the medium and long term; however impacts will be mitigated for. Air quality, noise levels and vibration levels in the Dublin Inland Port are likely to remain unchanged however would depend on any future development at this site.

As a result of anthropogenic GHG emissions, climate change is predicted to occur in the future regardless of action, potentially resulting in sea level rise, changes in rainfall patterns and temperatures, changes in the frequency of droughts and extreme weather events. In the absence of the Masterplan 2040, throughput at Dublin Port is expected to rise to 60 million tonnes by 2040, resulting in the potential for increases in GHG emissions and carbon emissions from Port activities at the core Dublin Port. Although the Dublin Port Masterplan notes that climate change induced flooding is a risk in the timescale of the Plan, prevention measures are not noted, resulting in there being little preparation for this flooding at Dublin Port in the absence of the Masterplan 2040.

The absence of the Masterplan 2040 will still result in the protection of existing and development of new material assets to allow for an increased throughput of 60 million tonnes by 2040 at Dublin Port. As a result of DPC not having bought the Dublin Inland Port, DPC infrastructure includes the core Dublin Port Estate. It is anticipated that options for sustainable travel within and around the core Dublin Port Estate will grow, with greater active travel opportunities and improved public transport services to and from the core Dublin Port Estate. Growth of port activities and facilities are forecast to increase up to 2040, potentially resulting in a rise in waste levels. However as there is a Waste Management Programme in place at Dublin Port, there is the potential for a reduction in waste generation with an increase in the rates of reuse and recycling at Dublin Port.

In the absence of the Masterplan 2040 the archaeological and architectural heritage at the core Dublin Port Estate is still likely to be impacted by development projects associated with the Dublin Port Masterplan. Construction and dredging may partially or totally remove archaeological remains and development may impact on the setting of archaeological sites. However there is also likely to be positive impacts such as increased protection and awareness of heritage sites, and the incorporation of heritage sites into the core Dublin Port Estate. There is unlikely to be any impacts on the archaeological and architectural heritage at the Dublin Inland Port although this would depend on any future development at this site, however not by DPC.

In the absence of the Masterplan 2040 the landscape value of the Dublin Port Estate is unlikely to change significantly. Development will increase with the implementation of the Dublin Port Masterplan, which is likely to result in short term construction phase impacts such as slight increases in machinery and traffic at the Port. Landscape at the core Dublin Port Estate is likely to improve in areas with landscape enhancement proposed as part of development projects, however it is likely to dis-improve with development of the Dublin Gateway Project in a natural area. There is unlikely to be any impacts on the landscape at the Dublin Inland Port although this would depend on any future development at this site.

6 REVIEW OF RELEVANT PLANS, PROGRAMMES AND POLICIES

6.1 INTERACTION WITH OTHER RELEVANT PLANS AND PROGRAMMES

As part of the SEA process the context of the Masterplan 2040 must be established with regard to other Plans and Programmes that have been adopted at International, European and National levels. In particular the interaction of the environmental protection objectives and standards included within these Plans and Programmes with the Masterplan 2040 requires consideration.

Table 6.1 identifies the main significant environmental plans, programmes and legislation, adopted at International, European Community or Member State level, which would be expected to influence, or be influenced by the Masterplan 2040. While it is recognised that there are many plans, programmes and legislation that will relate to the Masterplan 2040 it is considered appropriate to only deal with those significant texts, to keep the assessment at a strategic level. More information on these plans, programmes and legislation, along with their potential interaction with the Masterplan 2040 is given in **Appendix D**.

Table 6.1 Summary of Key Plans, Programmes and Legislation Relevant to the Masterplan 2040

Level	Plan / Programme / Legislation
EU Level	<ul style="list-style-type: none"> • The Ambient Air Quality and Cleaner Air for Europe Directive (2008/50/EC) • Bathing Water Directive [2006/7/EC] • Birds Directive [2009/147/EC] • Bonn Convention [L210, 19/07/1982 (1983)] • Convention of Wetlands of International Importance especially as Waterfowl Habitat (1971) [UN Treaty Series No. 14583]EIA Directive [85/337/EEC] [2014/52/EU] • Environmental Liability Directive [2004/35/EC] • Environmental Noise Directive [2002/49/EC] • Environmental Quality Standards Directive [2008/105/EC] • EU Biodiversity Strategy to 2020 [COM(2011)244] • EU Floods Directive [2007/60/EC] • EU Green Infrastructure Strategy (COM(2013) 249 final) • European Landscape Convention [ETS No. 176] • Groundwater Directive [80/68/EEC] and Daughter Directive [2006/118/EC] • Habitats Directive [92/43/EEC] • Marine Strategy Framework Directive [2008/56/EC] • Maritime Spatial Planning [2014/89/EU]SEA Directive [2001/42/EC] • Second European Climate Change Programme [ECCP II] 2005. • Soils Thematic Strategy [COM(2006) 231] • Waste Framework Directive [2008/98/EC] • Water Framework Directive [2000/60/EC] • World Heritage Convention [WHC-2005/WS/02]
	<ul style="list-style-type: none"> • All-Ireland Pollinator Plan 2015-2020

Level	Plan / Programme / Legislation
National Level	<ul style="list-style-type: none"> • Adaption Planning, Developing Resilience to Climate Change in the Irish Transport Sector (DTTAS, 2017) • Architectural Heritage Protection – Guidelines for Planning Authorities (DAHG, 2011) • Draft National Adaptation Framework (DCCAE 2017) • Draft National Biodiversity Plan (3rd Revision 2017-2021) (DAHRRGA, 2017) • Draft National Planning Framework 2040 • European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 • Flora (Protection) Order, 2015, S.I. No. 356 of 2015 Fisheries Acts 1959 to 2007 (S.I. No. 14 of 1959 and No. 17 of 2007) • Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland (Inter-Departmental Marine Coordination Group 2012) • Irish Geological Heritage (IGH) Programme (GSI 1998-) • Marine Strategy Framework Directive, Programme of Measures (SEAS, 2015) • National Climate Change Strategy 2007-2012 (DEHLG, 2007) • National (Climate) Mitigation Plan (DECLG, 2012) • National Heritage Plan 2002-2007 (DAHG, 2002) • National Hazardous Waste Management Plan 2014 - 2020 • National Landscape Strategy for Ireland 2015 – 2025 (DAHG, 2015) • National Mitigation Plan, 2017 • National Monuments Acts (1930 to 2004) (S.I. No. 2 of 1930 & No. 22 of 2004) • National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland - 2017 to 2030 • National Strategic Plan for Sustainable Aquaculture Development (DAFM, 2015) • National Spatial Strategy for Ireland 2002-2020 (DEHLG, 2002) • Proposed National Clean Air Strategy (DCCAE, under consultation, 2017) • 2nd River Basin Management Plan 2018-2021 • UK Marine Policy Statement (Department for Environment, Food and Rural Affairs, 2011) • Wildlife Acts 1976 to 2012
Regional Level	<ul style="list-style-type: none"> • Draft Transport Strategy for the Greater Dublin Area 2016-2035 (NTA, 2015) • Eastern and Midland Regional Assembly Regional Spatial and Economic Strategy (to commence) • Eastern Midlands Region Waste Management Plan 2015 – 2021 • Eastern River Basin District Management Plan 2009-2015 (DEHLG, 2010) • Greater Dublin Strategic Drainage Study (GDSDS) (2005). • Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (2010)
Sub-Regional	<ul style="list-style-type: none"> • Airport Local Area Plan (Fingal County Council, 2015) • Bog of The Ring Groundwater Protection Scheme (GSI and Fingal County Council, 2005) • Draft Flood Risk Management Plan for UoM 9: Liffey and Dublin Bay (OPW, 2016) • Dublin City Biodiversity Action Plan 2015-2020 • Dublin City Development Plan 2016-2022

Level	Plan / Programme / Legislation
	<ul style="list-style-type: none"> • Dublin City Heritage Plan 2002-2006 (Dublin City Council, 2002) • Dublin City Housing Strategy 2011-2017 Appendix 2 (Dublin City Council, 2011) • Dublin City Local Economic and Community Plan 2016-2021 (Dublin City Council, 2015) • Dublin Noise Action Plan 2013-2018 • Dublin Port Masterplan 2040 • Fingal County Development Plan 2017-2023 • Fingal Development Plan 2011-2017 (Fingal County Council, 2011) • Fingal Heritage Plan 2011-2017 (Fingal County Council, 2012) • Fingal Housing Strategy 2017-2023 Appendix 1 (Fingal County Council, 2016) • Fingal Local Economic and Community Plan 2016-2021 (Fingal County Council, 2015) • Greater Dublin Area Cycle Network Plan (NTA, 2013) • George's Quay Local Area Plan (Dublin City Council, 2012) • Landscape Assessment Guidance (Fingal County Council, 1999) • Malahide Shellfish Pollution Reduction Programme (DEHLG, 2009) • North Bull Island Special Amenity Area Order (Dublin City Council, 1994) • Poolbeg West SDZ 2017 • Ringsend Irishtown Local Environment Improvement Plan

7 PROPOSED OPTION DETAILS

The Masterplan 2040 is the first revision of the Dublin Port Masterplan which was published in 2012. Since this publication, development projects arising from the Masterplan have taken place. The main development that has taken place and have been completed in this period of time has included:

- Development of a 4.3 ha site for the transit of trade cars.
- Removal of buildings and incorporation of vacant land north of Alexandra Road into Ocean Pier and Alexandra Quay for additional transit storage.
- Reconfiguration of an area of land facing onto East Wall Road.

In addition, a number of development projects have arisen from the implementation of the Dublin Port Masterplan 2012 but have not yet been completed. A high level description of these projects is available in **Section 2.3**, with a more detailed description of the ABR project, its planning process and the environmental consenting and monitoring associated with this project given in **Section 7.1**. This development has shaped and will influence any future development at Dublin Port, and provides the baseline of the Port at this juncture.

7.1 ALEXANDRA BASIN REDEVELOPMENT PROJECT

The ABR Project is the first major infrastructure project to be brought forward for planning and other consents from the Dublin Port Masterplan 2012. It represents approximately one-third of the total extent of the proposed developments within the Masterplan 2012. The development works for the ABR Project comprise of the following elements:

- **Navigation Channel** - Dredging of the Liffey Channel to -10 m CD, from the East Link Bridge to Dublin Bay buoy over a six year period. Construction of a retaining wall at the Poolbeg Marina.
- **Alexandra Basin West** - Dismantling of infrastructure and removal of infill material. Quay wall refurbishment/construction. Installation of Ro-Ro ramps. Ro-Ro jetty construction. Dredging of basin and berths to -10 m CD. Treatment of contaminated dredged material and re-use as infill onsite. Excavation and restoration of Graving Dock No.1. Infilling of Graving Dock No.2 with treated dredged material. Relocation of ore concentrates loading operations to Alexandra Quay West Extension. Development of cultural heritage interpretative space.
- **Existing Berths 52/53** - Dismantling and removal of existing infrastructure. Infilling of existing Berths 52/53 with treated dredged material. Raising of exiting surface levels by approximately 1.4 m. Quay wall construction. Mooring jetty construction. Installation of Ro-Ro ramp.

7.1.1 ABR Project Planning Process

A planning application was submitted to An Bord Pleanála (ABP) on the 6th March 2014 supported by the following documents:

- Planning Report which presented the case for the project as being in the interests of the proper planning and sustainable development of the area;
- Planning Drawings;
- Project level Environmental Impact Statement (EIS) and NIS; and
- Built Heritage Conservation Strategy.

ABP granted permission for the ABR Project on 8th July 2015. The Board completed an Environmental Impact Assessment (EIA) in relation to the proposed development and concluded that, by itself and in combination with other development in the vicinity, the proposed development would not be likely to have significant effects on the environment. The Board also completed a Habitats Directive Assessment (Stage One Screening and Stage Two Appropriate Assessment) and concluded that the proposed development, in itself or in combination with other plans or projects, would not adversely affect the integrity of any European sites in view of the sites' conservation objectives.

7.1.2 ABR Project Foreshore Licensing Process

DPC submitted a Foreshore Licence Application for the ABR Project to the DHPLG on the 1st July 2015 in order to obtain permissions for undertaking works on the Foreshore (below the mean High Water Mark) including the construction of new quays and jetties and undertaking capital dredging operations. This application was supported by the same ABR Project EIS and NIS as the planning application to ABP. The Minister for DHPLG granted a Lease/Licence/Consent under Sections 2(1), 3(1) and 10(1) of the Foreshore Act, 1933 to DPC on 12th May 2016. The Minister was satisfied (i) that the proposed development on the foreshore would not have significant adverse impacts on human health and safety, nor on the marine environment; (ii) that the proposed development on the foreshore would not adversely affect the integrity of any European site; and (iii) that it is in the public interest to grant the Foreshore Lease/Licence/Consent having regard to the nature of the proposal.

7.1.3 ABR Project Dumping at Sea Permitting Process

Following the granting of Planning Permission from ABP on the 8th July 2015, DPC submitted a Dumping at Sea Permit application for the ABR Project to the EPA on the 13th July 2015. This application was supported by the same ABR Project EIS and NIS which included detailed environmental appraisals of the proposed capital dredging scheme which is an integral part of the overall project. The EPA granted a Dumping at Sea Permit to DPC on the 13th September 2016. The EPA was satisfied, on the basis of the information available, that subject to compliance with the

conditions of this permit, the loading and dumping activities will comply with and will not contravene any of the requirements of Section 5 of the Dumping at Sea Act 1996 as amended. The Agency also considered that the activities will not adversely affect the integrity of any European Site and decided to impose conditions for the purposes of ensuring that they do not do so. It determined that the activities, if managed, operated and controlled in accordance with the permit, will not have any adverse effect on the integrity of any of those sites. Mitigation and monitoring measures as part of this permit and conditions are as follows:

- A MMO will be employed to monitor, record and protect marine mammals, including Harbour Porpoise, in accordance with NPWS guidelines for the duration of the loading and dumping activities (Condition 4.5). The independent MMO has the authority to prevent works commencing when marine mammals are close enough to be at risk.
- The loading and dumping activities will be confined to the winter months (1st October to 31st March)(Condition 3.2), thereby avoiding any impacts on the foraging activity of birds during the breeding season and the calving and breeding season for Harbour Porpoise;
- Sediment transport modelling indicates that there will no significant impact on the protected reef habitat; and
- Conditions included in this permit to reduce impacts on water quality (Conditions 3.3, 3.4 and 3.5) will result in an avoidance of any potential indirect impacts on the qualifying interests of the European Sites

7.1.4 ABR Project Industrial Emissions Licensing Process

Following the grant of Planning Permission from ABP on the 8th July 2015, DPC also submitted an Industrial Emissions (IE) License Application for the ABR Project to the EPA on the 17th July 2015. This application was supported by the same ABR Project EIS and NIS which included detailed environmental appraisals of the proposed treatment of contaminated sediments from Alexandra Basin West and their re-use as fill material to existing Berths 52/53, being an integral part of the overall project. The EPA granted an IE Licence to DPC on the 29th November 2016. The EPA was satisfied, on the basis of the information available, that subject to compliance with the conditions of this license, any emissions from the activity will comply with and will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Act 1992 as amended. The Agency also considered that the activity will not adversely affect the integrity of any European Site and decided to impose conditions for the purposes of ensuring that they do not do so. Mitigation and monitoring measures as part of this license and conditions were as follows:

- The license specifies emission limit values in Schedule B.2: Emissions to Water, of this licence for relevant parameters in the waste water discharge, which are set to ensure compliance with the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009;

- The results of coastal process modelling presented in the NIS conclude that there will be no impact on the intertidal habitats that support the species designated as qualifying interests.
- The results of the modelling presented in the NIS of waste water and storm water discharges from the treatment area conclude that there will be no measureable impact on the environment;
- The drainage system on site will maintain a separation between the clean storm water and runoff which has the potential to be contaminated, which will be treated onsite before discharge;
- Schedule C: Control & Monitoring of this license of the licence provides for control and monitoring of storm water emissions and emissions to surface water from the installation;
- Conditions in the license require that all drainage from bunded and waste storage areas be treated as contamination, (Condition 3.7.3), while visual inspections and proper maintenance are also provided for (Condition 6.11);
- A MMO will be engaged during licensed activities and activities associated with licensed activities at the installation that may cause disturbance impacts on the Harbour Porpoise, which is highly mobile within its habitat (Condition 6.16.3); and
- Noise-producing activities will only take place during daylight hours where visibility provides for effective monitoring (Condition 6.16.4).

7.1.5 Construction Environmental Monitoring

A Construction Environmental Management Plan (CEMP) has been produced for the ABR Project, with an objective to capture all mitigation measures put forward within the EIS and NIS together with conditions specified by ABP, and to provide additional detail in order to develop a practical programme of measures for the Contractor(s) and/or independent Environmental Monitoring team. A suite of environmental monitoring is being undertaken in connection with the ABR Project. This monitoring verifies compliance with various elements of the CEMP. Monitoring covers a wide variety of environmental parameters including water quality, noise and dust levels, marine mammals, birds, seabed animal communities, bats and migratory fish. This monitoring is discussed in **Section 5**.

7.2 OPTION 1: DUBLIN PORT MASTERPLAN 2012

In the absence of the Masterplan 2040 the development projects outlined in the first iteration of the Dublin Port Masterplan 2012 will go ahead. These will take place in the short (2017 – 2021), medium (2021 – 2031) and long (2031 - 2040) term timescales of the Dublin Port Masterplan 2012. The development projects within the timescales are described below with maps of the areas to be developed illustrated in **Figure 7.1** and **Figure 7.2**. Port operations will be ongoing in tandem with the proposed developments throughout the period of the Masterplan.

7.2.1 Short Term: 2017 – 2021

Development within the short term timescale of the Dublin Port Masterplan 2012 will be concentrated within the Northern Port Lands. Construction of the ABR Project will continue throughout this time. In summary the main proposed developments are:

- Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.
- Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.
- Construction of public realm and greenway.
- Construction of revised road network in Northern Port Lands.

7.2.2 Medium Term: 2021 – 2031

Development within the first five years (2021-2026) of the medium term will be concentrated within the Northern Port Lands. Development within the last five years (2026-2031) of the medium term will be concentrated in the Southern Port Lands. The completion of the ABR Project and the Dublin Gateway Project will take place in the medium term. In summary the main proposed developments are:

- Completion of the capital dredging programme as part of the ABR Project.
- Completion of the ABR Project with the demolition of North Quay Wall.
- Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.
- Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone.
- Creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.
- Development of a bridge over the River Liffey and upgrading of the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

- Extension/upgrade of Southern Greenway.

7.2.3 Long Term: 2031+

All Dublin Port Masterplan development will be completed by the long term stage, with infrastructure at the Port capable of handling a throughput of 60 million tonnes per annum. This infrastructure is capable of handling the required throughput of Dublin Port until 2032.

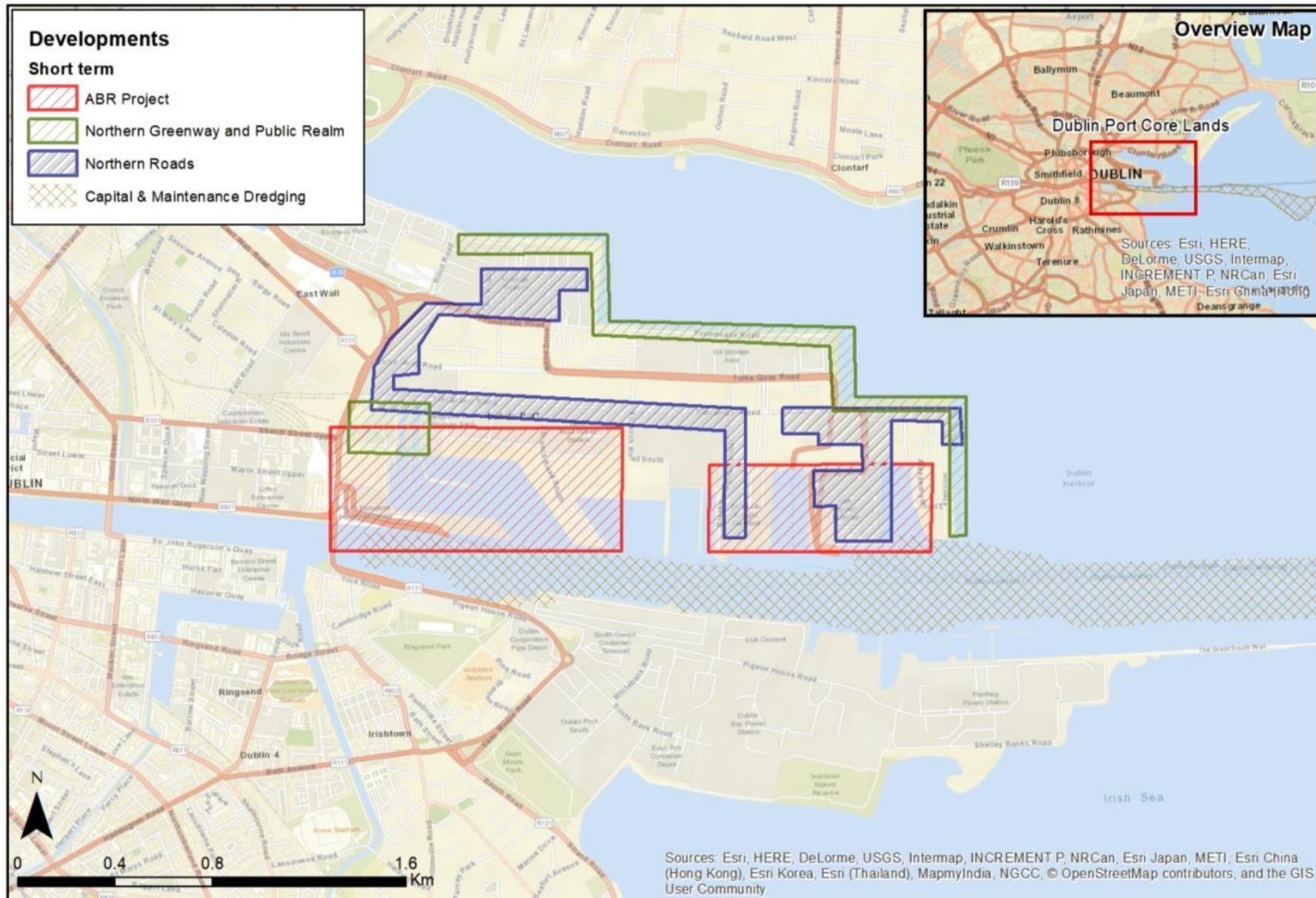


Figure 7.1 **Areas of Development within the Short Term of Option 1**

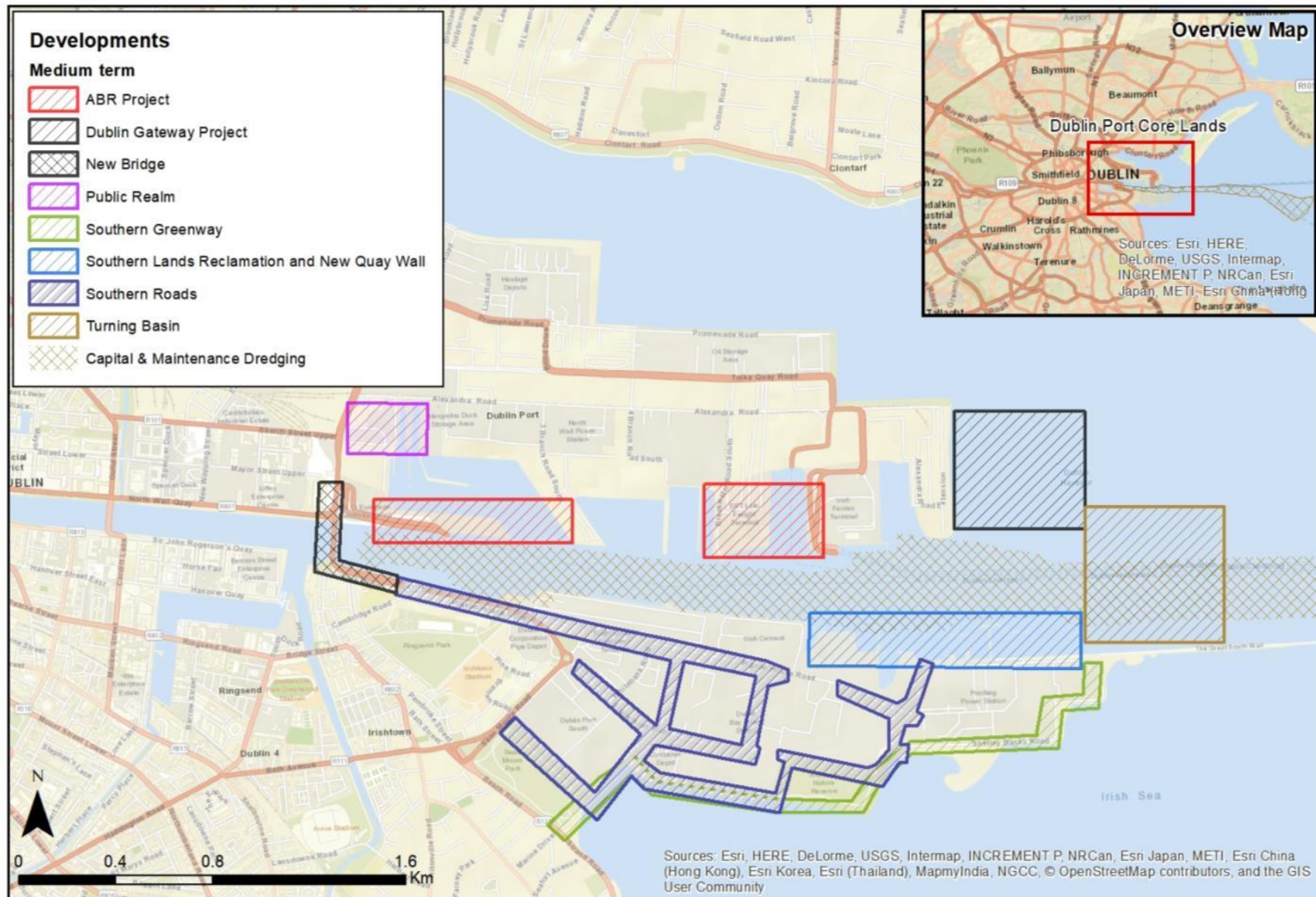


Figure 7.2 Areas of Development within the Medium Term of Option 1

7.3 OPTION 2: DUBLIN PORT MASTERPLAN 2040

With the implementation of the Masterplan 2040 the development projects outlined in the Masterplan 2040 will take place in the same timescales as in Option 1. The development projects within the timescales are described below with a map of the area to be developed illustrated in **Figure 7.3** and **Figure 7.4**. Port operations will be ongoing in tandem with proposed developments throughout the timescale of the Masterplan 2040.

7.3.1 Short Term: 2017 – 2021

Development within the short term timescale of the Masterplan 2040 will be concentrated within the Northern Port Lands, with the exception of development of the Dublin Inland Port. Construction of the ABR Project will continue throughout the short term. In summary the main proposed developments are:

- Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.
- Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.
- Construction of public realm and greenway.
- Construction of revised road network in Northern Lands.
- Development of the Dublin Inland Port including the construction of roads, buildings and yards, and the relocation of non-core users to Dublin Inland Port.

7.3.2 Medium Term: 2021 – 2031

Development within the first five years (2021-2026) of the medium term will be concentrated within the Northern Port Lands. Development within the last five years (2026-2031) of the medium term will be concentrated in the Southern Port Lands. The completion of the ABR Project and the MP2 Project within the medium term are two milestone infrastructure project completions which will allow for growth to be accommodated. In summary the main proposed developments are:

- Completion of the capital dredging programme as part of the ABR Project.
- Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

- Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings and creation of a 400 m at the eastern entrance to the Port's working quays.
- Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone.
- Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.
- Extension/upgrade of Southern Greenway, reopening of section of Great South Wall adjacent to ESB generating station as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.
- Development of the Dublin Inland Port including the construction of roads, buildings, yards and a road juncture, and the relocation of non-core users to Dublin Inland Port.

7.3.3 Long Term: 2031+

Within the last nine years of the Masterplan only small plots on the Northern Lands currently utilised by the Bulk Liquid may be acquired and redeveloped for unitised freight. Otherwise the focus during this latter 10 year period will be on the provision of projects to provide capacity post 2040. The infrastructure in place at this juncture will allow for the throughput of 77 million gross tonnes per annum, equating to a growth rate of 3.3% per year.

7.4 DIFFERENCES BETWEEN OPTION 1 AND OPTION 2

The development options arising from the Masterplan 2040 allow for a throughput of 77 million gross tonnes per annum by 2040, in comparison to the 60 million tonnes resulting from the development projects outlined in the Dublin Port Masterplan 2012. In order to achieve this increased throughout, DPC have purchased the Dublin Inland Port. This increase in DPC-owned land has meant that the need to infill 21 ha of area as part of the Dublin Gateway Project (included in the Dublin Port Masterplan 2012) is redundant. Instead, the MP2 Project will act as an alternative use for the eastern region of the Northern Port Lands.

Greater development of the Southern Port Lands will arise from the Masterplan 2040 in comparison to the Dublin Port Masterplan 2012. This development will include infill of the southern foreshore of the Inner Liffey Channel, reclamation of a slightly greater area (1.2 ha) in front of the Poolbeg Power

Station, relocation of Lo-Lo operations east, reopening of a section of the Great South Wall as public realm, and allocation of 4 ha public realm.

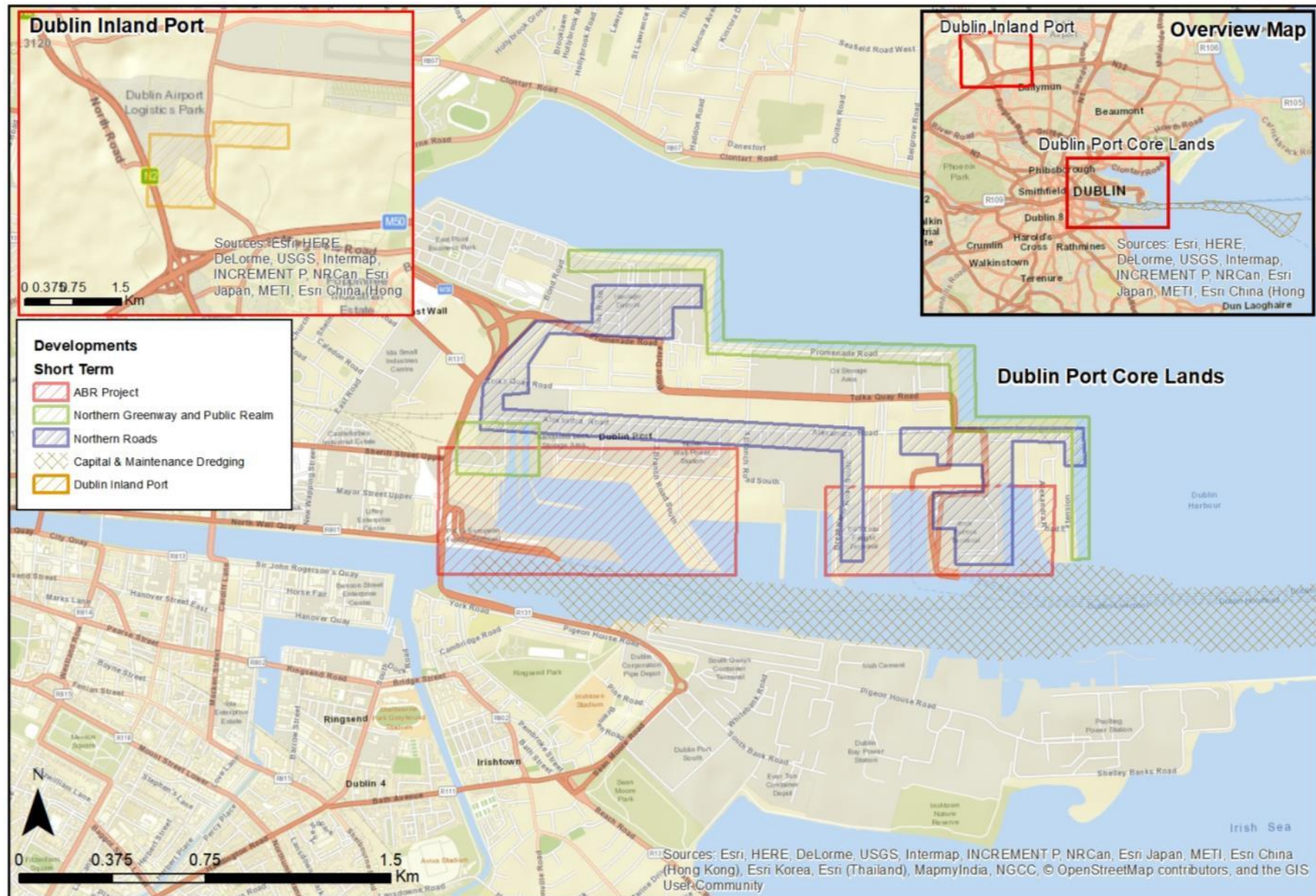


Figure 7.3 Areas of Development within the Short Term of Option 2

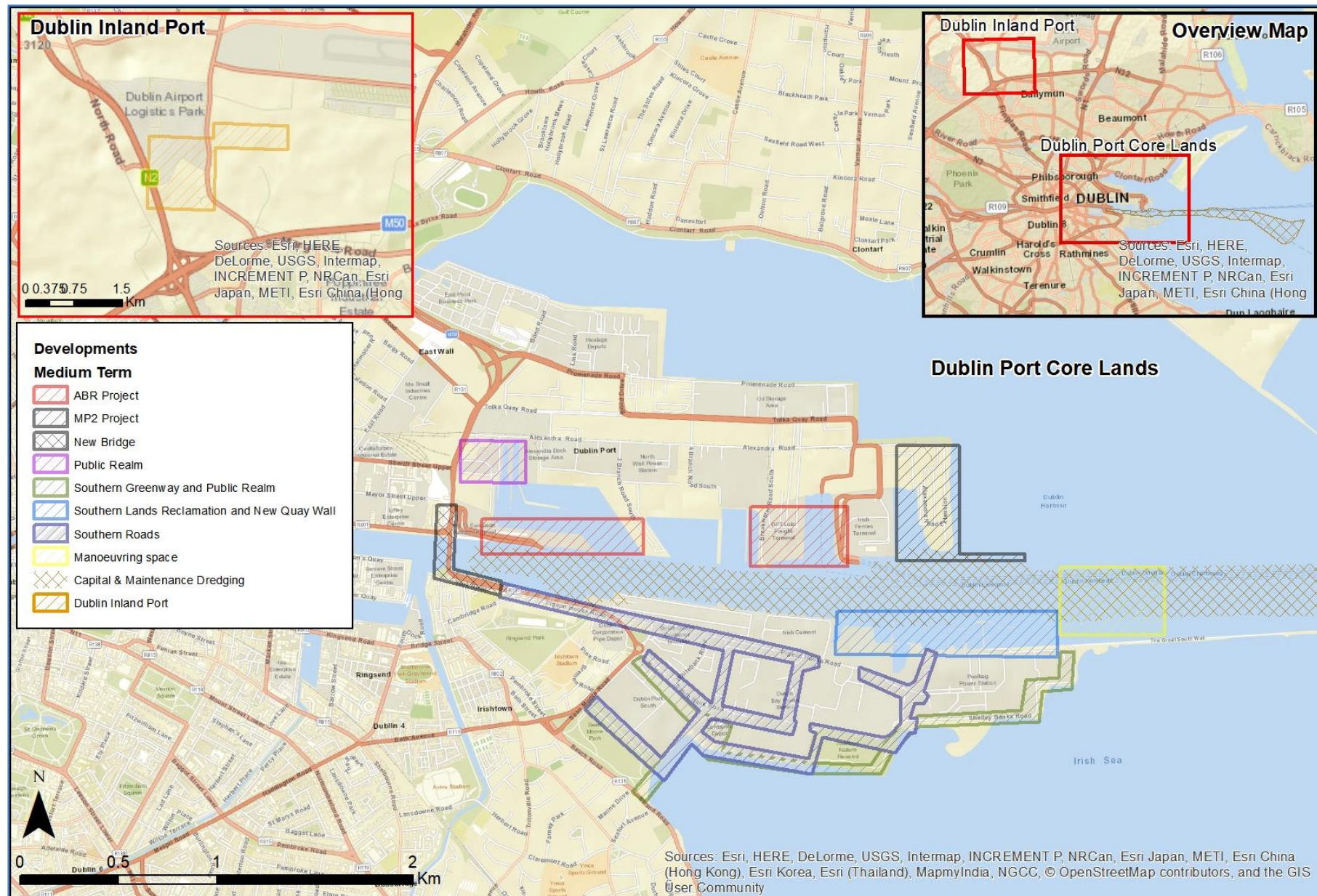


Figure 7.4 Areas of Development within the Medium Term of Option 2

8 ASSESSMENT

The following section provides a summary of the quantitative and qualitative assessments of the proposed technically feasible phased developments available to Dublin Port from 2017 to 2040. The two options available to Dublin Port are to either continue to implement the Dublin Port Masterplan 2012 or to implement the proposed Masterplan 2040. The proposed developments within these options have been initially assessed without mitigation and scored against the SEOs given previously in **Table 3.2**. The scoring guidelines used for this assessment can be found in **Appendix E** of this report. Following scoring of the developments within these options against the SEOs a wider commentary on potential impacts by environmental topic area has been undertaken, which is detailed within **Appendix F** of this report.

Following this initial un-mitigated assessment, more detailed mitigation measures were taken into account. These mitigation measures have come from detailed planning requirements from consented port activities or from updated mitigation information added into the draft Masterplan 2040 following the un-mitigated assessment. A summary of how the proposed mitigation measures would impact on the assessment of the Dublin Port Masterplan 2012 and the proposed Masterplan 2040 is therefore provided.

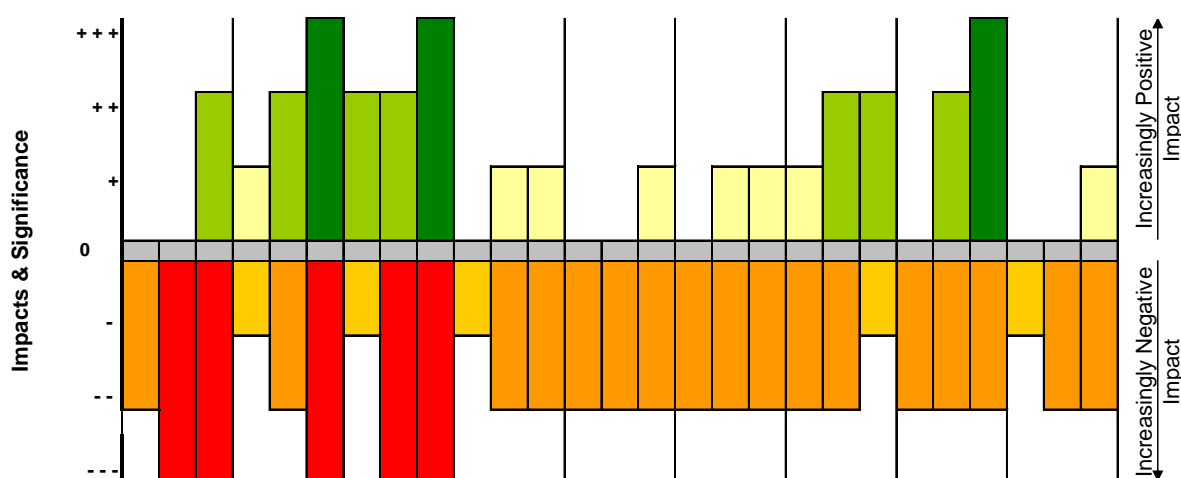
A comparative assessment has been undertaken to demonstrate the differences in mitigated impacts, by environmental topic, between the Dublin Port Masterplan 2012 and the proposed Masterplan 2040. The purpose of this assessment is to establish which of the Masterplans will provide for more sustainable development at Dublin Port in the short, medium and long term.

8.1 DUBLIN PORT MASTERPLAN 2012 - WITHOUT PLAN MITIGATION

Masterplan 2012 - Without Mitigation
The development projects outlined in the first iteration of the Dublin Port Masterplan in 2012 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in Section 7.1 .
Receiving Environment
<ul style="list-style-type: none"> • The existing key environmental issues for the receiving environment of the Dublin Port Masterplan can be found in Section 5 – Baseline and Relevant Environmental Issues. • The receiving environment is concentrated in core Dublin Port Estate. • The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term.
Environmental Assessment – Without Mitigation

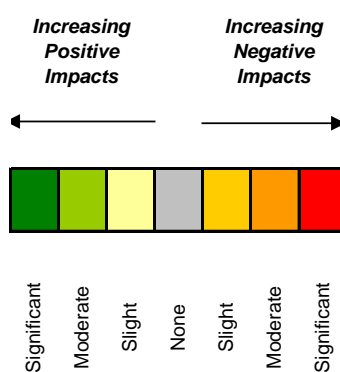
Environmental Topic	Short Term Timescale Impacts	Medium Term Timescale Impacts	Long Term Timescale Impacts
Biodiversity, Flora & Fauna (BFF)	-2	-3	-3/+2
Population & Human Health (PHH)	-1/+1	-2/+2	-3/+3
Geology, Soils and Landuse (S)	-1/+2	-3/+2	-3/+3
Water (W)	-1	-2/+1	-2/+1
Air, Noise & Vibration (ANV)	-2	-2	-2/+1
Climatic Factors (C)	-2	-2/+1	-2/+1
Material Assets & Infrastructure (MA)	-2/+1	-2/+2	-1/+2
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenities (L)	-1	-2	-2/+1

Summary Chart of Impacts – Without Mitigation



Time	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L			
Topic	Biodiversity, Flora and Fauna			Population & Human Health			Geology, Soils & Land Use			Water			Air, Noise & Vibration			Climatic Factors			Material Assets			Cultural Heritage			Landscape & Visual Amenities		

Key



8.1.1 Summary of Impacts

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will result in long term increases in freight and passenger throughput in the long term, although this will be capped at 60 million tonnes per annum. There is the potential for medium and long term moderate to significant negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on material assets with construction activities in the medium term, this is likely to reduce to slight negative impacts in the operational phase, with greater freight and passenger throughput. Green amenity areas, including the greenways in the Northern and Southern Port Lands, which act as buffers between port activity and sensitive receptors, are likely to result in the potential for long term moderate benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

The NIS has concluded that developments in the short and medium term of the Masterplan 2012 have the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, and South Dublin Bay and River Tolka SPA.

8.1.2 Cumulative / In-Combination Development Impacts

The Dublin Port Masterplan 2012 is proposing all development projects to be ongoing in tandem with normal port operations, providing for the most significant cumulative and in-combination, positive and negative impacts on receptors in the area. The simultaneous construction of several developments is likely to result in temporary, cumulative and in-combination impacts on the wider environment unless well phased and well planned approaches are developed that can minimise or eliminate the potential for these collective construction impacts.

A number of cumulative and / or in-combination impacts with other Plans and Programmes have been identified. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 and the Dublin City Development Plan 2016-2022 have the potential for impacts in relation to planned infrastructure. In particular, the Poolbeg West SDZ by the Southern Port Lands is designated for mixed use

development (which may principally include residential development, commercial and employment activities) in the timeframe of the Dublin Port Masterplan. Development in the area surrounding the Port Estate also includes a 170,000 square foot office building which was approved in March 2016 to be built in the Point Square, and will accommodate up to 2,000 workers. These developments will result in receptors moving closer to Dublin Port as port activity is increasing, leading to cumulative and in-combination impacts on local traffic, air pollution, noise and vibration levels, and the local landscape. The impacts of these developments cumulatively and in-combination with the completion of the Dublin Gateway Project (resulting in the infilling of 21ha of natural and protected habitat) is likely to lead to further negative impacts on local sensitive receptors, including the landscape of Dublin Bay and air quality in the communities and routes around Dublin Port. It is likely that good planning and timing of works should be able to minimise the potential for cumulative or in-combination negative effects in the construction phases of these developments. Future iterations of the Development Plans should have regard to the Dublin Port Masterplan 2012 for future planning zones and proposed development areas, to minimise the potential for cumulative and in-combination impacts with the implemented and proposed works from the Masterplan.

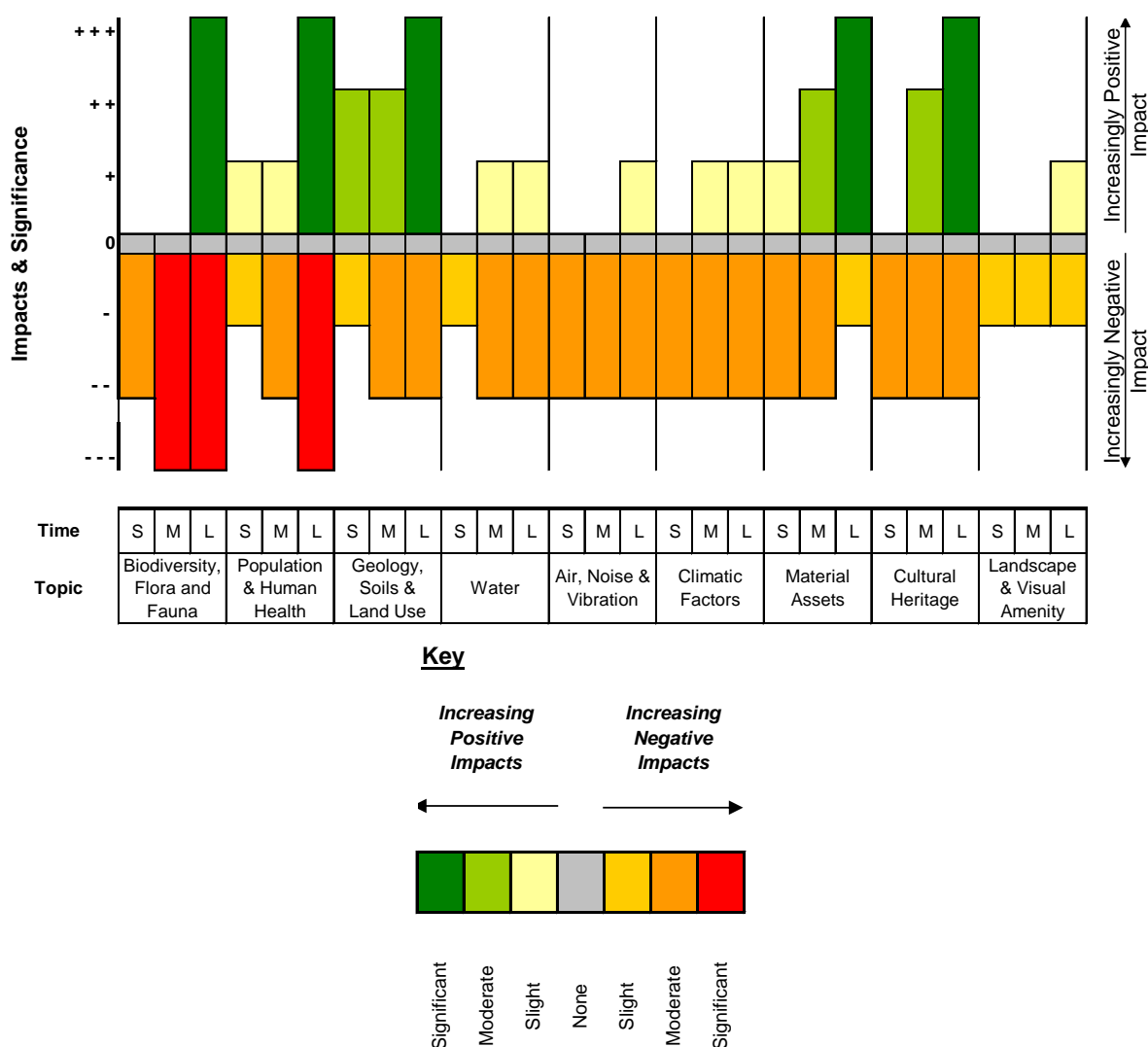
Inshore management in areas that have ongoing and recurring works, such as dredging operations, will need to be carefully planned to minimise the potential for cumulative and / or in-combination impacts, such as on water quality. If possible, these works may be able to be combined to provide future positive symbiotic impacts.

The Dublin Port Masterplan will bring in greater numbers of tourists to the area. Increases in cruise liners to Dublin Port have the potential to result in synergistic benefits with the tourism and recreational sectors in Ireland. This could lead to long term cumulative and in-combination positive impacts on population and material assets. Visitor pressures may increase with the implementation of the Masterplan 2012 and the possibility of an in-combination effect arises as a result of increased demand for and use of the Greenway along the edges of the northern port lands due to the policies, objectives and zonings contained in the Regional Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan.

8.2 DUBLIN PORT MASTERPLAN 2040 - WITHOUT PLAN MITIGATION

Masterplan 2040 - Without Mitigation			
The development projects outlined in the Masterplan 2040 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in Section 7.1 .			
Receiving Environment			
<ul style="list-style-type: none"> The existing key environmental issues for the receiving environment of the Masterplan 2040 can be found in Section 5 – Baseline and Relevant Environmental Issues. The receiving environment is the core Dublin Inland Port, the Dublin Inland Port and the area in which the SPAR will be developed. The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan 2040. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term. 			
Environmental Assessment – Without Mitigation			
Environmental Topic	Short Term Impacts	Medium Term Impacts	Long Term Impacts
Biodiversity, Flora & Fauna (BFF)	-2	-3	-3/+3
Population & Human Health (PHH)	-1/+1	-2/+1	-3/+3
Geology, Soils and Landuse (S)	-1/+2	-2/+2	-2/+3
Water (W)	-1	-2/+1	-2/+1
Air, Noise & Vibration (ANV)	-2	-2	-2/+1
Climatic Factors (C)	-2	-2/+1	-2/+1
Material Assets & Infrastructure (MA)	-2/+1	-2/+2	-1/+3
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenity (L)	-1	-1	-1/+1

Summary Chart of Impacts – Without Mitigation



8.2.1 Summary of Impacts

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will provide port infrastructure likely that is capable of handling the 77 million tonnes of throughput per annum that is envisaged for 2040, resulting in long term significant benefits. There is the potential for medium and long term negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on some material assets in the medium term during construction, this is likely to reduce to slight negative impacts in the

operational phase with greater freight and passenger throughput. Green amenity areas, including the greenways in the Northern and Southern Port Lands, which will act as buffers between port activity and sensitive receptors, are likely to result in long term significant benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

The NIS has concluded that developments in the short and medium term of the Masterplan 2040 have the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, and South Dublin Bay and River Tolka SPA.

8.2.2 Cumulative / In-Combination Development Impacts

The Dublin Port Masterplan 2012 is proposing all development projects to be ongoing in tandem with normal port operations, providing for the most significant cumulative and in-combination, positive and negative impacts on receptors in the area. The simultaneous construction of several developments is likely to result in temporary, cumulative and in-combination impacts on the wider environment unless well phased and well planned approaches are developed that can minimise or eliminate the potential for these collective construction impacts.

A number of cumulative and / or in-combination impacts with other Plans and Programmes have been identified. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 and the Dublin City Development Plan 2016-2022 have the potential for impacts in relation to planned infrastructure. In particular, the Poolbeg West SDZ in the Southern Port Lands is designated for mixed use development (which may principally include residential development, commercial and employment activities) in the timeframe of the Dublin Port Masterplan. Development in the area surrounding the Port Estate also includes a 170,000 square foot office building which was approved in March 2016 to be built in the Point Square, and will accommodate up to 2,000 workers. These developments will result in receptors moving closer to Dublin Port as port activity is increasing, leading to cumulative and in-combination impacts on local traffic, air pollution, noise and vibration levels, and the local landscape. It is likely that good planning and timing of works should be able to minimise the potential for cumulative or in-combination negative effects in the construction phases of these developments. Future iterations of the Development Plans should have regard to the Dublin Port Masterplan 2012 for future planning zones and proposed development areas, to minimise the potential for cumulative and in-combination impacts with the implemented and proposed works from the Masterplan.

Inshore management in areas that have ongoing and recurring works, such as dredging operations, will need to be carefully planned to minimise the potential for cumulative and / or in-combination

impacts, such as on water quality. If possible, these works may be able to be combined to provide future positive symbiotic impacts.

The Dublin Port Masterplan will bring in greater numbers of tourists to the area with increases in cruise liners to Dublin Port, resulting in synergistic benefits with the tourism and recreational sectors in Ireland. This could lead to long term cumulative and in-combination positive impacts on population and material assets. Visitor pressures may increase with the implementation of the Masterplan 2040 and the possibility of an in-combination effect arises as a result of increased demand for and use of the Greenway along the edges of the northern and southern port lands due to the policies, objectives and zonings contained in the Regional Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan.

8.3 DUBLIN PORT MASTERPLAN 2012 - WITH PLAN MITIGATION

Mitigation measures that can be taken into account in the assessment of the Dublin Port Masterplan 2012 are those that were specified within the Masterplan and those that have come from detailed planning requirements from consented activities at the Port. These mitigation measures will offset, reduce or eliminate some predicted impacts on environmental topics. A summary of the mitigation measures that can be taken into this assessment are provided below, along with how this will affect the previously anticipated impacts and scoring. Mitigation measures included as part of the ABR Project permits will be implemented in all future large-scale projects.

- The employment of MMOs as part of any development within the marine environment including piling works and capital dredging. These MMOs will have the authority to prevent works taking place when marine mammals are close enough to be at risk. This will minimise the construction phase impacts of these works in the short and medium term on marine mammals.
- Dredging will be confined to the winter months. This timing of works will avoid any short and medium term impacts on the foraging activity of birds during the breeding season and of harbour porpoises during the breeding and calving season.
- Sediment transport modelling will be used to ensure that there are no significant impacts on the protected reef habitat which is designated as part of the Rockabill to Dalkey Island SAC. This will negate against any construction phase sedimentation impacts on this habitat as a result of development arising from the Masterplan 2012.
- Coastal process modelling will be undertaken for all marine development to ensure that there are no impacts during and post-construction on the intertidal habitats that support the species designated as qualifying interests. This will reduce any temporary construction phase and permanent indirect impacts on the numerous bird species found in Dublin Bay.
- The conditions included in the dumping at sea permit to reduce impacts on water quality will be maintained to result in an avoidance of any potential indirect impacts on the qualifying interests of the European Sites.

- Waste water discharges will be compliant with requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009. This will minimise any potential impacts of waste water discharges on surface water both during construction and post-construction.
- Modelling of waste water and storm water discharges from treatment areas will be undertaken to ensure that there is no measureable impact on the environment. This will negate direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage systems onsite will maintain a separation between the clean storm water and potentially contaminated runoff to ensure that water is treated onsite before discharge. This will reduce direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage from bunded and waste storage areas will be treated as contamination. Visual inspections and proper maintenance of these areas will be provided. These measures will reduce direct and indirect construction phase impacts of this drainage to water and biodiversity, respectively.
- All dredging activities are subject to planning, licensing and permitting, and then subsequent conditions of operation, minimising the short and medium term negative impacts on the wider environment.
- Documented emergency response plans and an Accident Prevention Procedure are in place at Dublin Port, reducing the potential for accidental spillages and the severity of potential spillages, which could result in contamination of water quality and sediment.
- Noise-producing activities such as piling will only take place during daylight hours and monitoring of these activities will be ongoing. This will reduce construction phase noise impacts to the local communities in the short and medium term.
- DPC is developing a Port Heritage Trail with the objective of creating a multi-faceted heritage trail commencing in the City and leading into the heart of the Port. This integrated trail provides permanent protection to the cultural heritage of the area as well as improving the landscape of the area.

Masterplan 2012 - With Mitigation

The development projects outlined in the first iteration of the Dublin Port Masterplan in 2012 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in **Section 7.1**.

Mitigation has been taken into consideration that is included within consented activities at Dublin Port or that was documented within the Masterplan 2012.

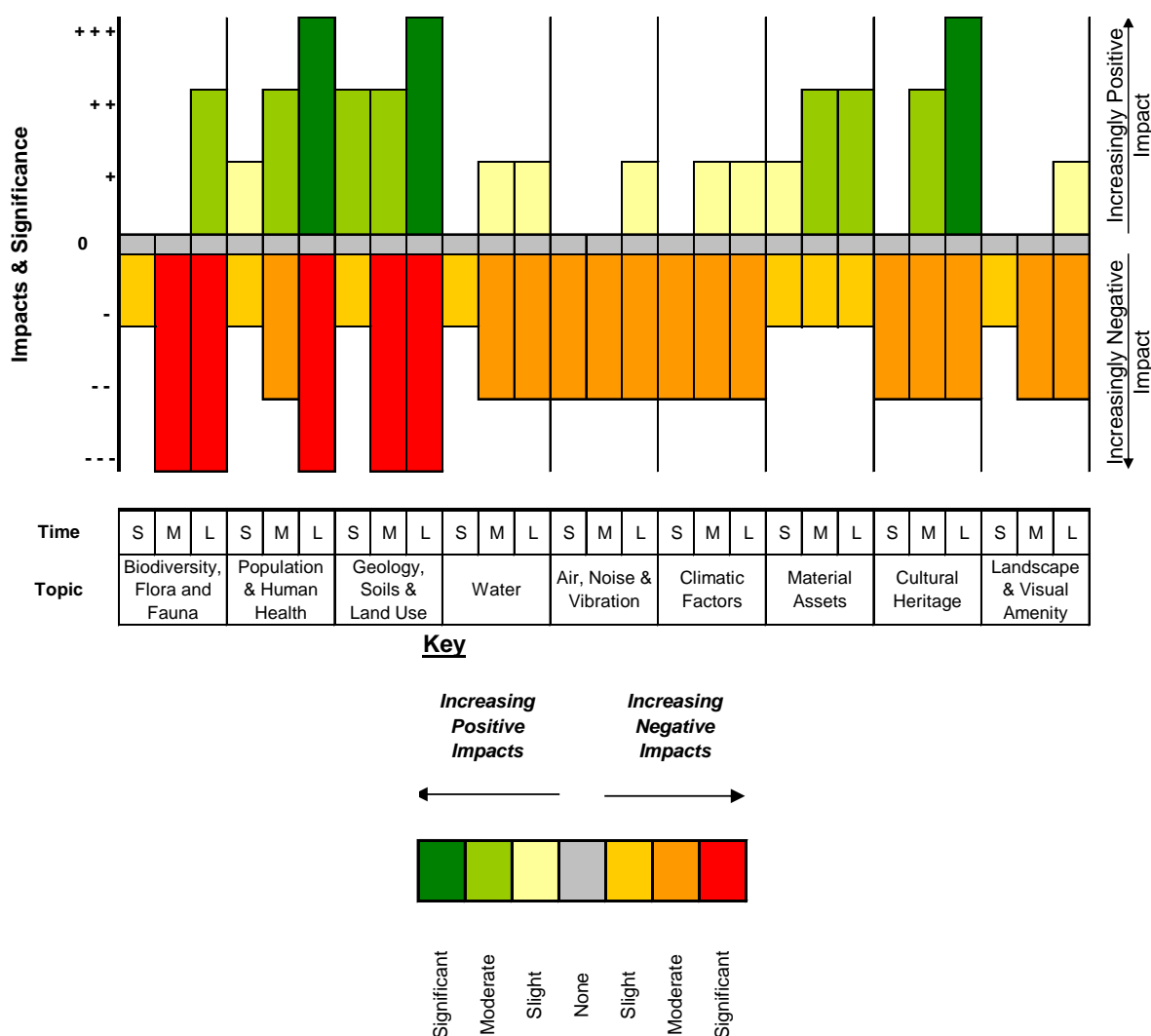
Receiving Environment

- The existing key environmental issues for the receiving environment of the Dublin Port Masterplan can be found in Section 5 – Baseline and Relevant Environmental Issues.
- The receiving environment is concentrated in core Dublin Port Estate.
- The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term.

Environmental Assessment – With Mitigation

Environmental Topic	Short Term Timescale Impacts	Medium Term Timescale Impacts	Long Term Timescale Impacts
Biodiversity, Flora & Fauna (BFF)	-1	-3	-3/+2
Population & Human Health (PHH)	-1/+1	-2/+2	-3/+3
Geology, Soils and Landuse (S)	-1/+2	-3/+2	-3/+3
Water (W)	-1	-2/+1	-2/+1
Air, Noise & Vibration (ANV)	-2	-2	-2/+1
Climatic Factors (C)	-2	-2/+1	-2/+1
Material Assets & Infrastructure (MA)	-1/+1	-1/+2	-1/+2
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenity (L)	-1	-2	-2/+1

Summary Chart of Impacts – Masterplan 2012 - With Mitigation



8.4 DUBLIN PORT MASTERPLAN 2040 - WITH PLAN MITIGATION

Mitigation measures that can be taken into account in the assessment of the Masterplan 2040 are those that have come from detailed planning requirements from consented activities at the Port and those that have been recommended and incorporated into the draft Masterplan 2040 following the unmitigated assessment. These mitigation measures will offset, reduce or eliminate some predicted impacts on environmental topics. A summary of the mitigation measures that can be taken into this assessment are provided below, along with how this will affect the previously anticipated impacts and scoring. Mitigation measures included as part of the ABR Project permits will be implemented in all future large-scale projects.

- The employment of MMOs as part of any development within the marine environment including piling works and capital dredging. These MMOs will have the authority to prevent works taking place when marine mammals are close enough to be at risk. This will minimise

the construction phase impacts of these works in the short and medium term on marine mammals.

- Dredging will be confined to the winter months. This timing of works will avoid any short and medium term impacts on the foraging activity of birds during the breeding season and of harbour porpoises during the breeding and calving season.
- Sediment transport modelling will be used to ensure that there are no significant impacts on the protected reef habitat which is designated as part of the Rockabill to Dalkey Island SAC. This will negate against any construction phase sedimentation impacts on this habitat as a result of development arising from the Masterplan 2040.
- Coastal process modelling will be undertaken for all marine development to ensure that there are no impacts during and post-construction on the intertidal habitats that support the species designated as qualifying interests. This will reduce any temporary construction phase and permanent indirect impacts on the numerous bird species found in Dublin Bay.
- The conditions included in the dumping at sea permit to reduce impacts on water quality will be maintained to result in an avoidance of any potential indirect impacts on the qualifying interests of the European Sites.
- Waste water discharges will be compliant with requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009. This will minimise any potential impacts of waste water discharges on surface water both during construction and post-construction.
- Modelling of waste water and storm water discharges from treatment areas will be undertaken to ensure that there is no measureable impact on the environment. This will negate direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage systems onsite will maintain a separation between the clean storm water and potentially contaminated runoff to ensure that water is treated onsite before discharge. This will reduce direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage from bunded and waste storage areas will be treated as contamination. Visual inspections and proper maintenance of these areas will be provided. These measures will reduce direct and indirect construction phase impacts of this drainage to water and biodiversity, respectively.
- All dredging activities are subject to planning, licensing and permitting, and then subsequent conditions of operation, minimising the short and medium term negative impacts on the wider environment.
- Documented emergency response plans and an Accident Prevention Procedure are in place at Dublin Port, reducing the potential for accidental spillages and the severity of potential spillages, which could result in contamination of water quality and sediment.
- Noise-producing activities such as piling will only take place during daylight hours and monitoring of these activities will be ongoing. This will reduce construction phase noise impacts to the local communities in the short and medium term.

- DPC is developing a Port Heritage Trail with the objective of creating a multi-faceted heritage trail commencing in the City and leading into the heart of the Port. This integrated trail provides permanent protection to the cultural heritage of the area.

Masterplan 2014 Specific Mitigation

- Moving Lo-Lo operations on southern lands away from Ringsend community and Poolbeg SDZ, reducing noise and vibration impacts in the long term to these potentially sensitive receptors.
- SPAR link will keep port traffic within the Port Estate, reducing impacts on the local public road network. This will reduce disturbance and air emissions to the local communities in the long term. Provided there are traffic management measures employed to ensure the SPAR is solely used for Port related traffic, this road link is anticipated to relieve the East Link Bridge of broadly one-third of its forecast traffic.
- Shore-side electricity facilities will be provided at all new berths. Vessels will no longer be required to leave engines idling while docked. Once these facilities are operational there should be moderate reductions in local air emissions at the dockside, initially in the Alexandra Basin West area, then in the Unified Ferry Terminal (MP2) and then at the Poolbeg deep water berths, reducing air emissions, carbon usage and, noise levels.
- Future port development will be designed for flood risk and climate change, reducing risk to assets at the Port. The greenway developments, the MP2 development and the Poolbeg development will be designed to provide protection to the areas behind the coastline. This is likely to result in the potential for medium and long term moderate positive impacts to water and climatic factors.
- Design of the greenways and the buffer between Southern Port Lands and the Poolbeg SDZ West scheme will include screening to ensure that views of industrial port activity are partially blocked to the public by these natural areas. Screening is likely to result in slight positive impacts to the landscape of the area. This will increase to moderate positive impacts in the long term with the establishment of vegetation.
- Design of the greenway between Northern Port Lands and the South Dublin Bay and River Tolka Estuary SPA will include screening to ensure that industrial port activity is partially blocked to the waterbird species in this SPA. Screening is likely to result in slight positive impacts to the waterbirds of the South Dublin Bay and River Tolka Estuary SPA in the medium term. This will increase to moderate positive impacts in the long term with the establishment of vegetation.
- The NIS concluded that the direct and permanent loss of the SPA designated mooring dolphin (tern dolphin), in their current location, as the principle nesting site of breeding terns in the South Dublin Bay and River Tolka Estuary SPA cannot be mitigated for at the Plan level. As described in **Section 5** of the NIS, compensation is instead envisaged. At the project level and through the AA process, removal of the tern dolphin can only occur through demonstrating an absence of alternative solutions and meeting the criteria for Imperative

Reasons of Overriding Public Interest (IROPI). As a result, this process is likely to decrease the significant negative impacts to biodiversity in the medium and long term to slight negative impacts, from ongoing Port operations. If this process cannot be concluded the development may not be able to take place, resulting in no additional negative impacts.

Masterplan 2040 - With Mitigation

The development projects outlined in the Masterplan 2040 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in **Section 7.1**.

Mitigation has been added that is included within consented activities or from updated mitigation information added into the Masterplan 2040.

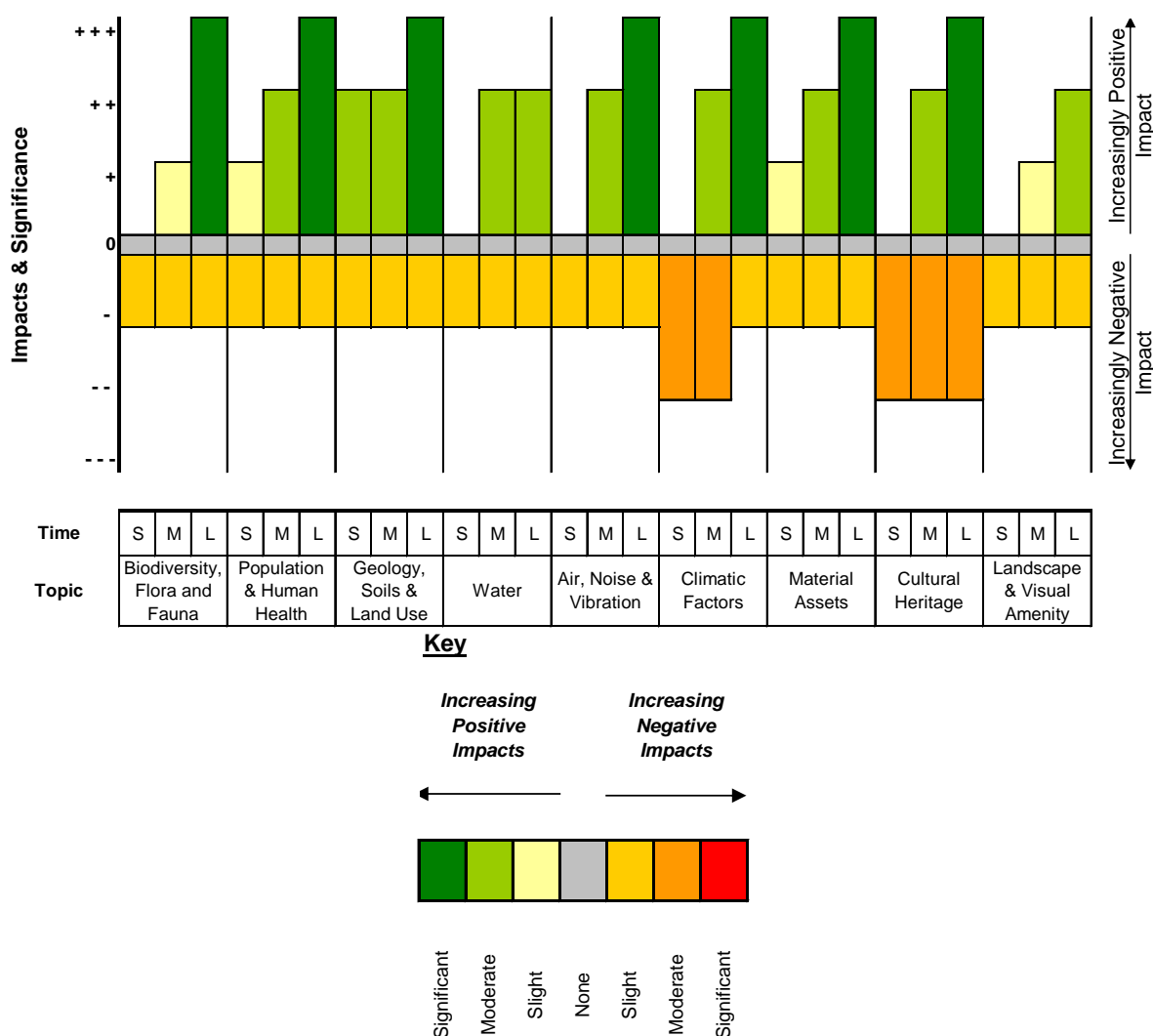
Receiving Environment

- The existing key environmental issues for the receiving environment of the Masterplan 2040 can be found in Section 5 – Baseline and Relevant Environmental Issues.
- The receiving environment is the core Dublin Inland Port, the Dublin Inland Port and the area in which the SPAR will be developed.
- The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan 2040. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term.

Environmental Assessment - With Mitigation

Environmental Topic	Short Term Impacts	Medium Term Impacts	Long Term Impacts
Biodiversity, Flora & Fauna (BFF)	-1	-1/+1	-1/+3
Population & Human Health (PHH)	-1/+1	-1/+2	-1/+3
Geology, Soils and Landuse (S)	-1/+2	-1/+2	-1/+3
Water (W)	-1	-1/+2	-1/+2
Air, Noise & Vibration (A)	-1	-1/+2	-1/+3
Climatic Factors (C)	-2	-2/+2	-1/+3
Material Assets & Infrastructure (MA)	-1/+1	-1/+2	-1/+3
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenity (L)	-1	-1/+1	-2/+2

Summary Chart of Impacts – Masterplan 2040 - With Mitigation



8.5 PLAN COMPARISON

Given that there are several differences between the Masterplan 2012 and the Masterplan 2040, there are several differences in potential environmental impacts both before and after mitigation measures are taken into account. The main differences between the two Masterplans can be summarised as follows:

- The Masterplan 2012 proposes to infill 21 ha of land, part of which located within the South Dublin Bay and River Tolka Estuary SPA. The omission of this project within the Masterplan 2040 results in long term positive impacts to the designated and undesignated biodiversity of this area, with no loss in their habitat, and an improvement in the landscape of the Dublin Bay Biosphere with no eastward extension of land.
- The Masterplan 2040 proposes to develop the Dublin Inland Port and complete the MP2 Project. Although there are likely to be environmental impacts resulting from these developments, as detailed in **Appendix F**, these impacts are likely to be less than those

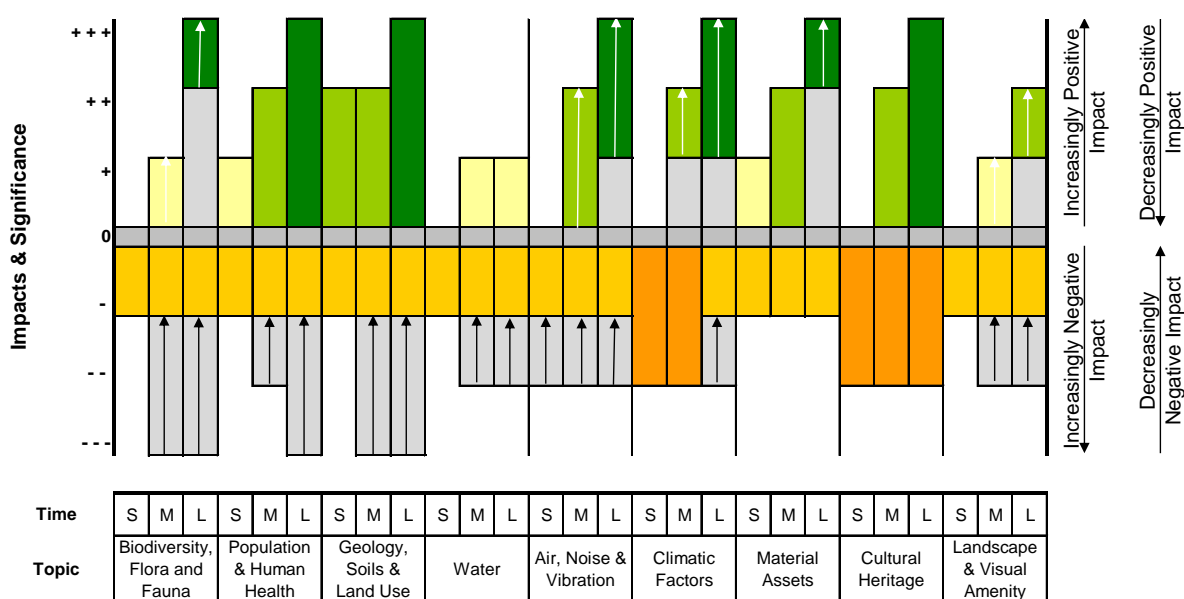
arising from the Dublin Gateway Project, with no designated biodiversity sites likely to be as significantly affected, and the natural landscape designated in the Dublin Bay Biosphere remaining unaltered.

- The Masterplan 2040 proposes to relocate Lo-Lo operations on southern lands away from the Ringsend SDZ and Poolbeg SDZ. This is likely to result in medium and long term reductions in noise and vibration impacts to the area and to the local community.
- The Masterplan 2040 proposes to develop the SPAR link with the aim of keeping port traffic within the Port Estate. This is likely to reduce long term impacts on the public road network, thereby reducing negative impacts to material assets, and reduce long term disturbance impacts and air emissions to the local communities.
- The Masterplan 2040 proposes to install shore-side electricity facilities at new berths. This will result in permanent reductions in local air emissions, reducing negative air, noise and climatic factor impacts associated with port operations.
- The Masterplan 2040 proposes to design future development for flood risk and climate change. This is likely to reduce negative impacts resulting from flooding to material assets owned by DPC in the long term, and improve climatic factor and water impacts.
- The Masterplan 2040 proposes to reopen a section of the Great South Wall as public realm and allocate 4 ha public realm. These will result in an increase of social amenity areas available to the local communities, and an improvement of the landscape in the medium and long term with areas of public realm blocking views of industrial port activity.
- The Masterplan 2040 proposes to design screening for the greenways and public realm areas to ensure views of industrial port activity are partially blocked to the public, resulting in benefits to the landscape in the medium and long term.
- The Masterplan 2040 proposes to design screening into the greenways to ensure the public and the industrial port activity is partially blocked to the waterbird species in the South Dublin Bay and River Tolka Estuary SPA, resulting in benefits to the biodiversity in the medium and long term through reduced disturbance.
- The NIS concluded that the loss of the tern dolphins in the South Dublin Bay and River Tolka Estuary SPA can only go ahead if certain conditions are met at the detailed project level to maintain the integrity of the SPA. As a result, this process is likely to decrease the potential negative impacts to biodiversity in the medium and long term.

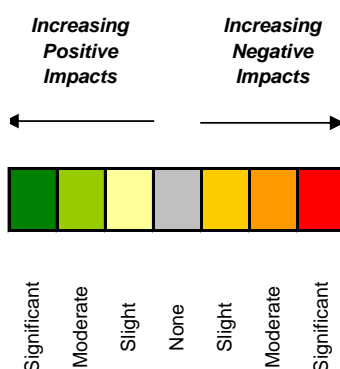
A comparison of the potential positive and negative scores that have been generated from the mitigated assessment is provided below:

Environmental Topic	Short Term Difference	Medium Term Difference	Long Term Difference
Biodiversity, Flora & Fauna (BFF)	0 / 0	+2 / +1	+2 / +1
Population & Human Health (PHH)	0 / 0	+1 / 0	+2 / 0
Geology, Soils and Landuse (S)	0 / 0	+2 / 0	+2 / 0
Water (W)	0 / 0	+1 / 0	+1 / 0
Air, Noise & Vibration (ANV)	+1 / 0	+1 / +2	+1 / +2
Climatic Factors (C)	0 / 0	0 / +1	+1 / +2
Material Assets & Infrastructure (MA)	0 / 0	0 / 0	0 / +1
Cultural, Architectural & Archaeological Heritage (H)	0 / 0	0 / 0	0 / 0
Landscape & Visual Amenities (L)	0 / 0	+1 / +1	+1 / +1

Comparison of Options



Key



The implementation of the Masterplan 2040 will result in a greater number of positive impacts when compared to the impacts resulting from the Masterplan 2012. The medium and long term impacts to biodiversity, flora and fauna are likely to increase to slight and moderate impacts, respectively, with screening designed into the greenway developments. The long term impacts to biodiversity, flora and fauna are likely to increase from moderately positive to significantly positive with the exclusion of the Dublin Gateway Project. The medium and long term significant negative impacts to biodiversity, flora and fauna are likely to decrease to slight negative impacts with the removal of the tern dolphin going ahead only in the case that the integrity of the South Dublin Bay and River Tolka Estuary SPA is not impacted. The medium and long term negative impacts to the population and human health are likely to reduce to slight negative impacts with less noise disturbance and air emissions to the local communities. The significant negative medium and long term impacts to geology, soils and landuse are likely to reduce to slight negative impacts with the omission of the Dublin Gateway Project in the Masterplan 2040. The moderate negative medium and long term impacts to water are likely to reduce to slight negative impacts, with improvements in flood risk management at Dublin Port. Air, noise and vibration impacts are likely to permanently reduce to slight negative impacts with the instalment of shore-side electricity facilities, and are likely to become moderately positive in the medium term and significantly positive in the long term with the creation of public realm, development of the SPAR link and the relocation of Lo-Lo operations away from the local communities. There is likely to be an overall improvement in climatic factor impacts in the medium and long term with the instalment of shore-side electricity facilities and the inclusion of management for flood risk into all future development at the Port. Medium and long term negative impacts to the overall landscape are likely to improve with the omission of the Dublin Gateway Project, the inclusion of greater public realm in the Masterplan 2040 and the inclusion of screening into the design of greenways and public realm areas. Overall the Masterplan 2040 is a more sustainable development programme which allows for the achievement of the required 77m gross tonnes throughput per annum.

9 MITIGATION AND MONITORING

9.1 MITIGATION

Mitigation measures have been recommended where potential negative impacts on environmental topic areas have been identified from developing the alternative options. These mitigation measures aim to prevent, reduce and as fully as possible offset any significant adverse effects on the environment due to implementation of the Masterplan 2040. The mitigation measures that have arisen in the Masterplan and SEA processes have been included within Section 10 and Appendix 1 of the Masterplan 2040.

9.1.1 General Mitigation

The principal mitigation recommendation is that the predicted negative effects should be considered further during the next stage of detailed planning and design, when the specifics of the development infrastructure options can be optimised through detailed feasibility studies and design in order to limit the potential impacts on sensitive receptors. It is recommended that the consents and monitoring in place for the ABR Project are brought forward for all large-scale projects undertaken by DPC.

Further environmental studies based on the more detailed designs and construction methodologies should be undertaken as appropriate. These studies may involve, but are not limited to, marine, aquatic and terrestrial ecology surveys, ornithological and bat surveys, fish surveys, landscape and visual assessments, WFD assessments, geotechnical investigations and heritage surveys. Further Appropriate Assessment, to meet the requirements of the Habitats Directive, of the preferred option detailed design and construction methodology will be required at the project level, where potential impacts have been identified in this SEA and accompanying NIS for the Masterplan 2040.

Before any works are carried out, detailed method statements and management plans (construction and environmental) should be prepared, including timing of works, information on the specific mitigation measures to be employed for each works area, and mechanisms for ensuring compliance with environmental legislation and statutory consents.

The timing of construction and maintenance works should be planned to avoid any potential for negative cumulative impacts or inter-relationships with other schemes, plans or projects, yet look to optimise any potential positive cumulative impacts or inter-relationships.

Contractors should be required to prepare Construction Environmental Management Plans (CEMPs), which would include a requirement for related plans to be prepared, as appropriate, for project implementation, such as Erosion and Sediment Control, Invasive Species Management, Emergency Response, Traffic and Safety Management, Dust and Noise Minimisation, Dredging Mitigation Strategies and Stakeholder Communication Plans.

Works should only be carried out once the method statements have been consulted on with competent authorities such as the EPA, NPWS and the DCHG. At the project level it will not be sufficient to defer the production of construction method statements. These should be completed in the detailed design stage and may be subject to further Appropriate Assessment where potential impacts have been identified in this SEA and accompanying NIS for the Masterplan 2040. Where there may be unavoidable impacts on protected habitats and/or species the necessary derogation licences should be applied for prior to seeking planning permission or approval for a scheme.

Marine construction and in stream works, such as quay wall construction or dredging have the greatest potential for negative impacts during spawning / breeding and early nursery periods for aquatic and marine protected species. No marine or instream works should occur during restricted periods for relevant species and consultation should be undertaken with the appropriate authorities in this regard.

Monitoring of project-level mitigation measures should be undertaken during and after works, to ensure effectiveness.

All works and planning of works should be undertaken with regard to all relevant legislation, licensing and consent requirements, and recommended best practice guidelines. An ecological clerk of works should be appointed for environmental management of each infrastructure development, and where specific sensitive species may be impacted, an appropriate expert should also be appointed.

9.1.2 Mitigation by Environmental Impact

Table 9.1 demonstrates environmental impact specific mitigation measures that should be adopted within the Masterplan 2040 to minimise the potential for any negative effects on the wider environment of implementing the preferred option. These mitigation measures should be implemented and further developed at the next detailed design stage and project level study stage.

Table 9.1 Proposed SEA Mitigation Measures

Impact	Proposed Mitigation
1 - Temporary disturbance and destruction of existing habitats and flora, and the displacement of fauna.	Good planning and timing of works to minimise footprint impacts. An Integrated Environmental Management Plan could be created with relevant consultees for the port area, with a flora and fauna audit developed as part of this, including combined sensitivity mapping. Where applicable, prior to any vegetation clearance an appropriately qualified ecologist should be contracted to undertake a 'pre-vegetation clearance' survey for signs of nesting birds and protected and important species e.g. terns etc. This would feed into the flora and fauna audit. Should important species be found during surveys the sequential approach of avoid, reduce or mitigate should be adopted to prevent significant impacts with advice from

Impact	Proposed Mitigation
	<p>appropriately qualified professional. Vegetation and tree clearance should be minimised and only occur outside the main bird nesting season from February to August. Where there are over-wintering birds, to avoid disturbance, works should not be undertaken between September and March. Dredging should occur only in winter months so as not to disturb migrating fish and nesting birds. MMOs should be employed during piling and dredging activities. Sediment transport modelling and coastal process modelling should be undertaken for all marine development to ensure there are no significant impacts on species and habitats during the construction phase and after. Following construction, replanting, landscaping, natural revegetating and habitat enhancement, should be undertaken in line with appropriate guidelines that aim to improve local biodiversity and wildlife. This is likely to provide for medium and long term benefits to the biodiversity, flora and fauna near the working areas. Where possible, original sediment/soil should be reinstated to original levels to facilitate natural restoration and recolonisation of habitat. Consider integration of blue/green infrastructure plans and habitat enhancement into development design where possible. It is recommended that current project-level monitoring being undertaken by DPC including the employment of MMOs, deployment of hydrophones and passive acoustic monitoring, Dublin Bay Birds Project, and undertaking benthic, river lamprey and bat surveys is continued for future projects, as required.</p>
2 - Temporary displacement of seals, birds, fish and other fauna during the construction period.	Good planning, good timing of works and sensitive construction methods are essential. Adherence to best practice construction guidelines.
3 - Impact on European sites, habitats and species from construction or operation of Dublin Port.	Good planning and timing of works, and good construction and management practices to keep impacts to a minimum. Site and species specific mitigation provided in the NIS for the Masterplan 2040 including site specific surveys, timing of works etc. Provide local, connected, compensatory habitat if loss of area of Natura site is unavoidable.
4 - Spread of invasive species during construction.	Pre-construction survey for invasive species. Cleaning of equipment and machinery along with strict management protocols to combat the spread of invasive species. Preparation of invasive species management plan for construction and maintenance-related activities, if invasive species are recorded during the pre-construction surveys. Any imported materials will need to be free from alien invasive species. Post-construction survey for invasive species.
5 - Dredging impacts on biodiversity, flora and fauna.	Minimise requirement for in-water works through good planning. A Dredging Mitigation Strategy, a Dredging Management Plan and good dredging practices should be implemented, along with

Impact	Proposed Mitigation
	consultation with environmental bodies on methodology and appropriate timing to cause the least amount of damage, habitat loss, and sedimentation. Scoping or relevant specialist ecological surveys during the detailed planning stage and prior to any construction works. Dredging should occur only in winter months so as not to disturb migrating fish and nesting birds.
6 - Construction and operation disturbance to the local communities.	Disturbances should be kept to a minimum with good working practices, planning and timing. Noise-producing activities such as piling should only take place during daylight hours and monitoring of these activities should be ongoing. Adoption of Construction Best Practice and measures outlined in the CEMP, and implementation of traffic and pedestrian management planning during construction. Continued liaison with local communities is advised with regard to complaints concerning air, noise and vibration emissions resulting from port construction and operations. The DPC ISO14001 EMS facilitates the recording and management of complaints. Complaints issued to DPC are logged and communicated to relevant DPC personnel and/or tenants by the DPC Public Relations Department. This same procedure should also be applicable to enquiries. Continued liaison with local communities should also ensure that concerns raised are addressed in a spirit of co-operation. Moving Lo-Lo operations on southern lands away from Ringsend community and Poolbeg SDZ will reduce noise and vibration impacts in the long term to these potentially sensitive receptors. Provided there are traffic management measures employed to ensure the SPAR is solely used for Port related traffic, this road link will keep port traffic within the Port Estate, reducing disturbance and air emissions to the local communities in the long term.
7 - Impacts on employment opportunities	Encouragement of employment from the local community should be ongoing.
8 - Health and Safety risk to the local population during construction works.	Good construction management practices and planning of works. Adoption of Construction Best Practice and measures outlined in the CEMP. Recording of all accidents occurring at Dublin Port by DPC should be continued into the future.
9 - Disturbances to local amenity, community and social infrastructure during the construction phase, e.g. shops and amenity areas.	Good site management practices, traffic and construction management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice. Noise-producing activities such as piling should only take place during daylight hours and monitoring of these activities should be ongoing.
10 - Permanent contamination of soils and sediments	Good management and planning to minimise contamination of soils and sediments. Development and consenting of environmental management plan prior to works and operation. Strict regulation of

Impact	Proposed Mitigation
	port activities. Regular sediment analysis should be continued into the future.
11 - Removal of soil and rock material via dredging and excavation works during construction.	Re-use material where possible on site.
12 - Temporary disturbances of water quality during the construction phase.	<p>Good management and planning to keep water quality disturbance to a minimum. Any potential water quality issues from construction should be contained and treated to ensure no damage to natural waterbodies. Dredging and construction will have to be planned appropriately, using Best Available Techniques / Technology (BAT) at all times, to ensure water quality issues are kept to a minimum, with no significant adverse effects. Adherence to best practice guidelines, such as CIRIA Document C532 - Control of Water Pollution from Construction Sites. Development of erosion and sediment control plans. Development and consenting of environmental management plan prior to commencement of works. Continued monthly water sampling of surface water effluent and potable water, with reports issued detailing the results. Drainage from bunded and waste storage areas will be treated as contamination. It is recommended that current project-level monitoring being undertaken by DPC including the deployment of four real-time water quality monitoring stations within the Liffey Estuary and four real-time monitoring stations within Dublin Bay is continued for future projects, as required.</p>
13 - Potential for pollution incidents during and after the construction phase.	<p>Minimise requirement for in-water works through good planning. Storm water emissions and emissions to the surface water from installations should be controlled and monitored. Strict management and regulation of construction activities. Drainage from bunded and waste storage areas will be treated as contamination. Visual inspections and proper maintenance of these areas will be provided. Waste water discharges will be compliant with requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009. Modelling of waste water and storm water discharges from treatment areas will be undertaken to ensure that there is no measureable impact on the environment. Provision of good facilities in construction areas including improved dockside facilities to minimise potential for discharges and runoff. Preparation of emergency response plans and accident prevention procedures. Good work practices including; construction of silt traps, hydrocarbon interceptors installed at sensitive areas, appropriate storage of fuel, oils and chemicals, refuelling of plant and vehicles on impermeable surfaces away from drains / waterbodies, provision of spill kits, installation of wheel wash and plant washing facilities, implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste and regular monitoring of surface water</p>

Impact	Proposed Mitigation
	quality. Identification of historically contaminated areas and sites to prevent further contamination.
14 - Requirement for maintenance and capital dredging.	Development of a Dredging Mitigation Strategy / Dredging Management Plan to address the potential effects of an increase in ship movements, sediment re-suspension, contaminated sediments, and potential for changes to the hydrodynamic regime. Design should aim to ensure WFD objectives are not compromised and all detailed options will be subject to a WFD Assessment. All dredging activities are subject to planning, licensing and permitting, and then subsequent conditions of operation. Conditions included in dumping at sea permits for dredging activities to be maintained. Any negative impact on the status of a water body will only be permitted under the WFD if the strict conditions set out in WFD Article 4 are met. Adhering to good work practices. If a channel is maintained on an as-required basis, using good planning, timing and BAT, there should be only minimal temporary disturbance to the local water quality.
15 - Alterations to coastal processes.	Detailed surveys and hydrodynamic modelling to inform detailed design of coastal works to ensure no negative impacts on coastal processes.
16 - Potential for increase in wastewater generated with associated pollution incidences and increase in water usage.	Waste water discharges will be compliant with requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009. Modelling of waste water and storm water discharges from treatment areas should be undertaken to ensure that there is no measureable impact on the environment. Modern drainage system to ensure no contaminated discharges or runoff, with no combined sewers. Continued implementation of water usage reduction programmes by DPC.
17 - Potential for flood risk.	Individual developments to be subject to detailed Flood Risk Assessment at the planning application stage. Future port development will be designed for flood risk, reducing risk to assets at the Port.
18 - Breaches of air quality thresholds.	Development of dust minimisation plans. Dust suppression measures in place during construction to include regular dampening down of stock piles, regular dampening down of routes using water bowsers during dry weather, establishing appropriate speed limits over unmade surfaces and establishing wheel washing facilities on construction sites. Shore-side electricity facilities will be provided at all new berths, reducing air emissions. It is recommended that current project-level monitoring being undertaken by DPC including the deployment of two dust monitoring stations in the vicinity of sensitive receptors is continued for future projects, as required.
19 - Breaches of noise and	Development of noise minimisation plans. Good management and

Impact	Proposed Mitigation
vibration levels.	planning to ensure cumulative increase in noise levels and vibration levels generated in the vicinity of sensitive receptors are minimised. Noise-producing activities such as piling should only take place during daylight hours and monitoring of these activities should be ongoing. Noise barriers to be installed where necessary. Shore-side electricity facilities will be provided at all new berths, reducing noise emissions. It is recommended that current project-level monitoring being undertaken by DPC including the deployment of two noise monitoring stations and a vibration monitor in the vicinity of sensitive receptors is continued for future projects, as required.
20 - Medium and long term sustainability impacts.	<p>Potential to reduce GHG emissions with greater rail transport to and from Dublin Port, increase car sharing, initiate shore-side electricity at new berths to reduce diesel emissions, provide pedestrian and cycle links within Dublin Port, improve public transport connections to the Port Estate etc. Continued monitoring by DPC of total CO₂ emissions and energy performance at Dublin Port.</p> <p>DPC to commit to contributing to the relevant goals, targets and indicators of The Sustainable Development Goals National Implementation Plan 2018 – 2020, in particular - <i>Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development. (e.g. 14.1, 14.2 and 14.a)</i></p>
21 - Adaptation to potential climatic change.	Individual developments to be subject to detailed Flood Risk Assessment at the planning application stage. Future port development will be designed for climate change, reducing risk to assets at the Port. DPC to develop a Climate Change Adaptation Plan.
22 - Disturbances to local infrastructure during and after the construction phase, e.g. traffic, water and electricity.	Good site management practices, traffic and construction management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice. Provided there are traffic management measures employed to ensure the SPAR is solely used for Port related traffic, this road link will keep port traffic within the Port Estate, reducing impacts on the local public road network in the long term. It is also anticipated that the Dublin Inland Port could reduce vehicular movements in the port tunnel and at the port, through the relocation of non-core port users reducing the need to collect and deposit empty containers.
23 - Changes in operational waste generation	The current waste management programme should be reviewed in light of the Masterplan 2040 in order to assess how best to accommodate additional predicted waste outputs. Monitoring by DPC of recycling rates and percentage of waste being directed to landfill should be continued as part of the waste management programme.

Impact	Proposed Mitigation
24 - Construction damage to heritage features.	Where necessary a heritage impact assessment should be prepared in respect of any works to architectural or archaeological features in advance of any works being carried out to feed into detailed design. Consultation and agreement with the DCHG in advance of any works taking place in respect of protected archaeological or architectural features. Construction supervision by qualified project archaeologists, combined with sensitive construction methods and restoration to minimise potential for damages. Heritage features damaged could be restored / preserved. Statutory consents and notices may be required prior to works taking place.
25 - Medium and long term impacts on the setting of heritage features	Impacts could be kept to a minimum through sensitive design and planning. Planning and design advice from qualified archaeologists. Statutory consents may be required prior to works. The Port Heritage Trail will provide permanent protection to the cultural heritage of the area.
26 - Potential for undiscovered heritage to be impacted upon by construction and dredging operations.	Interpretation of side-scan sonar and bathymetry information, along with supervision of construction and dredging operations by qualified archaeologists will minimise any impacts or the possibility of destruction of underwater and undiscovered heritage features in areas of heritage potential. Discovered heritage features could be restored / preserved and incorporated into Port Heritage Trail.
27 - Construction phase impacts on landscape and visual amenity.	Impacts could be kept to a minimum through good site practice and planning (e.g. screened laydown areas and traffic management). Adoption of Construction Best Practice.
28 - Operational phase impacts on landscape and visual amenity.	Impacts could be kept to a minimum through sensitive design and planning (e.g. vegetative screening and landscape management planning). Landscape and visual assessment and advice during detailed design. Public consultation on draft designs. A Port Wide Landscape Plan could be developed and appropriate landscaping commissioned for future landscape enhancement proposals. Design of the greenways and the buffer between Southern Port Lands and the Poolbeg SDZ West scheme will include screening to ensure that views of industrial port activity are partially blocked to the public by these natural areas.
29 - Restricted access to waterbodies for recreational activities.	Sensitive design of the shoreline works. Potential to improve recreational access, safety of access and improve local recreational and ecological linkages in the detailed design. Public and stakeholder consultation on draft designs.

9.1.3 NIS Mitigation

In addition to the proposed SEA mitigation **Table 9.2** demonstrates the NIS mitigation measures that should be adopted within the Masterplan 2040 to minimise the potential for any negative impacts on the European sites as arising from Option 2.

Table 9.2 Proposed NIS Mitigation Measures

Impact	Proposed Mitigation
1 - Impact on European sites, habitats and species from construction or operation of Dublin Port.	Construction phase and regular operational phase activities during the overwintering season adjacent to SPAs will be screened to prevent waders and waterbirds being disturbed. Design of the greenways will include screening to ensure that amenity users do not disturb or displace waterbirds from continuing to use intertidal areas of the South Dublin Bay and River Tolka Estuary SPA for feeding.
2 - Habitat loss affecting the integrity of European sites	The loss of tern dolphins in the South Dublin Bay and River Tolka Estuary SPA can go ahead only if certain conditions are met to maintain the integrity of the SPA. This will be assessed at a project level.

9.2 MONITORING

The SEA Directive requires that the significant environmental effects of the implementation of the Masterplan 2040 are monitored in order to identify, at an early stage, unforeseen adverse effects and in order to undertake appropriate remedial action. The proposed monitoring programme in **Table 9.3** is based on the Targets and Indicators established in the SEOs (given in **Section 3.2**). This monitoring has been adopted into Section 10 and Appendix 2 of the Masterplan 2040 and will be undertaken in the course of its adoption. DPC should aim to share the data collected in monitoring with relevant environmental bodies to assist in knowledge development and transfer.

Detailed monitoring for specific policies proposed should be re-scoped in consultation with the appropriate authorities at the detailed feasibility and design stages. This agreed detailed monitoring should then be undertaken before, during and after construction, where and when appropriate.

DPC are also committed to establishing the true Natural Environmental Capital of the port, with a view to monitoring this capital in the future as an essential set of indicators for sustainable port operation and development. There is a growing appreciation across many sectors of the dependency on natural capital as being crucial to ensuring the sustainability of the business, which is demonstrated by the initiatives currently in development with many of the world's leading corporations. Dublin Port, as the

'gateway' to the island of Ireland and a key contributor to the Irish economy, has consistently demonstrated thought leadership in terms of its strategic planning. Dublin Port plan to incorporate the concept of natural capital within its vision, policies and practices. The most appropriate way to explore this is to adopt a recognised Protocol, such as that developed by the Natural Capital Coalition, as a framework. The concept of natural capital would be incorporated within the future vision of Dublin Port, at the highest level, and then within existing policies and procedures, including the adoption of natural capital accounting.

Table 9.3 Environmental Monitoring of the Masterplan 2040

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
Biodiversity, Flora and Fauna	1	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna within and in the vicinity of Dublin Port.	A	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	Status, condition, area and number of European sites and species.	NPWS – Conservation Action Plans NPWS reporting on Irelands Habitats and Species – Article 17 Reports. NPWS reporting on the status of Irelands Birds – Article 12 Reports. DPC monitoring and reporting
			B	Preserve, protect, maintain and where possible enhance nature conservation sites/biospheres and protected species or other known species of conservation concern.	Status, condition, area and number of international, national and local conservation designations and their species.	Local Authority – Local Area Plans and County Development Plans. NPWS - Status of Protected Sites and Species in Ireland Reporting DPC monitoring and reporting
			C	Preserve, protect, maintain and where possible enhance undesignated fauna, flora and habitats.	Status and condition of undesignated known fauna, flora and habitats.	Local Authority – Local Area Plans and County Development Plans. DPC monitoring and reporting
Population & Human Health	2	Minimise the risk to and provide benefit for the community and human health.	A	Minimise risk to human health and risk to life within the local community.	Perceived health/disturbance to the local community and number of port-related accidents.	DPC, Local Authority and Emergency Services Reporting CSO statistics
			B	Provide social infrastructure and amenity facilities for the local community.	Numbers and quality of social infrastructure and amenity facilities in the area.	DPC, Local Authority
			C	Provide employment for the local community.	Direct and indirect employment created by DPC.	DPC & CSO statistics

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
Geology, Soils & Landuse	3	Protect the coastline and soils / sediments.	A	Protect the coastline from erosion.	Areas and rates of coastal erosion rates within the Port Estate.	EPA - CORINE landcover mapping. Local Area Plans and County Development Plans – myplan.ie OPW Coastal Protection Strategy Reviews
			B	Protect the soil and sediment from contamination.	Potential contamination and sterilisation of soils and sediments.	DPC monitoring and reporting EPA
Water	4	Minimise impacts on water quality, water resource and flood risk.	A	No negative impacts on the status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	Surface, groundwater and coastal waterbody status.	EPA – RBMP / WFD status reporting and updates. DPC monitoring and reporting
			B	Reduce water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Water usage and wastewater generated at the Port per unit of freight and passenger throughput.	DPC monitoring and reporting
			C	No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	Flood risk in the area of port activities.	DPC reporting OPW FRMP for UoM09 - Reviewed every 6 years
Air, Noise and Vibration	5	Minimise impacts on air quality, noise and vibration.	A	Minimise impacts on air quality in the area.	Predicted emissions and air quality from port activities.	EPA reporting DPC monitoring and reporting
			B	Minimise noise impacts in the area.	Predicted noise levels from port activities.	DPC monitoring and reporting
			C	Minimise vibration impacts in the area.	Predicted vibration levels from port activities.	DPC monitoring and reporting
Climatic Factors	6	Minimise emissions of greenhouse gases	A	Minimise emissions of greenhouse gases and port carbon footprint from	Predicted greenhouse gas emissions.	DPC monitoring and reporting

Environmental Topic	Objectives		Sub-Objectives		Indicators	Possible Data and Responsible Authority
		and port carbon footprint		development and activity	Carbon emissions	
			B	Adaptation to potential climatic change.	Climate change influenced flood risk in the area of port activities.	DPC and Local Authority reporting OPW FRMP for UoM09 - Reviewed every 6 years
Material Assets & Infrastructure	7	Protect existing and develop new material assets and infrastructure.	A	Protect existing and develop new material assets and infrastructure.	Area of DPC facilities. Energy and transport infrastructure. Freight and passenger throughput.	DPC, Local Authority, ESB, Eirgrid, Eircom, BGE, Irish Water and EPA reporting.
		Minimise wastes from DPC activities.	B	Reduce waste generation and increase the rates of reuse and recycling at the Port.	Tonnages of waste being directed to landfills from port activities. Tonnages materials being recycled or reused.	DPC monitoring and reporting
Cultural, Architectural & Archaeological	8	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	A	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate, with particular regard to local maritime and industrial heritage.	Potential loss of or damage to identified heritage sites and features, or their setting. Heritage features incorporated into the Port Estate.	DPC, Local Authority and DCHG reporting.
Landscape & Visual Amenity	9	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port	A	Protect, and where possible enhance, landscape / seascape character and visual amenity in the vicinity of the Port	Landscape / seascape quality, designated views, and scenic amenity.	Local Authority – Landscape Character Assessments, County Development Plans and Local Area Plans. EPA - CORINE Landcover.

10 SUMMARY AND CONCLUSIONS

This SEA Environmental Report has been prepared to provide a formal and transparent assessment of the likely significant impacts on the environment arising from the Masterplan 2040, including consideration of reasonable options (Option 1 and Option 2). As the Masterplan 2040 has the potential to impact upon European sites there is a requirement under the EU Habitats Directive to carry out an AA.

This SEA Environmental Report has identified the potential positive and negative impacts on the wider environment of constructing and operating the development options. This report is designed to help support the decision making in the Masterplan 2040, to ensure DPC are fully aware of the environmental constraints and opportunities of these options, and to help the future sustainable development of projects that come from the Masterplan 2040.

Section 8 of this SEA Environmental Report details the environmental assessment of the preferred option, to implement the Masterplan 2040. Generally there was found to be the potential for slight to moderate negative environmental impacts from construction and operation of the developments from preferred option on the wider environment. In the medium and long term, following the completion of works and re-establishment of areas any potential negative impacts are mostly slight. The potential impacts on the wider environment in the medium and long term with the implementation of the Masterplan 2040 have been identified as being an improvement in comparison to the potential impacts identified with the implementation of the Dublin Port Masterplan 2012. This is largely due to the omission of the Dublin Gateway Project, the use of the Dublin Inland Port away from sensitive receptors and the throughput at Dublin Port reaching 77 million tonnes per annum by 2040 with the implementation of the Masterplan 2040.

Section 9 of this SEA Environmental Report recommends environmental mitigation measures to avoid or minimise the potential negative impacts identified of implementing the Masterplan 2040. It is recommended that these measures are adopted in full within the Masterplan and at the next detailed stage of design and assessment. The mitigation measures that have arisen in the Masterplan, SEA and AA processes have been included within Section 10 and Appendix 1 of the Masterplan 2040.

The NIS details the findings of the AA conducted to further examine the potential direct and indirect impacts of the development options in the Masterplan 2040 on the following European sites:

- Baldoyle Bay SAC
- Codling Fault Zone SAC
- Howth Head SAC
- Lambay Island SAC
- Malahide Estuary SAC
- North Dublin Bay SAC
- Rockabill to Dalkey Island SAC
- Rogerstown Estuary SAC
- South Dublin Bay SAC
- Baldoyle Bay SPA
- Dalkey Islands SPA
- Howth Head Coast SPA
- Ireland's Eye SPA
- Lambay Island SPA

- Malahide Estuary SPA
- North Bull Island SPA
- Rogerstown Estuary SPA
- South Dublin Bay & River Tolka Estuary SPA

The NIS concluded that adverse effects upon the integrity of a European site were not predicted, with mitigation measures being applied to counteract effects of:

- Pollution incidents or elevated suspended sediments
- Underwater noise or disturbance
- Aerial noise or visual disturbance
- Habitat loss

Adverse effects on the integrity of the South Dublin Bay and River Tolka Estuary SPA however were predicted to occur at the project stage as a result of bringing forward some development options in the medium term of the Masterplan 2040 to provide new deepwater Lo-Lo and multipurpose berths in a location incompatible with the existing tern breeding site on the mooring dolphin. The direct and permanent loss of the mooring dolphin, in its current location, as the principle nesting site of breeding terns in the South Dublin Bay and River Tolka Estuary SPA cannot be mitigated for at the Plan level. As described in **Section 5** of the NIS, mitigation cannot be proposed in accordance with Article 6(3) of the Habitats Directive and compensation is instead envisaged. At the project level and through the AA process, removal of this tern dolphin will only occur through demonstrating an absence of alternative solutions and meeting the criteria for Imperative Reasons of Overriding Public Interest (IROPI). If these conditions are met and the compensatory measures are found to ensure that the integrity of the SPA is maintained, this development may occur. This will be determined at project level, when detailed information on development options is available.

Section 9 also details environmental monitoring to be undertaken during development of the Masterplan 2040. This should identify at an early stage any unforeseen adverse effects due to implementation of the Plan. This environmental monitoring has been adopted into Section 10 and Appendix 2 of the Masterplan 2040 and will be undertaken in the course of its adoption.

11 NEXT STEPS

Consultations on the Masterplan 2040, SEA Environmental Report and NIS are anticipated to commence in April 2018 and run for six weeks. Documents will be made available for viewing at the Dublin Port Centre (Alexandra Road, Dublin 1) and digitally via the DPC website.

Following completion of the consultation period, all comments will be collated and the Masterplan 2040, SEA Environmental Report and NIS will be reviewed and revised as necessary. Provided there are no objections or comments that will significantly alter the Masterplan 2040, the final version of the Masterplan 2040 can be drafted and adopted. This is anticipated to be in Q3 2018. Following release of the adopted Masterplan 2040 an SEA Statement will be drafted to summarise the process undertaken and identify how environmental considerations and consultations have been integrated into the final Plan. **Table 11.1** demonstrates the proposed upcoming time stages for the Masterplan 2040, SEA and AA.

Table 11.1 Draft Anticipated Milestones

Masterplan 2040	Dates	Strategic Environmental Assessment / Appropriate Assessment
Development of Masterplan 2040	July 2017 - April 2018	Production of SEA Environmental Report and NIS.
Consultation on Masterplan 2040	April-May 2018 (six weeks)	Consultation on SEA Environmental Report and NIS.
Publication of final Masterplan 2040	Q3 2018	SEA Environmental Statement and NIS, amended as required.

Following adoption of the final Masterplan 2040 the next stage of development for any of the potential options is detailed design and further detailed study, incorporating the advice and mitigation measures proposed in these environmental reports.

The proposed timescale to complete the SEA process is given in **Table 11.2**.

Table 11.2 Proposed Timescale for SEA of the Masterplan 2040

Actions	Timescales
Screening	May 2017
Scoping	May – August 2017
Consultation	August – December 2017 (5 months)
Environmental Assessment	August 2017– April 2018
Public Consultation	April – May 2018 (6 weeks)
Environmental Statement	Q3 2018

The contact for any information regarding the SEA of the proposed Masterplan 2040 is as follows:

By post	Alan Barr RPS LM Keatings Site Offices Alexandra Road D01VR70
By email	Alan.Barr@rpsgroup.com

12 REFERENCES

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APPENDIX A

SEA Screening Responses



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LoCall: 1890 33 55 99

20th June 2017

Our Ref: 170104.2

Re. Dublin Port Masterplan Review 2017

Dear Mr Barr,

The Environmental Protection Agency (EPA) acknowledges your notice, dated the 25th May 2017, regarding the above and notes its contents.

SEA Determination

We acknowledge your determination that a full Strategic Environmental Assessment (SEA) of the Dublin Port Masterplan Review 2017 (the Plan) will be carried out, following the SEA screening of the Plan. This determination reflects the nature and extent of the proposed revised infrastructure development options, and the potential for significant effect on the receiving environment.

It is noted that the Plan Review 2017 is likely to require an assessment under Article 6 of the Habitats Directive. The requirements for Strategic Flood Risk Assessment should also be considered.

The recognition that the SEA process will allow for the early consideration of environmental issues is noted and welcome. In particular SEA, AA and SFRA processes will provide opportunities to avoid, reduce and mitigate any potential significant adverse environmental impacts identified. They will also provide opportunities for environmental enhancement. Integration of the Plan Review and the assessment processes with will be important to realising these opportunities.

Specific Comments on the Plan

The initial submission made by the Agency, dated the 28th February 2017, should be taken into account in preparing the Plan and associated SEA, and is attached for reference purposes.

Further input will be provided by way of a scoping submission following receipt of the SEA Scoping Report at the next stage of the SEA process.

Available SEA Guidance / Resources

Guidance on the SEA Process, including an SEA Pack, Integration Guidance, SEA Checklist, List of SEA Spatial Information Sources and guidance on *Integrating Climate Change into SEA* (EPA, 2015) and *Developing and Assessing Alternatives in SEA* (EPA, 2015) , is available on the EPA website and should be considered in the preparation of the SEA. This can be consulted at the following address: <http://www.epa.ie/pubs/advice/ea/>

EPA State of the Environment Report 2016

The EPA 'State of the Environment Report' - *Ireland's Environment 2016 – An Assessment* (EPA, 2016) identifies recommendations, key issues and challenges that should be taken into account, as relevant and appropriate to the Plan. This report can be consulted at: <http://www.epa.ie/irelandsenvironment/stateoftheenvironmentreport/>

SEA WebGIS Search and Reporting Tool

The EPA WebGIS Search and Reporting application is an online GIS based web application that allows users to explore, interrogate and produce an indicative report on key aspects of the environment in specific geographic areas. These reports are indicative and will provide an overview of key aspects of the environment within a specific plan area. This may be used to inform the SEA screening and scoping stages for Plans and Programmes with particular reference in the first instance to the land use sector, though it is also applicable to other sector plans. It may be accessed via www.edenireland.ie

Future Modifications to the Plan

Dublin Port Company should determine whether or not any future proposed modifications would be likely to have significant effects on the environment. This assessment should take account of the criteria in Schedule I of the SEA Regulations (S.I. No. 435 of 2004).

Infrastructure Planning

In proposing the Plan, and any related modifications to the Plan, and in implementing the Plan, adequate and appropriate infrastructure should be in place, or required to be put in place, to service any development proposed and authorised during the lifetime of the Plan.

Environmental Authorities

Under the SEA Regulations (*S.I. No. 435 of 2004*, as amended by *S.I. No. 200 of 2011*), notice should also be given to the following:

- The Minister for the Environment, Community and Local Government (now the Minister for Housing, Planning, Community and Local Government),
- The Minister for Agriculture, Food and the Marine, and the Minister for Communications Energy and Natural Resources (now the Minister for Communications, Climate Action and Environment), where it appears to the competent authority that the plan or programme, or modification to the plan or programme, might have significant effects on fisheries or the marine environment, and
- where it appears to the competent authority that the plan or programme, or a modification to the plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Arts, Heritage and the Gaeltacht (now the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs).

A copy of your decision regarding the determination should be made available for public inspection at your offices, website and should also be notified to any Environmental Authorities already consulted.

Should you have any queries or require further information in relation to the above please contact the undersigned. I would be grateful if an acknowledgement of receipt of this submission could be sent electronically to the following address: sea@epa.ie.

Yours sincerely,



Dr Tara Higgins
Inspector,
SEA Section,
Office of Evidence and Assessment
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Wexford



An Roinn Ealaíon, Oidhreacht,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs

Our Ref: **FP2017/002**

(Please quote in all related correspondence)

30 June 2017

Dublin Port Company,
Port Centre,
Alexandra Road,
Dublin 1

Via email: masterplan@dublinport.ie cc: Alan.Barr@rpsgroup.com

Re: SEA Screening Report for Dublin Port Masterplan Review 2017

A Chara,

On behalf of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, I refer to correspondence received in relation to the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated headings.

Nature Conservation

This Department notes that as a result of Strategic Environmental Assessment (SEA) screening an SEA will be required. Please note that in the response of this Department dated 9/3/17, our Ref FP2017/002, scoping information was provided for Plan, SEA and Appropriate Assessment (AA) screening/Natura Impact Statement (NIS). These comments should be referred to at scoping stage by Dublin Port and its consultants.

You are requested to send further communications to this Department's Development Applications Unit (DAU) via **eReferral**, where used, or to manager.dau@ahg.gov.ie; if emailing is not possible, correspondence may alternatively be sent to:

The Manager,
Development Applications Unit (DAU),
Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs,
Newtown Road,
Wexford
Y35 AP90

Is mise, le meas

Sinéad O' Brien
Development Applications Unit



An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs

Our Ref: **FP2017/002**

(Please quote in all related correspondence)

09 March 2017

Dublin Port Company,
Port Centre,
Alexandra Road,
Dublin 1

Via email: masterplan@dublinport.ie

Re: First Review of Dublin Port Masterplan 2012 – 2040

A Chara,

On behalf of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, I refer to correspondence received in relation to the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated headings.

Archaeology

Having reviewed the submitted documentation and further to the meeting held with Dublin Port on 17th February attended by officers from this Department, it is noted that the area covered by the proposed Masterplan includes an area of significant archaeological potential, both terrestrial and underwater. The Dublin Port Masterplan encompasses a large bank of reclaimed land which has the potential to retain significant archaeological features including wrecks, intertidal features such as fish traps, as well as artefacts reflecting the history of the development of the port and city over many centuries.

The Wreck Inventory of Ireland lists over 600 wrecks for the Dublin Harbour area, which are subject to statutory protection under section 3 of the 1987 National Monuments (amendment) Act.

It is also noted that the Masterplan area is large in scale and includes a number of recorded monuments such as the South Bull Wall, Recorded Monument DU019-029--- & DU018-066---, which are subject to statutory protection in the Record of Monuments and Places, established under section 12 of the National Monuments (Amendment) Act 1994.

As was mentioned at the meeting with Dublin Port on 17th February, it is recommended that a Heritage Conservation Plan be commissioned in order to identify and assess the likely impact from the proposed developments on known heritage sites and areas of such potential (including wrecks, and recorded monuments) within the Masterplan area. The Heritage Conservation Plan should identify and describe the archaeological significance of each site; setting out a framework for the long term protection to be afforded to each one or the likely negative impact that might arise as a result of the proposed developments, should that information be currently available. As part of this assessment the Conservation Plan should seek to identify where gaps exist in the current understanding of the potential for archaeological sites to exist within the Port area in order to

safeguard against damage occurring inadvertently as developments proceed beyond the planning stage. The Heritage Conservation Plan should anticipate the likely impact of any specific development proposal contained in the Port's Masterplan so that it can be fully assessed in advance in order to establish whether the impact will allow for the retention or enhancement of significant known or potential archaeological sites and wrecks that may be affected, i.e. preservation in situ, by record or presentation of known or newly uncovered features within the Masterplan area. The compilation of such a Conservation Plan will help ensure that Dublin Port is operating from an informed position with regard to future development plans and that it is as fully aware as it can be at this early juncture of the potential for such plans to impact on material cultural heritage in the locations proposed for development in the Masterplan.

The initiative to create a Port Heritage Trail is to be welcomed. As suggested at our meeting with Dublin Port on 17th February, the inclusion of a series of information boards at various locations along the Trail would undoubtedly be much appreciated by the people of Dublin and visitors alike. Information to be presented in the information boards could include following:

The development of the port over time

- Overview of shipwrecks generally within the port area
- Important wrecks in the area
- History of the South Bull Wall
- History of the North Bull Island
- History of reclamation in the Port
- Ships and shipping over time.

Architectural Heritage

The Department wishes to acknowledge the presentation made by representatives of Dublin Port to officials representing the architectural heritage strand on 17th February and to state that, further to the meeting, it will be happy to liaise with Dublin Port Company and its representatives on any issues arising, including the on-going survey work of architectural heritage in the port area by the National Inventory of Architectural Heritage.

Nature Conservation

The Dublin Port Company and its consultants have forwarded two consultation papers to this Department for review, one consultation paper for the Masterplan Review and one for the Strategic Environmental Assessment (SEA) Environmental Report. This Department also notes the offer of a meeting with the National Parks and Wildlife Service (NPWS) of this Department in advance of a response. However, it is also noted that Dublin Port and its consultants are happy to take comments on the consultation papers without a meeting, as per your email from Ms. Ruth Barr on the 21st of February last. As per the email to Ms. Ruth Barr on the 24th of February from Ms. Siobhan Ryan of this Department, NPWS are responding on the Natural Heritage in writing as part of this Department's submission. Please find below the comments on the Natural Heritage from this Department.

Nesting Terns

This Department notes that the 21 ha infill will no longer be necessary during the lifetime of this Masterplan. Therefore, the main issue of concern regarding the Natural Heritage at this scoping stage is the issue of the nesting terns. At present there are two tern nesting sites designated at Dublin Port, one designated as a Special Protection Area (SPA) designated under the EC Birds Directive (Directive 2009/147 EC) and both designated as a proposed Natural Heritage Area (pNHA) designated under the Wildlife Acts 1976 to 2012. The two sites are the South Dublin Bay and River Tolka Estuary SPA (site code 004024) and the Dolphins, Dublin Docks pNHA (site code 00201). This issue had previously been discussed with this Department at a meeting in September 2014 to discuss the Dublin Port Company Tern Colony Management Plan. It will be essential to include in any new Masterplan a discussion of the issues concerning the nesting terns and the

procedures under articles 6.3 and 6.4 of the Habitats Directive, in particular the issue of examining alternatives that must be followed before proceeding to Imperative Reasons of Overriding Public Interest (IROPI). In addition, care should be taken to distinguish between mitigation measures and compensation measures in any such discussion.

Biodiversity

In reviewing the Masterplan there may be opportunities to create areas for biodiversity which should be availed of. This Department notes the work to date by the Dublin Port Company on creating and monitoring nesting sites for Black Guillemots and welcomes the fact that this work will continue.

It is noted that references to the UNESCO Biosphere Reserve have been abbreviated to the word Biosphere which has been widely adopted. For reasons of clarity, this abbreviation should be explained.

Implementation

It is noted by this Department that table 7.1 of the Masterplan Review Consultation Document refers to the phasing of the Masterplan implementation and refers to the different phases as “strategic plans”. It should be clarified as to whether these are implementation phases of the Masterplan or will be future standalone Plans, and whether, if they are to be standalone Plans, they will have SEA applied.

In addition to the above, please find below some general scoping comments for the review of the Dublin Port Company Masterplan, the SEA Environmental Report and the Natura Impact Statement (NIS).

Masterplan

Legislation

The Masterplan and SEA should take account of the Biodiversity Convention, the Ramsar Convention, the EC Habitats Directive (Council Directive 92/43/EEC), the EC Birds Directive (Directive 2009/147 EC), the Wildlife Acts of 1976 to 2012, and the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015. Dublin Port should also refer to the relevant circular letters, in particular “Circular Letter SEA 1/08 & NPWS 1/08 Appropriate Assessment of Land Use Plans” which is available at www.npws.ie/guidance-appropriate-assessment-planning-authorities.

Designated sites

The Masterplan should include a natural heritage section. All designated sites within or adjoining the Masterplan area should be listed and mapped, including, if applicable, Special Areas of Conservation (SAC) designated under the Habitats Directive, Special Protection Areas (SPA) designated under the Birds Directive, Natural Heritage Areas (NHA), Proposed Natural Heritage Areas (pNHA), Nature Reserves, and Refuges for Fauna, designated under the Wildlife Acts. Details of these sites are available on www.npws.ie/.

Protected species

The proposed Masterplan should recognise that protected species also occur outside designated sites and should take note of the National Biodiversity Plan and the need to protect the County’s biodiversity. Examples of protected species include protected plants listed in SI 355 of 2015 and protected under the Wildlife Acts, and bat species and otters, protected under the Wildlife Acts and listed on Annexes II and IV of the Habitats Directive. All birds are protected under the Wildlife Acts and some, such as the peregrine falcon (*Falco peregrinus*) and kingfisher (*Alcedo atthis*), are listed on annex I of the Birds Directive.

The Dublin Port Company should note that where there are impacts on protected species and their habitats, resting or breeding places, licenses may be required under the Wildlife Acts or derogations under the Habitats Regulations.

Article 10 of Habitats Directive

In accordance with Article 10 of the Habitats Directive, Plans should include provisions to encourage the management of features of the landscape which are of major importance to wild fauna and flora. This includes linear landscape features which act as ecological corridors, such as watercourses (rivers, streams, canals, ponds, drainage channels, etc.), woodlands, hedgerows and road and railway margins, and features which act as stepping stones, which include marshes and woodlands. These provide pathways for the dispersal and genetic exchange of wild species and can help improve the coherence of the Natura 2000 network. Such features should be maintained and, where possible, enhanced.

Marine

Information on the marine environment is available at <http://www.npws.ie/marine/>. This section also contains a working document on Marine Natura Impact Statements in SACs downloadable from <https://www.npws.ie/sites/default/files/general/Marine%20Assessment%20Working%20Document.pdf>.

Rivers and wetlands

Wetland habitats such as rivers are an important source of biodiversity and contain species such as otters (*Lutra lutra*), Salmon in freshwater (*Salmo salar*), kingfishers (*Alcedo atthis*), crayfish (*Austropotamobius pallipes*) and Lamprey species, all protected under the Wildlife Acts of 1976 to 2012 and/or listed on the annexes of the EC Habitats Directive and Birds Directive. It is important that the proposed Masterplan should recognise the importance of these wetland habitats.

Water

Ground and surface waters should be protected from pollution, and, if applicable, the Dublin Port Company should ensure that adequate sewage treatment facilities are, or will be, in place prior to any development proposed in the Masterplan. The Dublin Port Company should also ensure that adequate water supplies are present prior to development. Care should be taken to ensure that any proposed water abstractions or waste water discharges do not negatively impact on Natura 2000 sites.

Roads

Where roads are listed for improvement and upgrading in the Masterplan, if applicable, the opportunity should be taken to address inadequate existing mitigation measures or impeded passage (e.g. include mammal underpasses or dry ledges where there is poor culvert design). In making provision at plan level for transport, including reserving lands and integrating or upgrading routes, this should be based on information on ecological constraints, and should allow sufficient flexibility for impacts to be avoided or mitigated.

Alien invasive species

Alien invasive species such as Japanese Knotweed and Giant Hogweed can be damaging to local biodiversity. The Masterplan should have a policy to protect against the accidental introduction of such species during development. Information on alien invasive species in Ireland can be found at <http://invasives.biodiversityireland.ie/> and at <http://invasivespeciesireland.com/>.

Amenity developments

Negative impacts on biodiversity and designated sites, particularly by the coast and along rivers, can occur as a result of development such as walking routes, cycleways, seating, lighting, canoe trails, loss of riparian zone and mowing of riparian zone, and can lead to habitat loss, erosion and added disturbance by humans and dogs. Such developments along waterways, for example, could impact on species such as otters and bats which are strictly protected under the Habitats Directive and Kingfishers listed on Annex I of the Birds Directive. One of the main threats identified in the threat response plan for otter is habitat destruction (see http://www.npws.ie/sites/default/files/publications/pdf/2009_Otter_TRP.pdf).

In general, pedestrian and cycle routes need ecological assessment in their planning and design and should not target sensitive ecological sites or parts of sites, as such routes have potential for disturbance to habitats and species, including as a result of noise, lighting, etc., otherwise their

development may not be consistent with nature conservation objectives and legal compliance requirements.

Green Infrastructure

From a biodiversity point of view it is important to take note of the EU Green Infrastructure Strategy. Further information on this can be found in the EU commission's document of 2013 which can be accessed at

http://ec.europa.eu/environment/nature/ecosystems/docs/green_infrastructure_broc.pdf.

Care should be taken to ensure that green infrastructure involves greening existing infrastructure rather than adding built infrastructure to existing biodiversity corridors.

Pollinators

It is recommended that where possible the natural heritage section of the Masterplan should also contain a policy on implementing the All-Ireland Pollinator Plan 2015-2020. In particular, uncut road verges, where safety allows it, can provide wild flowers as food for pollinators, and should be encouraged.

SEA

Integrated assessment

In line with the Environmental Protection Agency (EPA) publication on integrated biodiversity impact assessment (IBIA) it is particularly important that the SEA process should take place in consultation with the teams working on the draft Masterplan and appropriate assessment, as each process can help inform the other to ensure that the objectives and policies in the draft Masterplan will have no significant effects on the natural heritage. The SEA should examine the effects of policies, objectives and any indicative maps or zonings, as well as cumulative impacts with other plans and projects both within and outside of the Masterplan area.

Legislation

The SEA should take account of the Biodiversity Convention, the Ramsar Convention, the Birds and Habitats Directives, the Wildlife Acts of 1976 to 2012, and the European Communities (Birds and Natural Habitats) Regulations, 2011 to 2015. A revised (consolidated) version of the Wildlife Act 1976 (in PDF and HTML) is now available on the Law Reform Commission website <http://revisedacts.lawreform.ie/eli/1976/act/39/front/revised/en/html>. It is annotated to show the source of all changes, and for convenience an un-annotated PDF is also available.

Baseline data

With regard to the scope of baseline data, details of designated sites can be found at www.npws.ie/. For flora and fauna in the SEA, the data of the National Parks and Wildlife Service (NPWS) should be consulted at www.npws.ie/. Where further detail is required on any information on the website, such as the locations of the protected plants for example, a data request form should be submitted. This can be found at

www.npws.ie/sites/default/files/general/Data%20request%20form.doc.

Other sources of information relating to habitats and species include that of the National Biodiversity Data Centre (www.biodiversityireland.ie), Inland Fisheries Ireland (www.fisheriesireland.ie), BirdWatch Ireland (www.birdwatchireland.ie) and Bat Conservation Ireland (www.batconservationireland.org). Data may also exist at a County level within the Planning Authority.

Strategic Environmental Objectives (SEOs)

It is recommended that the Biodiversity SEOs in the SEA cover habitats and species both within and outside of designated sites as below where applicable;

- Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EC Birds Directive (Directive 2009/147 EC),

- Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2012,
- Species protected under the Wildlife Acts including protected flora,
- ‘*Protected species and natural habitats*’, as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those as identified by Birdlife International,
- Features of the landscape which are of major importance for wild flora and fauna, such as those with a “stepping stone” and ecological corridors function, as referenced in Article 10 of the Habitats Directive,
- Other habitats of ecological value in a national to local context (such as those identified as locally important biodiversity areas within Local Biodiversity Action Plans and County Development Plans),
- Red data book species,
- And biodiversity in general.

With regard to the SEOs for Water in the SEA it is important that the needs of protected species, where applicable, such as crayfish, salmon and lamprey species, all protected under the Wildlife Acts of 1976 to 2012 and/or listed on the annexes of the EC Habitats Directive, are considered in relation to water quality. The SEOs and targets should be also compatible with the relevant River Basin Management Plans.

Water issues and wetland habitats

The impact of any water abstraction and wastewater discharge schemes, if any, that result from the Masterplan should be fully assessed.

When considering cumulative impacts on surface water or groundwater, this should be assessed on a catchment or aquifer basis.

Indicators, targets and monitoring

Indicators, targets and monitoring should be realistic, measurable and achievable.

Appropriate Assessment Screening/NIR

Guidance

Guidance on appropriate assessment (AA) is available in the Departmental guidance document on Appropriate Assessment, which is available on the NPWS website at http://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf and in the EU Commission guidance entitled “*Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*” which can be downloaded from http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf

However CJEU and Irish case law have clarified some issues and should also be consulted.

Conservation objectives

In order to carry out the appropriate assessment screening, and/or prepare a Natura Impact Report (NIR), information about the relevant Natura 2000 sites including their conservation objectives will need to be collected. Details of designated sites and species and conservation objectives can be found on <http://www.npws.ie/>. Site-specific, as opposed to generic, conservation objectives are now available on the website for some sites. Each conservation objective for a qualifying interest

(QI) is defined by a list of attributes and targets and is often supported by further documentation. Where these are not available for a site, an examination of the attributes that are used to define site-specific conservation objectives for the same QIs in other sites can be usefully used to ensure the full ecological implications of a proposal for a site's conservation objective and its integrity are analysed and assessed. It is advised, as per the notes and guidelines in the site-specific conservation objectives that any reports quoting conservation objectives should give the version number and date, so that it can be ensured and established that the most up-to-date versions are used in the preparation of Natura Impact Statements and in undertaking appropriate assessments.

Integrated assessment

In line with the EPA publication on integrated biodiversity impact assessment (IBIA) it is particularly important that the appropriate assessment procedure, commencing with stage 1 screening, should take place in consultation with the teams working on the draft Masterplan and SEA as each process can help inform the other to ensure that the objectives and policies in the draft Masterplan will have no significant effects on any Natura 2000 site. The appropriate assessment should examine the effects of policies, objectives and any indicative maps or zonings, as well as cumulative impacts with other plans and projects both within and outside of the Masterplan area.

Cumulative and ex-situ impacts

Other relevant Local Authorities should be consulted to determine if there are any projects or plans which, in combination with this proposed Masterplan, could impact on any Natura 2000 sites. In particular, the Poolbeg West Strategic Development Zone (SDZ) and the NTA Greater Dublin Area Cycle Network Plan are relevant in this regard.

A rule of thumb often used for plans is to include all Natura 2000 sites within a distance of 15km. It should be noted, however, that this will not always be appropriate and a source receptor approach would be better. Where there are hydrological connections a whole river catchment and/or a groundwater aquifer should be considered. Similarly, where bird flight paths are involved the impact may be on an SPA more than 15km away. As noted on page 43 of the Dublin Port Masterplan Review 2017 Environmental Report Consultation Paper, birds at Dublin Port with rings were found to use a variety of intertidal and inland sites from Kilcoole Marshes in County Wicklow to Baldoyle Bay in Dublin. Similar findings were found by Benson (2009) where it was found that Brent Geese that roosted in Dublin flew to Kilcoole, County Wicklow each day, which is 30km each way (Lorraine Benson. unpublished MSc Thesis 2009 UCD). In addition, bird migrations over the east coast will include birds from Wexford.

You are requested to send further communications to this Department's Development Applications Unit (DAU) via **eReferral**, where used, or to manager.dau@ahg.gov.ie; if emailing is not possible, correspondence may alternatively be sent to:

The Manager, Development Applications Unit (DAU),
Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs,
Newtown Road, Wexford, Y35 AP90

In addition, please acknowledge receipt of these observations by return.

Is mise, le meas



Sinéad O' Brien
Development Applications Unit

APPENDIX B

SEA Scoping Responses

Dr Alan Barr
Technical Director
RPS Consulting Engineers
Elmwood House
74 Boucher Road
Belfast
BT12 6RZ
Northern Ireland

29 September 2017

Our Ref: 170104.3

Re. Dublin Port Masterplan Review 2017 – SEA Scoping

Dear Dr Barr,

The Environmental Protection Agency (EPA) acknowledges the notice received from Dublin Port Company, dated 16th August 2017, in relation to the Strategic Environmental Assessment (SEA) Scoping for the Dublin Port Masterplan Review 2017 ('the Masterplan Review').

Comments on SEA Scoping Questions

Specific comments on the various questions posed in the SEA Scoping Report are provided in Appendix I. Feedback provided by the EPA at the SEA Scoping Workshop held at Dublin Port Centre on 19th September 2017 should also be taken into account, as relevant and appropriate, in preparing the Masterplan Review and associated SEA. Further comment may be provided upon receipt of the Draft SEA Environmental Report (SEA ER) and associated documents during the next statutory consultation phase of the SEA Process.

Scoping Process Guidance

Guidance on the SEA Scoping Process, including an SEA Pack, Integration Guidance, SEA Checklist, SEA Spatial Information Sources and guidance on Integrating Climate Change into SEA, is available on the EPA website (www.epa.ie/pubs/advice/ea/) and should be considered in the preparation of the SEA. The SEA Integration Guidance is also provided as a separate attachment to this submission.

Guidance on *Developing and Assessing Alternatives in SEA* (EPA, 2015) is also available at: www.epa.ie/pubs/advice/ea/developingandassessingalternativesinsea.html

EPA State of the Environment Report 2016

The EPA 'State of the Environment Report' - *Ireland's Environment 2016 – An Assessment* (EPA, 2016) identifies recommendations, key issues and challenges that should be taken into account, as relevant and appropriate to the Plan. This report can be consulted at:

www.epa.ie/irelandsenvironment/stateoftheenvironmentreport/

SEA WebGIS Search and Reporting Tool

The EPA WebGIS Search and Reporting application is an online GIS based web application that allows users to explore, interrogate and produce an indicative report on key aspects of the environment in specific geographic areas. These reports are indicative and will provide an overview of key aspects of the environment within a specific plan area. This may be used to inform the SEA

screening and scoping stages for Plans and Programmes with particular reference in the first instance to the land use sector, though it is also applicable to other sector plans. It may be accessed via www.edenireland.ie

Environmental Authorities

Under the SEA Regulations (S.I. No. 435 of 2004, as amended by S.I. No. 200 of 2011), notice should also be given to the following:

- The Minister for Housing, Planning and Local Government,
- The Minister for Communications, Climate Action and Environment, where it appears to the competent authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment,
- where it appears to the competent authority that the plan or programme, or amendment to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Culture, Heritage and the Gaeltacht.

The aspects raised at the SEA scoping workshop should also be considered, where not already reflected in this submission. The EPA will continue to contribute in our role as a statutory environmental authority during the ongoing SEA process.

Should you have any queries or require further information in relation to the above please contact the undersigned.

I would be grateful if an acknowledgement of receipt of this submission could be sent electronically to the following address: sea@epa.ie.

Yours Sincerely,



Dr Tara Higgins
Inspector,
SEA Section,
Office of Evidence and Assessment
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Wexford

Appendix I – Responses to Questions Posed in the SEA Scoping Report

Questions Posed in the Scoping Report

1) Is there any information missing from the key plans and programmes listed, relevant to the Dublin Port Masterplan Review 2017, that you think should be included, and why?

It is recommended there would be merit in including an additional column in Table 2.1 explaining the relevance of each of the key plans and programmes listed to the Dublin Port Masterplan Review.

The EPA SEA Integration Guidance (included as a separate attachment to this submission) includes in Appendix II a list of high level plans/programmes/strategies (PPS) to consider. In addition, a number of potentially relevant plans/programmes/legislation to consider are listed below. It should also be noted that the Shellfish Directive (listed in Table 2.1) has been repealed (designated shellfish areas are afforded protection under the Water Framework Directive).

<i>EU Level</i>	Environmental Noise Directive Maritime Spatial Planning Directive (2014/89/EU)
<i>National</i>	Draft National Planning Framework (Issued for public consultation) National Hazardous Waste Management Plan Marine Strategy Framework Directive Programme of Measures National Mitigation Plan Draft National Adaptation Framework Draft National Adaptation Framework(Issued for public consultation) Draft Climate Change Adaptation Plan for the Transport Sector National Policy Framework for Alternative Fuels Infrastructure for Transport 3 rd National Biodiversity Action Plan (to be launched 06.10) Greater Dublin Area Transport Strategy
<i>Regional</i>	Greater Dublin Area Cycle Network Plan Dublin Agglomeration Noise Action Plan Eastern and Midland Regional Assembly Regional Spatial and Economic Strategy (to commence)

In relation to climate change, it should be noted that the National Climate Change Strategy 2007-2012 referred to in Table 2.1 has been replaced by the National Policy Position on Climate Action and Low Carbon Development published in April 2014, which is underpinned by the Climate Action and Low Carbon Development Act 2015. Greenhouse gas mitigation and adaptation to the impacts of climate change are to be addressed in parallel national plans – respectively through the National Mitigation Plan (which includes greenhouse gas mitigation actions required by the transport sector) and the National Climate Change Adaptation Framework, as well as sectoral level plans including the Draft Climate Change Adaptation Plan for the Transport Sector. The National Policy Framework for Alternative Fuels Infrastructure for Transport may also be relevant to consider, in terms of assessing how well the Port is developing considering future energy and energy infrastructure needs.

2) Do you agree with the geographical and temporal scope of the assessment?

The geographic scope of the Masterplan Review is discussed in section 3.2 and illustrated in Figure 2.1, which indicate that the Review will be limited to activities occurring within the functional area of the port estate. It should be clarified whether areas of the navigation channel/berths/approach channel are also affected by the Review (and if so, these should be highlighted in Figure 2.1).

Table 3.1 outlines which sections of the Masterplan are proposed to be assessed in the SEA. In relation to Point 6, it is recommended that where there is a change in how the lands within the Plan area are to be used, then this should be described and assessed in the SEA.

In relation to the Inland Port, clarification is needed on the exact nature and extent of the activities proposed at this site.

In terms of the temporal scope of the assessment, it might be useful to set out the nature of the short, medium and long terms impacts, which relate to the construction phase and immediate to long-term operational phases. The phasing of different stages of development should be taken into account.

The zone of influence of the various elements of the Masterplan Review should be defined with reference to the environmental topics being considered.

3) Do you agree with the scoping of the environmental assessment topics?

Biodiversity, Flora and Fauna

- The control and management of invasive species should be considered (not just potential introduction)
- In addition to noise/vibration, the impact of lighting on birds, bats etc. should be considered

Population and Human Health

- The links between air quality and noise and human health could be emphasised more.
- There appears to be some duplication in Table 3.2 – e.g. recreational use of water and effects on water sports are listed separately.
- Recreational use should encompass walking, cycling, bird watching etc.

Geology, Soils and Landuse

- Management of soils arising and assessment management of contaminated sediments – landfill capacity issues in Dublin area and limited availability of hazardous waste disposal/treatment options should be taken into account.

Water

- In relation to ‘Morphological impacts’, the extent of any proposed capital dredging should be clarified and the implications for WFD water body status assessed.
- Wastewater aspects should be included (including information on the status, capacity, and possible plans to deal with increased volumes of people).
- Climate change induced drought (and associated water supply issues) may warrant consideration. This is in the context of potential implications on the operation of the Port. The implications of freeze/ thaw scenarios should also be considered.

Air

- Consider separating out ‘Air’ and ‘Noise’ into separate topic sections.
- Dust/particulates should be included in the air quality assessment.
- Options in relation to the feasibility of use of clean port side fuel/ renewable energy by vessels when tied up at port should also be considered.

Climatic Factors

- Consider having separate subsections on climate change mitigation (GHG emissions, carbon footprint) and climate change adaptation (including flooding). In relation to mitigation, relevant aspects of the National Mitigation Plan and National Policy Framework for Alternative Fuels Infrastructure for Transport should be taken into account. In relation to

adaption, relevant aspects of the National Adaptation Framework, Draft Climate Change Adaptation Plan for the Transport Sector and CFRAMs programme should be considered.

- A recent draft European Environment Agency Transport and Environment Reporting Mechanism (TERM) report focussed on monitoring progress in integrating environmental objectives into aviation and shipping. In relation to shipping, the key environment pressures identified include climate change, air quality, noise and water pollution. The draft report highlights that options to reduce emissions are closely linked to improving efficiencies whether through operational efficiency, improved vehicle efficiency, new ship designs or the use of alternative fuels (whether on the vessel or on-shore power). Given the potential availability of local electricity sources in the vicinity of Dublin Port (waste to energy, sewage sludge digestion) opportunities for shore side power (rather than ships burning fuel at docks) is an aspect that could be considered.

4) Have we identified the key environmental issues relevant to the Dublin Port Masterplan Review 2017?

Additional environmental aspects to consider include:

- wastewater (potentially increased treatment capacity requirements)
- separation of foul and storm water where relevant
- potential future requirements for alternative fuels infrastructure
- issues relating to landfill capacity for both clean and contaminated sediments/C&D waste
- pressures and impacts on the chemical status, as well as the ecological status, of water bodies should be considered
- the assessment of ‘morphological impacts on water bodies’ should address seafloor integrity and hydrographical conditions as relevant and appropriate
- Radon and radionuclides may be relevant to consider
- Docklands heritage aspects will be important to consider
- In relation to Material Assets and Infrastructure, coastal zone management and predicted sea level rise are additional aspects to consider.

5) Are we proposing the most appropriate data and scale of data to be used?

Refer to comments under point 6 below.

6) Can you propose any other data to be used in the SEA and why it would be beneficial?

The EPA maintains an ‘SEA Spatial Information Sources’ inventory on our website (last updated April 2017), which can be used to inform the preparation of the Environmental Report. Data sources/links include Air Quality, Climate, Biodiversity, Flora, Fauna, Geology, Soils, Hydrology and Water Quality. The list of baselines data and sources in Table 4.1 should be reviewed against this inventory.

The ‘GISEA Manual – Improving the evidence base in SEA’ (EPA, 2017) may be beneficial.

In relation to water quality, the national WFD monitoring programme is continuing to generate additional data on water quality status and this information is publicly available on the Catchments.ie website.

In relation to noise, Dublin City Council and Transport Infrastructure Ireland have additional road noise data and maps (which will inform the forthcoming updated Dublin Noise Action Plan in 2018).

The use of citizen science sourced data (e.g. on biodiversity, water quality etc.) where available should also be considered as a potential data source for the assessments. This may also be relevant at the implementation and monitoring phase

Additional monitoring data may be available from NGO research project (e.g. bird surveys).

7) Do you agree with the approach to the assessment?

As a general comment, the linkages between the SEA and AA process should be made clearer, for examples in *Figure 1.1 Overview of the SEA Process* a parallel flow chart could set out the AA process.

Alternatives

The proposed approach to alternatives outlined in section 5.2 in the Scoping Report would merit further consideration. The EPA guidance document on developing and assessing alternatives should be referred to in preparing and assessing alternative development scenarios.

It appears from Table 5.1 that only one option is favourable relative to those considered. The criteria against which the alternative options presented in Table 5.1 were assessed (and 'failed') should be clarified and the baseline against which the options were assessed should also be clarified.

It is recommended that the alternatives which are brought forward for detailed consideration in the SEA ER should be aligned with and meet the aims of the Plan, as opposed to those options which have been ruled out (although it would be useful to include a summary of what other options were considered at earlier stages in the masterplan review process).

Alternatives could be based around development / refinement of the favourable option, including aspects such as phasing, land use options within the port and inland port options etc. A systematic approach, involving robust criteria, should be used to assess alternatives in order to explain why options either 'pass' or 'fail'.

Aspects of the Masterplan Review involve completely new activities including new remote location(s) (e.g. the development of the Inland Port) and the site selection process carried out should be documented in the SEA ER.

Cumulative Impacts Assessment

The wider context in terms of expansion of other ports on the east and south east coasts should be discussed and will be important in terms of assessment of cumulative impacts.

Assessment Outputs

In relation to the SEA environmental impact scores outlined in section 5.3 and Table 5.3, definitions should be provided of the "significance" of effects.

While the 'Summary Chart of Impacts' provided in Figure 5.1 Example Output is useful, the supporting text/tables documenting the assessment of effects will be key.

Where significant environmental effects are predicted, mitigation measures should be proposed.

The assessment should include an evaluation of the residual effects (i.e. the environmental impacts that will occur after the proposed mitigation measures have been applied), using the same assessment methodology.

In Figure 5.1 Example Output, there would be merit in separating out Air and Noise.

8) Do you agree with the draft SEA objectives?

It is recommended that further consideration be given to reviewing and refining the draft objectives, targets and indicators outlined in Table 5.2 of the Scoping Report. It is important that the indicators proposed are measurable and the targets set are realistic. It is also important that the objectives/targets/indicators proposed are relevant to the Masterplan Review and focussed on the key relevant environmental issues identified in Table 3.2.

For example, in relation to Geology, Soils and Landuse, consideration could be given to including a sub-objective relating to the protection of sea-floor integrity as required under the MSFD. Objectives or sub-objectives relating to the appropriate management of dredged material and C&D waste arising from the Masterplan Review, which were highlighted as key relevant environmental issues in Table 3.2, could also be relevant to consider under this topic.

It is not clear how realistic some of the proposed targets are, such as no increase in noise and vibration levels and air emissions from port development and activity. Clarification should be provided on whether this refers to activities within the port estate or includes HGV traffic on nearby roads. For some objectives it may be more appropriate to set relative (per unit) targets, rather than absolute targets.

The wording of the objectives/targets/indicators may need to be clarified where potentially ambiguous terms such as “local community”, “in the vicinity of”, “from Port activities” etc. are used. In some cases, the wording of the objectives and sub-objectives may need to be amended to capture both the port and inland port areas.

In relation to Biodiversity, Flora and Fauna, consideration could be given to the inclusion of a sub-objective to provide, protect and enhance non-designated habitats, flora and fauna e.g. wildlife corridors, green infrastructure etc. The need for control and management of invasive species could also be captured.

In relation to Human Health, the human health impacts from potential increased port related noise nuisance could be included as an indicator.

In relation to Water, the objectives set out in the relevant River Basin Management Plan for the affected water bodies should be referred to.

In relation to Climatic Factors, there would be merit in including a separate sub-objective relating to climate change adaptation. In relation to climate change mitigation, indicators and targets in relation to energy efficiency and renewable energy / alternative fuels could be considered.

In relation to Cultural, Architectural and Archaeological, docklands heritage aspects will be important to consider (encompassing docklands way of life, connection to local community and sense of place). Again, the objectives/targets/indicators for Landscape and Visual Amenity could be refined to make them more relevant to and focussed on the Masterplan Revision and the key relevant environmental issues identified in Table 3.2 (including the potential for positive impacts such as enhancement of local amenities, public realm etc.).

9.) Do you agree with the proposed project timescales and proposed consultees in the SEA Process?

The proposed 6-week consultation for SEA ER stage is noted. There would be merit in considering extending this to a minimum of 8-10 weeks.



28 September 2017

Ref: FP2017/002

Alan Barr BSc PhD CEng CSci CWEM FICE FIEI MCIWEM
Technical Director
RPS Consulting Engineers,
Elmwood House, 74 Boucher Road,
Belfast, BT12 6RZ.
Northern Ireland

Re: Dublin Port Company Masterplan 2012-2040

A Chara,

I refer to your notification in relation to the SEA scoping for the above-proposed masterplan. Outlined below are the nature conservation recommendations of the National Parks & Wildlife Service (NPWS) of the Department of Culture, Heritage, and the Gaeltacht.

This Department notes that these reports are a scoping aid, and the nature conservation observations on these reports are detailed below. These observations should be taken in conjunction with the nature conservation scoping comments made previously by this Department on 9 March 2017 and referenced also in our letter of 30 June, 2017 (copies of both attached).

Screening for Appropriate Assessment Report

As previously stated, the main issue of concern at this scoping stage is the issue of the nesting terns. At present there are two tern nesting sites designated at Dublin Port, one designated as a Special Protection Area (SPA) designated under the EC Birds Directive (Directive 2009/147 EC) and both designated as a proposed Natural Heritage Area (pNHA) designated under the Wildlife Acts 1976 to 2012. The two sites are the South Dublin Bay and River Tolka Estuary SPA (site code 004024) and the Dolphins, Dublin Docks pNHA (site code 00201). This issue had previously been discussed with this Department at a meeting in September 2014 to discuss the Dublin Port Company Tern Colony Management Plan. It will be essential to include in any new Masterplan, and appropriate assessment screening and/or NIS, a discussion of the issues concerning the nesting terns should there be any proposal which could impact on the SPA. The issue of the procedures under articles 6.3 and 6.4 of the Habitats Directive, and in particular the issue of examining alternatives that must be followed before proceeding to Imperative Reasons of Overriding Public Interest (IROPI) should also be detailed. In addition, care should be taken to distinguish between mitigation measures and compensation measures in any such discussion.

The Codling Fault Zone Special Area of Conservation (site code 003015) should be added to the list of sites to be screened.

SEA Scoping Report

It should be noted that this Department has been re-named the Department of Culture, Heritage and the Gaeltacht. In addition it should be noted that the National Parks and Wildlife Service is part of this Department and therefore is not a non-statutory consultee as listed in section 6.2 of the SEA Scoping Report.

Baseline Data

Species present in Dublin Port, which should be taken into account in the SEA, include rare plants, marine mammals, otters, bats and birds, including tern species, black guillemots and peregrine falcons. A data request form should be completed to request any such data from this Department, including rare plants data. The data request form can be downloaded from the internet at

<https://www.npws.ie/sites/default/files/general/Data%20request%20form.doc> .

Objectives, Indicators and Targets

Table 5.2 appears to have covered species protected under the Wildlife Acts, and biodiversity in general, in the objectives and sub-objectives. However the indicators and targets do not appear to take account of protected species and biodiversity in general outside of designated sites. This should be clarified.

Legislation

The Dublin Port company and its consultants should note that the Flora (Protection) Order of 1999 referred to in the SEA Scoping Report, including in appendix D, was revoked in 2015. The Flora (Protection) Order currently in force is the Flora (Protection) Order, 2015, S.I. No. 356 of 2015.

Should the Dublin Port company and its consultants wish to cite the Wildlife Act of 1976 collectively with its amendments, they can be cited as the Wildlife Acts 1976 to 2012.

Similarly, the European Communities (Birds and Natural Habitats) Regulations 2011 may be cited collectively with its amendments as the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

The European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 should be added to table 2.1 at the National level.

Appendix D

The Dublin Port company and its consultants should check the references to the Wildlife Acts and the European Communities (Birds and Natural Habitats) Regulations in the 4th column in the first part (European) of Appendix D. Apart from the issue of citing them collectively as mentioned above, it is not clear they are all correct. For example as the Bonn Convention and the Birds Directive pre-date the European Communities (Birds and Natural Habitats) Regulations, they would have been implemented by the Wildlife Acts. The Ramsar Convention should also be added to this table.

In the second part (National) of Appendix D the reference to the Flora (Protection) Order needs to be amended as mentioned above. In addition the Birds Directive needs to be added in column 4 for the Wildlife Acts on page 59 and the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 many need to be added to column 1 of this table.

Kindly forward any further information received; or in the event of a decision being made a copy of same should be forwarded to the following address as soon as it issues:

The Manager, Development Applications Unit, Department of Culture, Heritage, and the Gaeltacht, Newtown Road, Wexford Y35 AP90

Preferably, documentation associated with the above can be referred electronically to the DAU at the following address: manager.dau@chg.gov.ie

In addition, please acknowledge receipt of these observations by return.

Is mise le meas,



Michael Murphy,
Development Applications Unit
Tel: (053) 911 7516

Dublin Port Company
Dublin Port Centre
Alexandra Road
Dublin 1

Dáta | Date
19 December 2017

Ár dTag | Our Ref.
TII17-99946

Bhur dTag | Your Ref.

Re: Dublin Port Masterplan Review 2017 Strategic Environmental Assessment (SEA) Scoping Report

Dear Sir/Madam,

Transport Infrastructure Ireland (TII) welcomes consultation with regard to the Strategic Environmental Assessment (SEA) scoping for the next Dublin Port Masterplan and recognises the positive engagement made by Dublin Port Company.

TII's objectives in responding to this scoping request are set out in the Department of the Environment, Community & Local Government's "Spatial Planning and National Roads Guidelines for Planning Authorities", which were published in January 2012. Essentially, TII's approach seeks to uphold official policy and guidelines, in order to, *inter alia*, ensure high standards of safety for road users and protect the investment being made by Government in the development of the network of national road

From TII's perspective, it is critical that any review of the Dublin Port Company Masterplan addresses potential issues associated with the Dublin Tunnel (M50) and is compatible with provision for the Eastern Bypass and associated South Port Access Route.

Similar to the demand for Port activities outlined in the review's documentation, the current economic recovery is putting increasing demand on the national road network. Average traffic growth on all national roads increased by 4% in 2016. M50 traffic at the toll point grew by 7%, while tollable traffic in the Dublin Tunnel grew by 13%.

The Tunnel is a critical element of the city's infrastructure, as evidenced by the growth and character of traffic served. Indeed, since the opening of the Tunnel in 2007, traffic has risen by 188%. The split between HGV and LGV vehicles is now 42% and 58% respectively.

It is in the public interest that, in so far as is reasonably practicable, that the Tunnel continues to serve its intended strategic purpose and that future transport requirements, such as the development of the Eastern Bypass, are accommodated. Decisions being made must be cognisant of future plans to accommodate a growing city.

Próiseálann BÍÉ sonraí pearsanta a sholáthraítear dó i gcomhréir lena Fhógra ar Chosaint Sonraí atá ar fáil ag www.tii.ie.
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Taking account of the above issues, TII recommends that Dublin Port Company considers the following issues in the review of the Port's Masterplan:

1. Due to the required tie in with the Dublin Tunnel (M50) and long term Eastern Bypass project, careful coordination will be required between TII, the National Transport Authority (NTA), Dublin City Council (DCC) and the Port Company on this future national road project.
2. The Dublin Eastern Bypass Corridor Protection Study Sector A: Dublin Tunnel to Sandymount Strand (September 2014) should be consulted during the Masterplan Review. Additionally, an evaluation of the impact of proposals on the Dublin Eastern Bypass Corridor should be undertaken. This process will involve cross organisational interaction between DCC, NTA, Dublin Port Company and TII.
3. An appropriate transport assessment will be required to evaluate the revised Masterplan. This exercise should include an appropriate means of quantifying and managing the capacity implications of the Masterplan revisions for the Dublin Tunnel. The extent of traffic modelling and assumptions to be used will require an agreement between the Port Company, TII, NTA and Dublin City Council.
4. Any revised Masterplan should assess and propose mitigation measures to address the potential risks of any proposals to the stability and structural safety of the Dublin Tunnel. TII will provide assistance on this matter.

TII is fully supportive of the intent and delivery of the Dublin Port Company Masterplan 2017 – 2040, and recognises its importance as one of Ireland's economic engines.

Therefore, we look forward to addressing issues raised in this correspondence with the Port Company and recommend an opportunity to meet with our partner stakeholders NTA and DCC at your earliest convenience.

Yours sincerely,


pp Tara Spain
Head of Land Use Planning

Ms Sinéad Barrett
RPS Group
Elmwood House
74 Boucher Road
Belfast
BT12 6RZ

Natural Environment Division
Klondyke Building
Cromac Avenue
Gasworks Business Park
Malone Lower
BELFAST
BT7 2JA

Telephone: 028 905 69579

11 October 2017

Re: Strategic Environmental Assessment Scoping Report Dublin Port Masterplan Review 2017

Dear Sinéad,

Thank-you for your email regarding the Strategic Environmental Assessment (SEA) Scoping Report for the Dublin Port Masterplan Review 2017.

The Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA) has considered the consultation and associated documents and our opinions are set out below.

DAERA is content with the proposed scope of the Dublin Port Masterplan SEA, and also with the suggestions for further assessment for the Appropriate Assessment screening.

We would suggest that the EU Directive on Marine Spatial Planning is included as a Key Directive within the Key Directives, Plans and Programmes.

This Directive sets down the EU's common approach to the planning of maritime areas. It seeks to enable public authorities to organise human activities in the marine area so as to meet various ecological, economic and social objectives. It also requires EU countries to draw up Marine Spatial Plans that should map existing human activities in their marine waters and identify their most effective future spatial development. There must also be co-operation with other EU and non-EU countries.

As a result it is also suggested that the UK Marine Policy Statement 2011 be included in the list of key Directives, Plans and Programmes. This Statement sets out the framework for economic, social and environmental considerations that need to be taken into account in the marine planning in UK marine areas. This may help address any transboundary issues as there may be potential for



the proposals within the Port Masterplan to have far reaching environmental impacts.

If you require any clarification in relation to the content of this letter please do not hesitate to contact me.

Yours sincerely



Dr Claire Hempsey
claire.hempsey@daera-ni.gov.uk



Our ref: PCS/155101
SG ref:

If telephoning ask for:
Susan Dean

13 October 2017

Sinead Barrett
RPS Consulting Engineers
Elmwood House
74 Boucher Road
Belfast
BT12 6RZ

By email only to: sinead.barrett@rpsgroup.com

Dear Ms Barrett

**European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011
Dublin Port Masterplan Review 2017 – SEA scoping consultation**

Thank you for your SEA Scoping consultation submitted under the above Regulations in respect of the Dublin Port Masterplan Review 2017. This was received by SEPA on 18 September 2017.

We understand that you have consulted us with regard to the consideration of potential transboundary impacts from implementation of the Masterplan. We note from the Scoping Report that all SEA topics are proposed to be scoped into the assessment. For the topics which fall within our remit (air, soil, water, human health, material assets (including waste) and climatic factors) we are content that any potential significant effects will not be of a transboundary nature. As such we have no further comment to offer at this stage. Should significant transboundary issues emerge as the review and SEA progress, then we would be pleased to be re-consulted at that time.

For information please note that the three references to draft guidance at the bottom of page 42 of the Scoping Report (Appendix C) are out-of-date. In addition to guidance on air, soil and water that replace the drafts referenced, SEPA has also produced guidance on material assets and human health. All these guidance notes can now be found on our website:

www.sepa.org.uk/environment/land/planning/strategic-environmental-assessment/

Should you wish to discuss this consultation response further, please do not hesitate to contact me on +44 1349 860442 or via our SEA Gateway at sea.gateway@sepa.org.uk

Yours sincerely

Susan Dean
Principal Policy Officer (SEA)

SEPA Planning Service

Ecopy: sea.gateway@hes.scot; sea_gateway@snh.gov.uk; SEA_Gateway@gov.scot



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

By email to: sinead.barrett@rpsgroup.com

Sinead Barrett
RPS Group
Consulting Engineers
Elmwood House
74 Boucher Road
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BT12 6RZ

Longmore House
Salisbury Place
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Enquiry Line: 0131-668-8716
Switchboard: 0131 668 8600
HMConsultations@hes.scot

Our case ID: 300024050

16 October 2017

Dear Ms Barrett

European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011
Dublin Port Masterplan Review 2017

Scoping Report

Thank you for your consultation which we received on 18 September about the above scoping report. This letter contains our views on the scope and level of detail of the information to be included in the Environmental Report. Please note that our view is based on our main area of interest for Scotland's historic environment.

We note that all SEA topics have been scoped into your assessment. We therefore understand that we are being consulted on the potential for transboundary impacts as a result of the Masterplan. From the information provided we are of the view that such impacts on the historic environment within Scotland are unlikely and can therefore confirm that we have no further comments to offer.

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Andrew Stevenson who can be contacted by phone on 0131 668 8960 or by email on andrew.stevenson2@hes.scot.

Yours sincerely

Historic Environment Scotland

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

From: Pater, Chris
To: [Sinead Barrett](#)
Cc: [Brennan, Tim](#)
Subject: [EXT] Dublin Port Masterplan Review 2017 - SEA Scoping Report and AA Screening
Date: Friday, September 29, 2017 1:34:20 PM

Dear Ms Barrett,

Thank you for your email of 18th September 2017 and your kind invitation to offer comment on the SEA Scoping Report produced as part of the scoping phase of the SEA for the Dublin Port Masterplan Review 2017.

We note that you have contacted us with specific regard to the transboundary nature of port activities and that it is best environmental practice to undertake transboundary consultations with other bodies, such as those within the UK and elsewhere. However, given our responsibilities for matters to do with the historic environment in England we cannot identify any matters of relevance to this consultation request that require our comment.

For your information, Historic England is the Government's statutory adviser on all matters relating to the historic environment in England. We are a non-departmental public body established under the National Heritage Act 1983 and sponsored by the Department for Culture, Media and Sport (DCMS). We champion and protect England's historic places, providing expert advice to local planning authorities, developers, owners and communities to help ensure our historic environment is properly understood, enjoyed and cared for. We also provide our advice in recognition of the identified English marine plan areas (inshore and offshore) as provided through the UK Marine and Coastal Access Act 2009.

Christopher Pater (MSc, PhD)
Head of Marine Planning
Planning Group

Historic England | Eastgate Court | 195 – 205 High Street | Guildford | Surrey | GU1 3EH

Mb: 07798 653897

Email: chris.pater@HistoricEngland.org.uk

We have launched four new, paid-for Enhanced Advisory Services, providing enhancements to our existing free planning and listing services. For more information on the new Enhanced Advisory Services as well as our free services go to our website: HistoricEngland.org.uk/EAS



Historic England

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This e-mail (and any attachments) is confidential and may contain personal views which are not the views of Historic England unless specifically stated. If you have received it in error, please delete it from your system and notify the sender immediately. Do not use, copy or disclose the information in any way nor act in reliance on it. Any information sent to Historic England may become publicly available.

From: Consultations (NE)
To: [Sinead Barrett](#)
Subject: [EXT] Re: Dublin Port Masterplan Review 2017
Date: Thursday, September 28, 2017 12:00:11 PM

Dear Ms Barrett

Application ref: Dublin Port Masterplan Review 2017

Our ref: 226242

RE: Dublin Port Masterplan Review 2017 - SEA Scoping Report and AA Screening

Thank you for your consultation dated and received by Natural England on 18th September 2017.

Natural England has no comments to make on this Dublin Port Masterplan Review.

The lack of comment from Natural England does not imply that there are no impacts on the natural environment, but only that the application is not likely to result in significant impacts on statutory designated nature conservation sites or landscapes. It is for the local planning authority to determine whether or not this application is consistent with national and local policies on the natural environment. Other bodies and individuals may be able to provide information and advice on the environmental value of this site and the impacts of the proposal to assist the decision making process. We advise LPAs to obtain specialist ecological or other environmental advice when determining the environmental impacts of development.

Yours sincerely

Joanne Widgery
Natural England
Consultations Team
Hornbeam House
Crewe Business Park
Electra Way,
Crewe
Cheshire, CW1 6GJ

Tel: 0300 060 3900

Email: www.gov.uk/natural-england

www.naturalengland.org.uk

We are here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

In an effort to reduce Natural England's carbon footprint, I will, wherever possible, avoid travelling to meetings and attend via audio, video or web conferencing.

Natural England offers two chargeable services - the Discretionary Advice Service, which provides

pre-application and post-consent advice on planning/licensing proposals to developers and consultants, and the Pre-submission Screening Service for European Protected Species mitigation licence applications. These services help applicants take appropriate account of environmental considerations at an early stage of project development, reduce uncertainty, the risk of delay and added cost at a later stage, whilst securing good results for the natural environment.

For further information on the Discretionary Advice Service see [here](#)

For further information on the Pre-submission Screening Service see [here](#)

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From: Enquiries
To: [Sinead Barrett](#)
Subject: [EXT] RE: Dublin Port Masterplan Review 2017 - SEA Scoping Report and AA Screening NRW:00171130
Date: Monday, October 9, 2017 9:32:27 AM

Dear Sinead,

Thank you for your e-mail and attached information regarding the Review.

I have consulted with a number of teams within Natural Resources Wales that might have had an interest in the Review on your behalf, but the responses I've had reach the general consensus that it falls outside our remit.

Natural Resources Wales is the body that regulates all things environmental and consults on related matters regarding Wales and its waters but your particular report and review is further afield.

Regards

Judith

Judith Green B.A B.Ed Dip.

[Cyngorydd Gofal Cwsmeriaid](#) /Customer Care Advisor

[Cyfoeth Naturiol Cymru](#) /Natural Resources Wales

Ffôn/Tel: 0300 065 3000

E-bost/E-mail: judith.green@cyfoethnaturiolcymru.gov.uk/judith.green@naturalresourceswales.gov.uk

Gwefan / Website: www.cyfoethnaturiolcymru.gov.uk/www.naturalresourceswales.gov.uk

Ein diben yw sicrhau bod adnoddau naturiol Cymru yn cael eu cynnal, eu gwella a'u defnyddio yn gynaliadwy, yn awr ac yn y dyfodol.

Our purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future.

Siaradwr Cymraeg

APPENDIX C

SEA Guidance

Ireland

Article 8 (Decision Making) of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA) as amended. DoECLG Circular (PL 9/2013).

Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland. Synthesis Report. 2001. Environmental Protection Agency.
https://www.epa.ie/pubs/advice/ea/EPA_development_methodology_SEA_synthesis_report.pdf

Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA). DoECLG Circular (PSSP 6/2011).

Implementation of SEA Directive (2001/42/EC). Assessment of Certain Plans and Programmes on the Environment. Guidelines for Regional Planning Authorities. November 2004. Department of Environment, Heritage and Local Government.
<http://www.environ.ie/en/Publications/DevelopmentandHousing/Planning/FileDownload,1616,en.pdf>

SEA Scoping Guidance Document. 2016. Environmental Protection Agency.
<http://www.epa.ie/pubs/advice/ea/seascopingguidance.html>

Strategic Environmental Assessment (SEA) Checklist - Consultation Draft. January 2008. Environmental Protection Agency.
http://www.epa.ie/downloads/consultation/strategic_environmental_assessment_jan086.pdf

Other

Guidance on Consideration of Air in Strategic Environmental Assessment. April 2017. Scottish Environment Protection Agency.

Guidance on Consideration of Climatic Factors within Strategic Environmental Assessment. March 2010. Scottish Environment Protection Agency.

Guidance on Consideration of Material Assets in Strategic Environmental Assessment. August 2016. Scottish Environment Protection Agency.

Guidance on Consideration of Soil in Strategic Environmental Assessment. April 2017. Scottish Environment Protection Agency.

Guidance on Consideration of Water in Strategic Environmental Assessment. April 2017. Scottish Environment Protection Agency.

APPENDIX D

Plans, Programmes and Legislation

PRELIMINARY REVIEW OF LEGISLATIONS, PLANS, POLICIES AND PROGRAMMES

The draft tables below provide a summary of the relevant EU Directives, the transposing regulations and/or the regulatory framework for environmental protection and management arising from them. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each. These tables will be updated accordingly following the receipt of scoping responses and will be presented in the SEA Environmental Report later in the process.

EUROPEAN

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
The Ambient Air Quality and Cleaner Air for Europe Directive (2008/50/EC)	<p>This Directive replaces the air framework directive and the first three daughter directives.</p> <p>It sets down air quality standards in Ireland and the other member states for a wide variety of pollutants.</p>	<p>Sets targets for the following air pollutants:</p> <ul style="list-style-type: none"> • Sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter (PM10 and PM2.5) and lead • Carbon monoxide and benzene • Ozone • Arsenic, Cadmium, Nickel and Benzo(a)pyrene 	Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)	The Masterplan 2040 should aim to achieve the air quality standards set out in this Directive.
Bathing Water Directive [2006/7/EC]	<p>The overall objective of the revised Bathing Water Directive remains the protection of public health whilst bathing. It:</p> <ul style="list-style-type: none"> • imposes stricter standards for water quality and the implementation of new method of assessment. 	<ul style="list-style-type: none"> • Updates the way in which water quality is measured, focusing on fewer microbiological indicators, and setting different standards for inland and coastal bathing sites. • Reduces the health risks linked to bathing by setting scientifically based minimum water quality 	Bathing Water Quality (Amendment) Regulations 2008 (S.I. No. 79/2008) (as amended)	The Masterplan 2040 should consider the contribution that measures could make towards the attainment of bathing water quality standards. Coastal outfalls, discharges and flooding events can be linked with bathing water pollution.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
	<ul style="list-style-type: none"> establishes a more pro-active approach to the assessment of possible pollution risks, and to the management of bathing waters; and places considerable emphasis on promoting increased public involvement, and for improved dissemination of information on bathing water quality to the general public. 	<p>standards.</p> <ul style="list-style-type: none"> Makes changes to monitoring and sampling frequency. Allows a limited number of water samples to be disregarded during short term pollution incidents, if the event is predicted and the public warned beforehand. Provides better information to the public, allowing more informed choices to be made about the risk of bathing. Improves the overall management of bathing water quality by requiring an assessment of potential sources of pollution. Is compatible with other EU water related legislation, in particular the Water Framework Directive. 		
Birds Directive [2009/147/EC]	Protects all wild birds, their nests, eggs and habitats within the European Community. It gives EU member states the power and responsibility to classify Special Protection Areas (SPAs) to protect birds which are rare or vulnerable in Europe, as well as all migratory birds which are regular visitors.	<ul style="list-style-type: none"> Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex I. Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas); ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of 	European Communities (Birds and Natural Habitats) Regulations 2011 to 2015	<p>The Masterplan 2040 should ensure that European Sites are suitably protected from loss or damage.</p> <p>The developmental infrastructure options are expected to require a screening for Appropriate Assessment, following which there may be requirement for a Natura Impact Statement to ensure that any options proposed do not</p>

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
		biotopes <ul style="list-style-type: none"> Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance. 		adversely affect SPAs and SACs.
Bonn Convention [L210, 19/07/1982 (1983)]	The Bonn Convention focuses on preserving the habitats used by migratory species and aims to enhance the conservation of terrestrial, marine and avian species on a global scale throughout their range.	<ul style="list-style-type: none"> Establishes a legal foundation for internationally coordinated conservation measures throughout a migratory range. Migratory species threatened with extinction are listed on Appendix I of the Convention. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. In Europe, legislation to ensure that the provisions of the Bonn convention are applied includes the Birds Directive and the Habitats Directive. 		The Masterplan 2040 should have regard for any implications on migratory species.
(Ramsar) Convention of Wetlands of International Importance especially as Waterfowl Habitat (1971)	Framework for international cooperation in relation to the conservation and wise use of wetlands through local and national actions as a contribution towards achieving sustainable	Contracting Parties commit to: <ul style="list-style-type: none"> Work towards the wise use of all their wetlands; Designate suitable wetlands for the list of Wetlands of International 		The Dublin Port Masterplan will have regard for the protection of wetlands and shall seek to, at very least, prevent negative impacts to wetlands.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
	development throughout the world.	<p>Important (the "Ramsar List") and ensure their effective management;</p> <ul style="list-style-type: none"> Cooperate international on transboundary wetlands, shared wetland systems and shared species. 		
EIA Directive [85/337/EEC] [2014/52/EU]	<ul style="list-style-type: none"> Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment. Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. 	<ul style="list-style-type: none"> All projects listed in Annex I are considered as having significant effects on the environment and compulsorily require an EIA. For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. The competent authority may give a decision on whether a project requires EIA. Requirement for identification, description and assessment in an appropriate manner, in the light of each individual case, on the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor. Requirement for consultation with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made. Establishment of a recognised 	<p>European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349/1989) (as amended)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No 470/2012)</p>	Project and developments that come from the Masterplan 2040 may need to have regard of the EIA regulations.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
		<p>structure and content for the EIS, which is the document submitted as a written account of the EIA.</p> <ul style="list-style-type: none"> Inclusion of proposed flood risk management schemes in EIA screening process 		
Environmental Liability Directive [2004/35/EC]	<ul style="list-style-type: none"> Establishes a framework for environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage. Relates to environmental damage caused by occupational activities (listed in Annex III), and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent. 	<ul style="list-style-type: none"> Describes procedures for circumstances where environmental damage has occurred. Requires the polluter to take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures. Establishes measures for cases where environmental damage has not yet occurred, but there is an imminent threat of such damage occurring. The regulations make the polluter financially liable and allow the competent authority to initiate cost recovery proceedings where appropriate. 	European Communities (Environmental Liability) Regulations 2008 [S.I. No. 547/2008]	The Masterplan 2040 will be obliged to comply with the requirements of the regulations, which are to prevent and remedy water damage, land damage and damage to natural habitats and protected species.
Environmental Noise Directive [2002/49/EC]	The directive relates to the assessment and management of environmental noise.	<p>The Environmental Noise Directive focuses on three action areas:</p> <ul style="list-style-type: none"> the determination of exposure to 	Environmental Noise Regulations, 2006 (S.I. No. 140 of 2006)	The Masterplan 2040 should consider the Ports current and future contribution to environmental noise in the area and measures that could be

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
		<p>environmental noise</p> <ul style="list-style-type: none"> ensuring that information on environmental noise and its effects is made available to the public preventing and reducing environmental noise where necessary and preserving environmental noise quality where it is good 		<p>made towards the assessment and management of environmental noise.</p>
<p>Environmental Quality Standards Directive [2008/105/EC]</p>	<ul style="list-style-type: none"> Establishes environmental quality standards (EQS) for priority substances and certain other pollutants as provided for in Article 16 of the Water Framework Directive and aims to achieve good surface water chemical status in accordance with the provisions and objectives of Article 4 of the Water Framework Directive. 	<ul style="list-style-type: none"> Apply the EQS laid down in Part A of Annex I to this Directive for bodies of surface water. Determine the frequency of monitoring in biota and/or sediment of substances. Monitoring shall take place at least once every year, unless technical knowledge and expert judgment justify another interval. Notify the European Commission if the substances for which EQS have been established if a deviation of the monitoring is planned along with the rationale and approach. Establish an inventory, including maps, if available, of emissions, discharges and losses of all priority substances and pollutants listed in Part A of Annex I to this Directive for each river basin district. 	<p>European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272/2009)</p> <p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)</p>	<p>Impacts on water quality are of relevance to the Masterplan 2040 as the infrastructure development options and future operations of the Port have the potential to be linked to water pollution.</p>

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
EU Biodiversity Strategy to 2020 [COM(2011)244] “Our life insurance, our natural capital”	<p>Aimed at reversing biodiversity loss and speeding up the EUs transition towards a resource efficient and green economy. Primary objectives of the strategy include:</p> <p>14 Conserving and restoring nature;</p> <ul style="list-style-type: none"> • Maintaining and enhancing ecosystems and their services; • Ensuring the sustainability of agriculture, forestry and fisheries; • Ensuring the sustainable use of fisheries resources • Combating invasive alien species; and • Addressing the global biodiversity crisis. 	<ul style="list-style-type: none"> • To mainstream biodiversity in the decision making process across all sectors. • To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity. • To increase awareness and appreciation of biodiversity and ecosystems services. • To conserve and restore biodiversity and ecosystem services in the wider countryside. • To conserve and restore biodiversity and ecosystem. • Services in the marine environment • To expand and improve on the management of protected areas and legally protected species. • To substantially strengthen the effectiveness of International governance for biodiversity and ecosystem services. 		<p>The Masterplan 2040 should have regard for this strategy and look for opportunities to conserve, and, where possible, restore or enhance biodiversity.</p>
EU Floods Directive [2007/60/EC]	<p>This Directive provides a framework for the assessment and management of flood risks, aiming to reduce the adverse consequences associated with flooding for human health, the environment, cultural heritage and economic activity.</p>	<p>Member States must:</p> <ul style="list-style-type: none"> • assess the risk of flooding of all water courses and coast lines, • map the flood extent and assets and humans at risk in these areas at River Basin level and in areas covered by Article 5(1) and 13(1); 	<p>European Communities (Assessment and Management of Flood Risks) Regulations 2010</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012</p>	<p>The Masterplan 2040 should consider the implications of the flood risk arising from developmental options, being located along the coast and in the vicinity of a number of rivers.</p>

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
		<p>and</p> <ul style="list-style-type: none"> implement flood risk management plans and take adequate and coordinated measures to reduce this flood risk. <p>Member States are required to first carry out a preliminary assessment by 2011 to identify the river basins and associated coastal areas at risk of flooding. For such zones they would then need to draw up flood risk maps by 2013 and establish flood risk management plans focused on prevention, protection and preparedness by the end of 2015. The public must be informed and allowed to participate in the planning process.</p>	(S.I. No. 470/2012)	
EU Green Infrastructure Strategy (COM(2013) 249 final)	Aims to develop, preserve and enhance healthy green infrastructure to help stop the loss of biodiversity and enable ecosystems to deliver their many services to people and nature. The greater the scale, coherence and connectivity of the green infrastructure network, the greater its benefits. The EU Strategy on green infrastructure aims to outline how to deploy such a network and encourages action at all levels.	<p>The Green Infrastructure strategy is made up of four main elements:</p> <ul style="list-style-type: none"> Promoting Green Infrastructure in the main EU policy areas Supporting EU-level GI projects Improving access to finance for GI projects Improving information and promoting innovation. 		The Masterplan 2040 should have regard for Green infrastructure planning.
European Landscape Convention [ETS No. 176]	<ul style="list-style-type: none"> Promotion of the protection, management and planning of European landscapes and 	<ul style="list-style-type: none"> Respond to the public's wish to enjoy high-quality landscapes and to play an active part in the 		The Masterplan 2040 could potentially have implications on landscapes and visual amenity.

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	<p>organising European co-operation on landscape issues.</p> <ul style="list-style-type: none"> • Applies to the entire territory of the Parties and covers natural, rural, urban and peri-urban areas. • Inclusion of landscapes that might be considered outstanding as well as everyday or degraded landscapes. • Aimed at the protection, management and planning of all landscapes and raising awareness of the value of a living landscape. • Complements the Council of Europe's and UNESCO's heritage conventions. 	<p>development of landscapes.</p> <ul style="list-style-type: none"> • Each administrative level (national, regional and local) should draw up specific and/or sectoral landscape strategies within the limits of its competences. These are based on the resources and institutions which, when co-ordinated in terms of space and time, allow policy implementation to be programmed. The various strategies should be linked by landscape quality objectives. 		<p>The plan should aim to achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment.</p>
Groundwater Directive [80/68/EEC] and Daughter Directive [2006/118/EC]	<ul style="list-style-type: none"> • Aims to protect groundwater from pollution by controlling discharges and disposals of certain dangerous substances to groundwater. • Made under the Water Framework Directive, the Daughter Directive aims to prevent and limit inputs of pollutants to groundwater. 	<ul style="list-style-type: none"> • Establishment of criteria for assessing good groundwater status and for the identification of significant and sustained upwards trends and the starting points for trend reversal. • Threshold values adopted for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk. 	European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9/2010)	<p>The Masterplan 2040 should, where possible, contribute to the protection of groundwater from point source and diffuse pollution that could be caused or exacerbated by developmental options.</p>
Habitats Directive [92/43/EEC]	<p>The Habitats directive protects natural habitats and other species of wild plants and animals. Together with the Birds Directive, it underpins a European</p>	<ul style="list-style-type: none"> • Propose and protect sites of importance to habitats, plant and animal species. • Establish a network of Natura 2000 	European Communities (Birds and Natural Habitats) Regulations 2011 to 2015	<p>The Masterplan 2040 should ensure that European Sites are suitably protected from loss or</p>

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	network of protected areas known as Natura 2000: Special Protection Areas (SPAs, classified under the Birds Directive) and Special Areas of Conservation (SACs, classified under the Habitats Directive).	<p>sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.</p> <ul style="list-style-type: none"> • Carry out comprehensive assessment of habitat types and species present. • Establish a system of strict protection for the animal species and plant species listed in Annex IV. 	The Wildlife Act 1976 to 2012	<p>damage.</p> <p>The developmental infrastructure options are expected to require a screening for Appropriate Assessment, following which there may be requirement for a Natura Impact Statement to ensure that any options proposed do not adversely affect SPAs and SACs.</p>
Marine Strategy Framework Directive [2008/56/EC]	<ul style="list-style-type: none"> • Establishes a framework whereby the necessary measures are undertaken to achieve or maintain good environmental status in the marine environment by the year 2020. • Requires the development and implementation of marine strategies in order to protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where they have been adversely affected. • It aims to prevent and reduce inputs in the marine environment, with a view to phasing out pollution as defined in Article 3(8), so as to ensure that there are no significant 	<ul style="list-style-type: none"> • Preparation of an assessment of the current environmental status of the waters concerned and the environmental impact of human activities. • Establishment of a series of environmental targets and associated indicators. • Development of a programme of measures designed to achieve or maintain good environmental status, by 2020. • Establishment of a monitoring programme for ongoing assessment and regular updating of targets. • Cooperation with transboundary Member States to implement these 	European Communities (Marine Strategy Framework) Regulations 2011 (S.I. No. 249/2011)	The Masterplan 2040 may have implications on the environmental status of marine waters.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
	impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.	measures.		
Maritime Spatial Planning Directive [2014/89/EU]	<ul style="list-style-type: none"> The Directive sets down the EU common approach to planning of Maritime areas. It seeks to enable public authorities to organise human activities in the marine area to meet various ecological, economical and social objectives. Maritime spatial planning (MSP) works across borders and sectors to ensure human activities at sea take place in an efficient, safe and sustainable way. It also requires EU countries to draw up Marine Spatial Plans that should map existing human activities in their marine waters and identify their most effective future spatial development. 	<ul style="list-style-type: none"> Reduce conflicts between sectors and create synergies between different activities. Encourage investment – by creating predictability, transparency and clearer rules. Increase cross-border cooperation – between EU countries to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of protected areas. Protect the environment – through early identification of impact and opportunities for multiple use of space. 	European Union (Framework for Maritime Spatial Planning) Regulations 2016 (S.I. No. 352/2016)	The Masterplan 2040 should have regard to their implications for the Marine Spatial Planning in Ireland.
SEA Directive [2001/42/EC]	<ul style="list-style-type: none"> Seeks to integrate environmental considerations into the preparation of plans and programmes as a means of ensuring a high level of protection for the environment whilst also promoting sustainable development. 	<ul style="list-style-type: none"> Requires an SEA for plans/programmes which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste/ water management, telecommunications, tourism, town & country planning or land use and which set the framework for future development consent of 	European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI 435/2004) and the Planning and Development (Strategic Environmental Assessment) Regulations	The Masterplan 2040 is required to have regard to the SEA regulations. SEA means that plans and programmes must be assessed for their environmental effect before they are adopted.

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		projects listed in the EIA Directive	2004 (SI 436/ 2004) as amended by SI 200/2011 and SI 201/2011.	
Second European Climate Change Programme [ECCP II] 2005.	<p>Objectives seek to develop the necessary elements of a strategy to implement the Kyoto protocol.</p> <p>The climate and energy package is a set of binding legislation which aims to ensure the European Union meets its ambitious climate and energy targets for 2020. These targets, known as the "20-20-20" targets, set three key objectives for 2020:</p> <ul style="list-style-type: none"> • A 20% reduction in EU greenhouse gas emissions from 1990 levels; • Raising the share of EU energy consumption produced from renewable resources to 20%; • A 20% improvement in the EU's energy efficiency. 	<ul style="list-style-type: none"> • Develop a framework for a low carbon economy which will be achieved through a National Mitigation Plan (to lower Ireland's level greenhouse emissions) and a National Adaptation Framework (to provide for responses to changes caused by climate change). This includes: • Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps • Agreement of national targets for non-EU ETS emissions from countries outside the EU • Commitment to meet the national renewable energy targets of 16% for Ireland by 2020 • Preparation of a legal framework for technologies in carbon capture and storage 		The Masterplan 2040 should aim to contribute towards climate change mitigation. There is an onus on Dublin Port to limit their greenhouse gas emissions through careful management and mitigation measures.
Soils Thematic Strategy [COM(2006) 231]	<p>Highlights a need for action to prevent the ongoing deterioration of Europe's soils.</p> <p>The Soil Thematic Strategy would seek to:</p>	<ul style="list-style-type: none"> • Objective of integrating soil protection into other EU policies, including agriculture and rural. • Promotion of rehabilitation of industrial sites and contaminated land. 		The provisions of the European Strategy should form a framework for soil protection and improvement that the Dublin Port Masterplan 2040. It should take into account the following

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevant Legislation in Ireland	Relevance to Masterplan 2040
	<ul style="list-style-type: none"> Establish common principles for the protection and sustainable use of soils; Prevent threats to soils, and mitigate the effects of those threats; Preserve soil functions within the context of sustainable use; and Restore degraded and contaminated soils to approved levels of functionality. 			<p>principles:</p> <ul style="list-style-type: none"> Preventing further soil degradation and preserving its functions and Restoring degraded soils to a level of functionality consistent at least with current and intended use
Waste Framework Directive [2008/98/EC]	<ul style="list-style-type: none"> Sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. Explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products. 	<ul style="list-style-type: none"> The Directive requires that: <ul style="list-style-type: none"> Waste is managed without endangering human health Waste is managed without harming the environment. Waste is managed without harming water, air, soil, plants or animals. Waste does not cause a nuisance a nuisance through noise or odours, or to countryside or places of special interest. 	<p>Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013 S.I. 137 of 2013</p> <p>Waste Management Act 1996 and 2001</p>	The Masterplan 2040 should consider the implications of this Directive with developmental infrastructure options within the Plan which are likely to result in waste being generated.
The EU Water Framework Directive (2000/60/EC), (as amended by Decision 2455/2001/EC and Directives 2008/32/EC, 2008/105/EC and 2009/31/EC.	<p>Aims to improve water quality and quantity within rivers, estuaries, coasts and aquifers.</p> <p>Aims to prevent the deterioration of aquatic ecosystems and associated wetland by setting out a timetable until 2027 to achieve good ecological status or potential.</p>	<ul style="list-style-type: none"> Identification and establishment of individual river basin districts. Preparation of individual river basin management plans for each of the catchments. These contain the main issues for the water environment and the actions needed to deal with them. Establishment of a programme of 	<p>European Communities (Water Policy) Regulations, 2003 (S.I. No. 722/ 2003)</p> <p>European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I.</p>	<p>The Masterplan 2040 will need to consider the requirements of the WFD and ensure that it does not compromise its objectives, and that it contributes to achieving its aims.</p> <p>The Masterplan 2040 should promote sustainable management of the water</p>

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	<p>Member States are required to manage the effects on the ecological quality of water which result from changes to the physical characteristics of water bodies.</p> <p>Action is required in those cases where these “hydro-morphological” pressures are having an ecological impact which will interfere with the ability to achieve WFD objectives.</p> <p>The following Directives have been subsumed into the Water Framework Directive :</p> <ul style="list-style-type: none"> • The Drinking Water Abstraction Directive • Sampling Drinking Water Directive • Exchange of Information on Quality of Surface Freshwater Directive • Shellfish Directive • Freshwater Fish Directive • Groundwater (Dangerous Substances) Directive • Dangerous Substances Directive 	<p>monitoring water quality in each RBD.</p> <ul style="list-style-type: none"> • Establishment of a Register of Protected Areas (includes areas previously designated under the Freshwater Fish and Shellfish Directives which have become sites designated for the protection of economically significant aquatic species under WFD and placed on the Protected Areas register). • Promotion of sustainable management of the water environment by carefully considering current land use and future climate scenarios, minimising the effects of flooding and drought events and facilitating long term improvements in water quality, including the protection of groundwater near landfill sites, as well as minimising agricultural runoff. 	No. 272/2009)	environment by carefully considering current land use and future climate scenarios, to facilitate long term improvements in water quality, including the protection of groundwater.
World Heritage Convention [WHC-2005/WS/02]	<p>Objectives seek to ensure the identification, protection, conservation, presentation and transmission to future generations of cultural and natural heritage and ensure that effective and active measures are taken for these.</p> <p>The Convention recognises the way in</p>	<ul style="list-style-type: none"> • Establishment of measures for the protection of monuments of national importance by virtue of the historical, architectural, traditional, artistic or archaeological interest attaching to them. Includes the site of the monument, the means of access to it and any land required to preserve 		The Masterplan 2040 should consider sites of cultural and natural heritage and ensure they are protected from loss or damage resulting from developmental infrastructure plans.

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	<p>which people interact with nature and encourages signatories to</p> <ul style="list-style-type: none"> • integrate the protection of cultural and natural heritage into regional planning programmes, • set up staff and services at their sites, • undertake scientific and technical conservation research and • adopt measures which give this heritage a function in the day-to-day life of the community. 	<p>the monument from injury or to preserve its amenities.</p> <ul style="list-style-type: none"> • World Heritage Sites in Ireland are specific locations that have been included in the UNESCO World Heritage Programme list of sites of outstanding cultural or natural importance to the common heritage of humankind. Two such sites in Ireland have been designated 		

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All-Ireland Pollinator Plan 2015-2020	<ul style="list-style-type: none"> • Aims to build a solid foundation to bring about a landscape where pollinators can flourish. 	<ul style="list-style-type: none"> • Making Ireland pollinator friendly • Raising awareness of pollinators and how to protect them • Managed pollinators – supporting beekeepers and growers • Expanding knowledge on pollinators and pollination service • Collecting evidence to track change and measure 	The Masterplan 2040 should have regard to the importance of pollination opportunities within the Port Estate.

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		success	
Adaption Planning, Developing Resilience to Climate Change in the Irish Transport Sector (DTTAS, 2017)	<ul style="list-style-type: none"> Climate Change Adaptation refers to how we plan for the negative effects of climate change and take suitable action to prevent or minimise damage it causes. This Strategy's objective is to identify options for transport infrastructure and services that will help to build resilience against the impacts of climate change. 	<ul style="list-style-type: none"> It is focussed on assessing our vulnerability to key climate variables and their likely impacts on our transport system and covers the five transport sectors of road, rail, aviation, ports and bus services. The impacts were identified on the basis of infrastructure, modes, staff and passengers. 	The Masterplan 2040 should have regard for this strategy particularly the possible adaption measures and impacts.
Architectural Heritage Protection - Guidelines for Planning Authorities (DAHG, 2011)	<ul style="list-style-type: none"> Sets out guidelines for planning authorities to abide by in order to protect the architectural heritage within Ireland. 	<ul style="list-style-type: none"> Protect structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest Preserve the character of architectural conservation areas 	The Masterplan 2040 should consider sites of architectural heritage, and ensure they are protected from loss or damage resulting from the development of infrastructure at the Port.
Draft National Biodiversity Action Plan 2017 - 2021, Ireland's 3 rd National Biodiversity Plan (DAHRRGA, 2017)	<ul style="list-style-type: none"> National strategy for the maintenance and enhancement of biological diversity, which should be integrated across other policy sectors. 	<ul style="list-style-type: none"> Identification and protection of key biological resources and the monitoring of potentially damaging processes and activities. Preparation of Local Biodiversity Action Plans by Local Authorities to protect, enhance and promote local biodiversity 	The Masterplan 2040 should look for opportunities to conserve, and where possible restore, biodiversity in line with local biodiversity plans.
European Communities (Birds and Natural Habitats) Regulations 2011 to 2015	<ul style="list-style-type: none"> Transposes the EU Habitats Directive and EU Birds Directive into Irish law. All Natura 2000 sites in Ireland 	<ul style="list-style-type: none"> Any proposed plan or project in Ireland that has potential to result in a significant effect on a designated European Site will require an Appropriate Assessment (AA). 	The Masterplan 2040 should ensure that European Sites are suitably protected from loss or damage.

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	are given legal protection.		
Flora (Protection) Order 2015, S.I. No. 356 of 2015	<ul style="list-style-type: none"> Enforces the protection of rare and endangered plants. 	<ul style="list-style-type: none"> Derived from Section 21 of the Wildlife Act, objectives include it being illegal to alter, damage or interfere in any way with named flora species or their habitats. This protection applies wherever the plants are found and is not confined to sites designated for nature conservation. 	The Masterplan 2040 should have regard to the protection any of the species listed in the Order, it is also is an offence to alter or damage the habitats these plants are found in and this is not confined to designated sites.
The Fisheries Acts, 1959 to 2007 (S.I. No. 14 of 1959 and No. 17 of 2007) and the Inland Fisheries Act 2010 (No. 10 of 2010)	<ul style="list-style-type: none"> These acts provide for the efficient and effective management, conservation, protection, development and improvement of fisheries, hatcheries and fish farms. The species protected include all freshwater fish, sea bass and certain molluscs. 	<ul style="list-style-type: none"> Inland Fisheries Ireland which replaced the Fisheries Boards following the Inland Fisheries Act (2010) must ensure the suitability of fish habitats, including taking consideration of the conservation of biodiversity in water ecosystems. The Act also requires those involved in aquaculture to obtain a licence. As well as enforcing provisions of the Fisheries Acts, Inland Fisheries Ireland is empowered to enforce the Water Pollution Acts 1977 & 1990, and at fisheries sensitive locations where industrial, local authority and agricultural discharges have resulted in a serious deterioration in water quality, including fish kills, successful prosecutions have been taken. 	The Masterplan 2040 should take into account any potential significant impacts on fisheries resources from Port development and operation, and identify measures to minimise any significant adverse impacts.
Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland (The Inter-Departmental Marine Coordination Group (MCG), 2012)	<ul style="list-style-type: none"> Aims to build on Ireland's rich maritime heritage and increase engagement with the sea. Strengthen maritime identity increase awareness of the value (market and nonmarket), opportunities and social benefits of engaging with the sea 	<ul style="list-style-type: none"> Establishes two targets: <ul style="list-style-type: none"> Double the value of our ocean wealth to 2.4% of GDP by 2030 Increase the turnover from Ireland's ocean economy to exceed €6.4bn by 2020 Focuses on creating a thriving maritime economy, whereby Ireland harnesses the market opportunities to achieve economic recovery and socially inclusive, 	The Masterplan 2040 will have regard to this plan and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. The three high level goals of this plan are: a thriving maritime economy, healthy ecosystems and engagement with the sea.

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		<p>sustainable growth.</p> <ul style="list-style-type: none"> Sets out to achieve healthy ecosystems that provide monetary and non-monetary goods and services 	
Irish Geological Heritage (IGH) Programme (GSI 1998-)	<ul style="list-style-type: none"> Programme to raise awareness about geological heritage and to recognise and protect geological heritage (or geoheritage). 	<ul style="list-style-type: none"> Establishment of county geological sites and integration of these into the planning system. Preparation of guidelines to aid the extractive industry in addressing geological heritage, particularly in the end usage of quarries. Targeted mapping to provide more detail in priority areas and areas of low data coverage Designation of three UNESCO-supported Global Geoparks – Copper Coast (Waterford), Marble Arch Caves (Fermanagh-Cavan) and Burren & Cliffs of Moher (Clare). 	The Masterplan 2040 should take into consideration areas of geological heritage, in planning for developments that may arise from the masterplan.
National (Climate) Mitigation Plan (DECLG, 2012)	<ul style="list-style-type: none"> The focus of the plan is to identify sector based mitigation measures to be adopted by the various government departments to mitigate greenhouse gas. The plan will also track the implementation of measures already underway and identify additional measures in the longer term to reduce GHG and progress the overall national low carbon transition agenda to 2050. 	<p>It focuses on identifying further mitigation measures in four sectors:</p> <ul style="list-style-type: none"> agriculture and forest sector electricity transport built environment 	The Masterplan 2040 will have regard to this plan. It should remain conscientious of the need to limit the emission of CO ₂ with regard to the measures it proposes.
National Climate Change Strategy 2007-2012 (DEHLG, 2007)	<ul style="list-style-type: none"> Establishes a framework for action to reduce Ireland's greenhouse gas emissions 	<p>Sets out principles and actions for the reduction of CO₂ emissions in Ireland in the following areas:</p> <ul style="list-style-type: none"> energy supply transport 	The Masterplan 2040 will have regard to this strategy. It should remain conscientious of the need to limit the emission of CO ₂ with regard to the measures it proposes.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
		<ul style="list-style-type: none"> • waste management • industry, commercial and services sector • agriculture • residential • public sector 	
National Strategic Plan for Sustainable Aquaculture Development (DAFM, 2015)	The vision of this plan for 2020 is to develop a sustainable and competitive aquaculture sector, where production will grow according to market and consumer demands and in balance with nature and society	<p>The following actions are proposed to be undertaken:</p> <ul style="list-style-type: none"> • Build capacity and scale in the industry • Dedicated supports to new entrants to the sector • Support organic certification of aquaculture production • Aid shellfish producers significantly affected by biotoxin closures 	The Masterplan 2040 should have regard for this plan to help sustain and grow the production of Aquaculture.
National Heritage Plan 2002-2007 (DAHG, 2002)	<ul style="list-style-type: none"> • Aims to set out a clear and coherent strategy and framework for the protection and enhancement of Ireland's heritage. 	<ul style="list-style-type: none"> • Place heritage at the heart of public life. • Protect Ireland's heritage. • Acquire knowledge of Ireland's heritage. • Promote awareness and enjoyment of Ireland's heritage. • Participate in Cross-Border and International Heritage Protection. • Support the Plan through improved structures and resources. • Enhance the protection of heritage by ensuring that organisations charged with heritage protection have the appropriate structures to fulfil their responsibilities. 	The Masterplan 2040 should consider sites of archaeological, architectural, cultural and natural heritage and ensure they are protected from loss or damage resulting from the development of infrastructure and to promote awareness of port heritage.

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National Hazardous Waste Management Plan 2014 - 2020	This plan sets priorities to be pursued to improve the management of hazardous waste	<p>This plan sets out the priority actions that should be undertaken in relation to:</p> <ul style="list-style-type: none"> the prevention of hazardous waste; improved collection rates for certain categories of hazardous waste; steps that are required to improve Ireland's self-sufficiency in hazardous waste management and the continued identification and regulation of legacy issues (e.g. identification, risk assessment and regularisation of historic unregulated waste disposal sites). 	The Masterplan 2040 should consider the implications of this plan with developmental infrastructure options which are likely to result in waste materials being generated both development and operational wastes.
National Landscape Strategy for Ireland (2015 – 2025 (DAHG, 2015))	<ul style="list-style-type: none"> Strategy for the provision of a framework for the protection of the many cultural, social, economic and environmental values embedded in the landscape. 	<ul style="list-style-type: none"> To be implemented by the State, working in co - operation with public authorities, stakeholders, communities and individuals. Objectives include to establish and to implement, through a series of actions, policies aimed at understanding, managing, protecting and planning the landscape. Sets out specific measures to integrate and embed landscape considerations in all sectors which influence the landscape and improve and enhance the quality of decision - making by those who have an impact on it. 	The Masterplan 2040 should protect all cultural, social, economic and environmental values embedded in the landscape.
The National Monuments Acts (1930 to 2004) (S.I. No. 2/1930 & No. 22/2004)	<ul style="list-style-type: none"> Objectives seek to ensure the identification, protection, conservation, presentation and transmission to future generations of cultural and natural heritage and ensure that effective and active measures are taken for these. Establishment of measures for the protection of monuments of national 	<ul style="list-style-type: none"> Establishment of a National Inventory of Architectural Heritage (NIAH). The objective of the NIAH is to aid in the protection and conservation of the built heritage, especially by advising planning authorities on the inclusion of particular structures in the Record of Protected Structures (RPS). Sites included in the RPS are awarded automatic protection and may not be demolished or materially altered without grant of permission under the Planning 	The Masterplan 2040 should consider sites of archaeological, architectural, cultural and natural heritage and ensure they are protected from loss or damage resulting from the development of infrastructure.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
	<p>importance by virtue of the historical, architectural, traditional, artistic or archaeological interest attaching to them. Includes the site of the monument, the means of access to it and any land required to preserve the monument from injury or to preserve its amenities.</p>	<p>Acts.</p> <ul style="list-style-type: none"> • Policy created on licensing of excavations and guidelines for licensees on strategies and method statements, reports and publications. 	
National Mitigation Plan, 2017	<ul style="list-style-type: none"> • The National Mitigation Plan represents an initial step to set us on a pathway to achieve the level of decarbonisation required • The measures that we implement through this Plan will lay the foundations for transitioning Ireland to a low carbon, climate resilient and environmentally sustainable economy by 2050. 	<ul style="list-style-type: none"> • an aggregate reduction in carbon dioxide (CO₂) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors; and • in parallel, an approach to carbon neutrality in the agriculture and land-use sector, including forestry, which does not compromise capacity for sustainable food production. 	The Masterplan 2040 will have regard to this plan. It should remain conscientious of the need to limit the emission of CO ₂ with regard to the measures it proposes.
National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland - 2017 to 2030	<ul style="list-style-type: none"> • The aim was to establish a long-term policy framework to guide technological development and investment in the deployment of alternative fuels. 	<p>This policy set out to achieve five key goals in transport:</p> <ul style="list-style-type: none"> • Reduce overall travel demand • Maximise the efficiency of the transport network • Reduce reliance on fossil fuels • Reduce transport emissions • Improve accessibility to transport 	The Masterplan 2040 will have regard to this plan. It should remain conscientious of the need to limit the emission of CO ₂ and should consider the deployment of alternative fuels.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
Draft National Planning Framework 2040	The National Planning Framework will provide the framework for future development and investment in Ireland, providing a long-term and place-based aspect to public policy and investment, and aiming to coordinate sectoral areas such as housing, jobs, transport, education, health, environment, energy and communications, into an overall coherent strategy.	<ul style="list-style-type: none"> • Facilitate improvements to people's quality of life and well-being; • Prevent further overdevelopment and sprawl; • Encourage population growth closer to where employment is located and is likely to be; • Identify and support employment potential throughout Ireland, including greater regional employment growth; • Identify measures to encourage both rural and urban regeneration to address decline; Achieve effective regional development; • Relieve development pressure on the Eastern part of the Country whilst protecting the key role played by Dublin; • Ensure good environmental stewardship by avoiding any further deterioration and addressing existing deficiencies; • Reduce carbon emissions; • Prioritise the development of infrastructure that can deliver national benefit – including renewable energies; • Harness the planning system in order to maximise the role it can play in relation to climate change; • Manage the planning and development process so that the right development occurs in the most suitable places and at the right time, ensuring sustainability and best use of scarce resources. 	The Masterplan 2040 should consider landuse factors and changes to infrastructure, in its strategies and should limit over development and sprawl.
Draft National Adaptation Framework (DCCAE 2017)	<ul style="list-style-type: none"> • The National Adaptation Framework will specify the national strategy for the application of adaptation measures in different sectors and by local authorities in order to reduce 	<p>The purpose of the NAF is to:</p> <ul style="list-style-type: none"> • provide the policy context for a strategic adaptation 	The Masterplan 2040 will have regard to this plan. It should remain conscientious of the need to limit the emission of CO ₂ with regard to the measures it proposes.

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
	<p>the negative effects of climate change and to avail of any positive effects that may occur.</p>	<p>response, at all levels, to climate change;</p> <ul style="list-style-type: none"> strengthen and develop policies, working in partnership with all relevant stakeholders; integrate adaptation considerations to all relevant policy areas; promote dialogue and understanding of adaptation issues; promote and support the development of scientific evidence relating to adaptation; identify sectors for adaptation actions; and commit to actions to support the adaptation process. 	
National Spatial Strategy for Ireland 2002-2020 (DEHLG, 2002)	<ul style="list-style-type: none"> Aims to achieve a better balance of social, economic, physical development and population growth between regions. 	<ul style="list-style-type: none"> Achieves balanced regional development by taking the following into consideration: <ul style="list-style-type: none"> Economic role of Dublin and of other regions Quality of Life Existing settlements Planning implementation 	<p>The Masterplan 2040 will have regard to this strategy and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. This is a 20-year coherent national planning framework for Ireland that aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective and integrated planning.</p>
Marine Strategy Framework Directive, Programme of Measures (SEAS, 2015)	<ul style="list-style-type: none"> The MSFD requires that European Union (EU) Member States take necessary cost effective measures to achieve or maintain Good Environmental Status (GES) by 2020. Following the first cycle of management which ends in 2020, new programmes of measures will be set on a six-yearly basis 	<p>Summary of measures:</p> <ul style="list-style-type: none"> Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions. All elements of the marine food webs, to the extent that they are known, occur at normal abundance and 	<p>The Masterplan 2040 may have implications on the environmental status of marine waters and it therefore should consider the PoMs to ensure that it does not have a negative effect on the environmental status of the marine waters.</p>

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
	<ul style="list-style-type: none"> The main purpose of the PoMs is to put in place actions and measures which will support the meeting of the environmental targets set out under Article 10 of the MSF Directive, leading to the achievement (or maintenance) of Good Environmental Status (GES). 	<p>diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity</p> <ul style="list-style-type: none"> Sea-floor Integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected. Non-Indigenous Species (NIS) introduced by human activities are at levels that do not adversely alter the ecosystem. Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock. Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters. Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems. Concentrations of contaminants are at levels not giving rise to pollution effects. Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards. Properties and quantities of marine litter do not cause harm to the coastal and marine environment. Introduction of energy, including underwater noise, is at levels that does not adversely affect the marine environment. 	

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
UK Marine Policy Statement (DEFRA, 2011)	<ul style="list-style-type: none"> Marine Policy Statement (MPS) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It will contribute to the achievement of sustainable development in the United Kingdom marine area 	<ul style="list-style-type: none"> Promote sustainable economic development; Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change⁴ and ocean acidification and adapt to their effects; Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues. 	The Masterplan 2040 should have regard to this statement, which should help address any transboundary issues, as there maybe potential within the Masterplan to have to have far reaching environmental impacts.
Proposed National Clean Air Strategy (DCCAE, under preparation, 2017)	<ul style="list-style-type: none"> Aims to promote clean air policies to enhance and protect the quality of the air we breathe. 	<ul style="list-style-type: none"> Provides the strategic policy framework necessary to identify and promote the integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives. 	The Masterplan 2040 will have regard to this strategy. The consideration of air quality will be a major part of the decision making and planning process throughout the development of the Masterplan 2040. In addition, in line with this Strategy, DPC aims to reduce any specific air quality problems identified in Dublin Port.
2 nd River Basin Management Plan 2018-2021 (2017)	<ul style="list-style-type: none"> Aims to set out river basin management planning in Ireland. This leads on from the 1st Cycle River Basin Management Plans: 2009-2014. 	<ul style="list-style-type: none"> Details the most recent water quality results and the outcomes of the risk characterisation process. Informs on the significant pressures for at-risk water bodies. Sets out the environmental objectives of the WFD and the priorities. Outlines the key measures aimed at meeting our environmental objectives. Outlines measures to be taken to improve stakeholder engagement. 	<p>The Masterplan 2040 will have regard to this plan and will need to consider the requirements of the WFD and ensure that it does not compromise its objectives, and that it contributes to achieving its aims.</p> <p>The Masterplan should promote sustainable management of the water environment and to facilitate long term improvements in water quality, including the protection of groundwater.</p>

Directive/ Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
Wildlife Acts 1976 to 2012	<ul style="list-style-type: none"> These acts provide the principal national legislation providing for the protection of wildlife and the control of some activities that may adversely affect wildlife 	<ul style="list-style-type: none"> The Acts outline strict protection for species that have significant conservation value. The Acts protect species from injury, disturbance and damage to breeding and resting sites. All species listed in the Acts must be a material consideration in the planning process. 	The Masterplan 2040 should look for opportunities to conserve, and where possible restore, biodiversity in future developments.

REGIONAL/SUB-REGIONAL

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
County Landscape Character Assessments <ul style="list-style-type: none"> Landscape Assessment Guidance (Fingal County Council, 1999) 	<ul style="list-style-type: none"> Characterises the geographical dimension of the landscape. 	<ul style="list-style-type: none"> Identifies the quality, value, sensitivity and capacity of the landscape area. Guides strategies and guidelines for the future development of the landscape. 	The Masterplan 2040 will have regard to these plans and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. This assessment provides a framework for the identification, assessment, protection, management and planning of the landscape
Draft Flood Risk Management Plan for UoM 9: Liffey and Dublin Bay (OPW, 2016)	<ul style="list-style-type: none"> Aims to set out a range of proposed measures and actions to manage and reduce flood risk within the area. 	<ul style="list-style-type: none"> Outlines flood risk management options over an area of Co. Dublin including the Dublin Port estate. 	The Masterplan 2040 will have regard to this plan and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. This plan sets out the strategy, including a set of measures, for the cost-effective and sustainable, long-term management of flood risk

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
<p>Dublin City Development Plan 2016 to 2021 (Dublin City Council, 2016)</p> <p>Fingal County Development Plan 2017-2023</p>	<ul style="list-style-type: none"> • Outlines planning objectives for the areas. • Strategic framework for planning and sustainable development including those set out in National Spatial Strategy and Regional Planning Guidelines 	<ul style="list-style-type: none"> • Identifies future infrastructure, development and zoning required • Protects and enhances amenities and environment. • Guides planning authority in assessing proposals. 	<p>The Masterplan 2040 study will have regard to these plans and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. The development plan sets the agenda for the development of the local authority's area over its six year lifespan. Development, whether it be residential, industrial, commercial or amenity, must generally take place in accordance with the development plan.</p>
<p>Dublin City Biodiversity Action Plan 2015-2020</p>	<ul style="list-style-type: none"> • Aims to conserve the biodiversity within the City. 	<ul style="list-style-type: none"> • Strengthen the knowledge base of decision-makers for the conservation and management of biodiversity, and protect species and habitats of conservation value within Dublin City. • Strengthen the effectiveness of collaboration between all stakeholders for the conservation of biodiversity in the greater Dublin region. • Enhance opportunities for biodiversity conservation through green infrastructure, and promote ecosystem services in appropriate locations throughout the City. • Develop greater awareness and understanding of biodiversity, and identify opportunities for engagement with communities and interest groups. 	<p>The Masterplan 2040 study will have regard to this plan and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. The overall aim of this plan is the conservation of biodiversity within the City.</p>
<p>Economic Development Plans</p> <ul style="list-style-type: none"> • Dublin City Economic and Community Plan 2016-2021 (Dublin City Council, 2015) • Fingal Local 	<ul style="list-style-type: none"> • Promotes and supports economic development and local and community development. 	<ul style="list-style-type: none"> • Outline the existing demographic, community and economic context of the county. • Preparation of an indicator suite. • Provide data mapping and visualisation. • Identify opportunities to support business growth and competitiveness, and create new employment and 	<p>The Masterplan 2040 study will have regard for these plans in order to take into consideration the local community. These plans set goals, objectives and actions needed to promote and support economic development and local and community development over the next six years.</p>

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
Economic and Community Plan 2016-2021 (Fingal County Council, 2015)		<p>investment opportunities.</p> <ul style="list-style-type: none"> Identify key priorities for the development of the county's strategic direction and future economic and community policy. 	
Dublin Noise Action Plan 2013-2018	<ul style="list-style-type: none"> The key objective is to avoid, prevent and reduce, where necessary, on a prioritised basis the harmful effects, including annoyance, due to long term exposure to environmental noise from road traffic, rail and aircraft. This will be achieved by taking a strategic approach to managing environmental noise and undertaking a balanced approach in the context of sustainable development. 	<p>The key actions are as follows:</p> <ul style="list-style-type: none"> Traffic Noise reduction and prevention measures Rail reduction and prevention measures Planning Process Protecting 'Quiet Areas' 	The Masterplan 2040 should consider the contribution that measures could make towards the assessment and management of environmental noise including traffic and rail noise reduction, prevention measures and protecting quiet areas.
Eastern Midlands Region Waste Management Plan 2015 - 2021	<ul style="list-style-type: none"> Provides a framework for the prevention and management of waste in a sustainable manner in 12 local authority areas. 	<ul style="list-style-type: none"> Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan. More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020. Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016. 	The Masterplan 2040 will have regard to this plan and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. The main aims being to prevent waste and/or increase recycling.
Eastern and Midland Regional Assembly Regional Spatial and Economic Strategy (to commence)	<ul style="list-style-type: none"> The objective of regional spatial and economic strategies shall be to support the implementation of the National Spatial Strategy and the economic policies and objectives of the Government by providing a long-term strategic planning and 	<ul style="list-style-type: none"> 	The Masterplan 2040 will have regard to this strategy

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
	<p>economic framework for the development of the region for which the strategies are prepared which shall be consistent with the National Spatial Strategy and the economic policies or objectives of the Government.</p> <ul style="list-style-type: none"> The Eastern and Midland Regional Assembly, has twelve constituent local authorities split into three Strategic Planning Areas 		
Eastern River Basin District Management Plan 2009-2015 (DEHLG, 2010)	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies at River Basin District (RBD) level Preserve, prevent the deterioration of water status and where necessary improve and maintain “good status” of water bodies in that RBD Promote sustainable water usage 	<ul style="list-style-type: none"> Aims to improve water quality and quantity within inland surface waters (rivers and lakes), transitional waters coastal waters and groundwater and meet the environmental objectives outlined in Article 4 of the Water Framework Directive Identifies and manages water bodies in the RBD Establishes a programme of measures for monitoring and improving water quality in the RBD Involves the public through consultations RBMPs are prepared and reviewed every six years. The first RBMPs covered the period 2010 to 2015. 	The Masterplan 2040 should promote sustainable management of the water environment by carefully considering current land use and future climate scenarios, minimise the effects of flooding and drought events and to facilitate long term improvements in water quality, including the protection of groundwater.
Greater Dublin Strategic Drainage Strategy (2005)	<ul style="list-style-type: none"> Identifies policies, strategies and projects for the development of a sustainable drainage system for the Greater Dublin Region. 	<ul style="list-style-type: none"> To develop an environmentally sustainable drainage strategy for the Region consistent with the EU Water Framework Directive. This strategy should outline the requirements for foul and stormwater drainage capable of meeting the demands of the Region in the context of current Development Plans, the Regional Planning Guidelines and the longer term development potential of the region; To provide a consistent policy framework and standards which will apply throughout the Region, and promote the requirements of environmental 	The Masterplan 2040 will have regard to this strategy and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives to develop an environmentally sustainable drainage.

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
		<p>legislation and the recommendations of the GDSDS itself;</p> <ul style="list-style-type: none"> To develop tools for the effective management of the drainage systems including Geographical Information Systems (GIS), network models and digital mapping; and To develop the optimum drainage solution from a range of alternative scenarios having regard to whole-life cost and environmental performance, the solution to be broken down into a set of implementation projects which can be prioritised and put in place 	
Greater Dublin Area Cycle Network Plan (National Transport Authority, 2013)	<ul style="list-style-type: none"> This plan sets out a ten year strategy for Counties Dublin, Kildare, Meath and Wicklow to increase the cycle network 	<ul style="list-style-type: none"> The cycle network outlined in the Plan will treble the existing network in urban areas from 500 kilometres to 1,485 kilometres in length, and will provide over 1,300 kilometres of new connections between towns in the rural areas of the Greater Dublin Area. In all, a network of 2,840 kilometres is envisaged compared to today's 500 kilometres. The planned network, which consists of primary and secondary routes as well as Greenway routes (through parks, along waterways etc), comprises a mix of cycle tracks and lanes, cycleways and infrastructure-free cycle routes in low traffic environments. 	The Masterplan 2040 study will have regard to this plan, due to the proximity of the proposed River Liffey Way cycle route to the Port.
<p>Transport Strategy</p> <p>Draft Transport Strategy for the Greater Dublin Area 2016-2035 (NTA, 2015)</p>	The Draft Transport Strategy for the Greater Dublin Area 2016-2035, sets out a cohesive and integrated transport framework to support and sustain the region's development.	<p>The Strategy proposes:</p> <ul style="list-style-type: none"> New Core Bus Network Luas to Poolbeg / Finglas / Lucan Metro South – from St Stephens Green to Brides Glen Rail-based Park and Ride facilities expand cycling network to 1,485 km 	The Masterplan 2040 will have regard for this strategy and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives to have a cohesive and integrated transport framework to support the Greater Dublin Area's development.

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
<p>Groundwater Protection Schemes</p> <ul style="list-style-type: none"> Bog of The Ring Groundwater Protection Scheme (GSI and Fingal County Council, 2005) 	<ul style="list-style-type: none"> Preserve and prevent deterioration in quality and identify the status of groundwater. Protect groundwater quality for drinking water purposes. Provides a framework for and informs planning authorities. 	<ul style="list-style-type: none"> Assess and identify the vulnerability, aquifer potential and source protection of groundwater. Map Groundwater Protections Zones. Identify groundwater protection responses for existing and potential environmental risks. Integrate Groundwater Protection Schemes into County Development Plans. 	<p>Impacts on water quality are of relevance to the Masterplan 2040 as development of infrastructure can be linked with water pollution. Therefore, assessment of vulnerability and risks to groundwater should be identified, as well as responses to potential risks.</p>
<p>Heritage Plans</p> <ul style="list-style-type: none"> Fingal Heritage Plan 2011-2017 (Fingal County Council, 2012) Dublin City Heritage Plan 2002-2006 (Dublin City Council, 2002) 	<ul style="list-style-type: none"> Aim to highlight the importance of heritage at a strategic level. 	<ul style="list-style-type: none"> Manage and promote heritage as well as increase awareness. Aim to conserve and protect heritage. 	<p>The Masterplan 2040 will have regard to these plans and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives by aiming to conserve and protect heritage.</p>
<p>Local Area Plans</p> <ul style="list-style-type: none"> Airport Local Area Plan (Fingal County Council, 2015) George's Quay Local Area Plan (Dublin 	<ul style="list-style-type: none"> Statutory document which provides detailed planning policies to ensure proper planning and sustainable development of area. Sets out objectives for future planning and development. 	<ul style="list-style-type: none"> Identifies issues of relevance to the area and outlines principles for future development of area. Is consistent with relevant County/Town Development Plans, National Spatial Strategy and Regional Planning Guidelines 	<p>The Masterplan 2040 will have regard to these plans and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives considering the planning policies at local level.</p>

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
City Council, 2012)			
Poolbeg West Strategic Development Zone (SDZ) 2017	<ul style="list-style-type: none"> An area of land designated by the Government to contain specified developments of economic or social importance to the State. Aims to create sustainable communities under a master plan to facilitate the requirements by which it was acquired by the State. 	<ul style="list-style-type: none"> Development includes necessary infrastructural and community facilities and services. 	The Masterplan 2040 will have regard to this SDZ. This development zone is in close proximity to Dublin Port.
Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (2010)	<ul style="list-style-type: none"> Aims to direct the future growth of the Greater Dublin Area over the medium to long term 	Guides future growth, development and investment within the Greater Dublin Area.	<p>The Masterplan 2040 will have regard to these plans and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives.</p> <p>Planning strategies at the regional level provide the link between the national and local planning frameworks, which work within the overall approach taken in the NSS, while providing more detail and establishing a development and spatial framework that can be used to strengthen local authority development plans and other planning strategies at county, city and local level.</p>
Ringsend Irishtown Local Environment Improvement Plan	Outlines the potentials of the area and the possible ways that those potentials may be realised with an end goal to enhance the physical environment,	<ul style="list-style-type: none"> Generate new or enhance existing cycle / pedestrian links to improve the study areas permeability and foster the idea of a walkable village/s Contribute to the creation of a strong village centre, 	The Masterplan 2040 will have regard to this improvement plan. The areas outlined within the improvement plan are in close

Plan/Programme	High Level Description	Key Objectives, Actions etc.	Relevance to Masterplan 2040
	improve the socio-cultural aspects of the community and stimulate the local and wider business community to invest back into the community.	<p>that will in turn generate a sense of place</p> <ul style="list-style-type: none"> Identify specific projects that will benefit the community in the context of the public realm Address & improve the relationship between the pedestrians, cyclists and the vehicular traffic passing through the area Improve the physical and visual connection between the community and Ringsend Park and enhance the park to cater for all sectors of the community Generate connections with the Liffey, docklands and the Dodder. Promote and draw on the maritime heritage 	proximity to Dublin Port.
<p>Special Amenity Area Orders</p> <ul style="list-style-type: none"> North Bull Island Special Amenity Area Order (Dublin City Council, 1994) 	<ul style="list-style-type: none"> Aims to protect special areas of landscape, environmental or amenity value 		The Masterplan 2040 will have regard to these orders and will (in combination with other users and bodies) cumulatively contribute towards the achievement of its objectives. The proximity of the North Bull Island to Dublin Port is of considerable relevance.
<p>Shellfish Pollution</p> <ul style="list-style-type: none"> Malahide Shellfish Pollution Reduction Programme (DEHLG, 2009) 	<ul style="list-style-type: none"> Aims to improve water quality and ensure the protection or improvement of designated shellfish waters in order to support shellfish life and growth and contribute to the high quality of shellfish products directly edible by man. 	<ul style="list-style-type: none"> Identifies key and secondary pressures on water quality in designated shellfish areas. Outlines specific measures to address identified key and secondary pressures on water quality. Addresses the specific pressures acting on water quality in each area. 	Impacts on water quality are of relevance to the Masterplan 2040 to ensure the protection and improvement of the designated shellfish waters.

APPENDIX E

SEA Scoring Guidelines

No.	Topic	Objective	Score	Score Description	Example Of Impacts
1A	Biodiversity, Flora And Fauna	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	3	Significant Positive Impacts	Potential for enhancement of, restoration of, or increased protection to European sites, in line with conservation objectives.
			2	Moderate Positive Impacts	Potential for increased awareness / education and access to European sites, in line with conservation objectives. Habitat and species information can be made available throughout the Dublin Port estate.
			1	Slight Positive Impacts	Potential for increased public awareness of European sites. Habitat and species information can be made available throughout the Dublin Port estate.
			0	Neutral / No Impacts	No impacts on European sites and protected habitats / species.
			-1	Slight Negative Impacts	Potential for short term, indirect construction phase, disturbance impacts in the vicinity of European sites, and protected habitats and species. Slight potential for increased spread of invasive species.
			-2	Moderate Negative Impacts	Potential for short term, direct construction phase, or medium to long term indirect impacts to European sites, and protected habitats and species. Moderate potential for increased spread of invasive species.
			-3	Significant Negative Impacts	Potential for medium to long term direct impacts to European sites, and protected habitats and species. High potential for increased spread of invasive species.
1B	Biodiversity, Flora And Fauna	Preserve, protect, maintain and where possible enhance nature conservation	3	Significant Positive Impacts	Potential for enhancement of, restoration of, or increased protection to nationally designated sites and biospheres, in line with conservation objectives.
			2	Moderate Positive Impacts	Potential for increased awareness / education and access to nationally designated sites and biospheres, in line with conservation objectives. Habitat and

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		sites/biospheres and protected species or other known species of conservation concern.		Impacts	species information can be made available throughout the Dublin Port estate.
			1	Slight Positive Impacts	Potential for increased public awareness of nationally designated sites and biospheres. Habitat and species information can be made available throughout the Dublin Port estate.
			0	Neutral / No Impacts	No impacts on nationally designated sites, biospheres and protected habitats / species.
			-1	Slight Negative Impacts	Potential for short term, indirect construction phase, disturbance impacts in the vicinity of nationally designated sites, biospheres, and protected habitats and species. Slight potential for increased spread of invasive species.
			-2	Moderate Negative Impacts	Potential for short term, direct construction phase, or medium to long term indirect impacts to nationally designated sites, biospheres, and protected habitats and species. Moderate potential for increased spread of invasive species.
			-3	Significant Negative Impacts	Potential for medium to long term direct impacts to nationally designated sites, biospheres, and protected habitats and species. High potential for increased spread of invasive species.
1C	Biodiversity, Flora And Fauna	Preserve, protect, maintain and where	3	Significant Positive Impacts	Potential for an increase in the area of and abundance of undesignated natural fauna, flora and habitats.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		possible enhance undesignated fauna, flora and habitats.	2	Moderate Positive Impacts	Potential for enhancement of, or restoration of, existing undesignated natural fauna, flora and habitats.
			1	Slight Positive Impacts	Potential for increased awareness / education and access to undesignated natural fauna, flora and habitats. Habitat and species information can be made available throughout Dublin Port's estate. Potential for the preservation of existing undesignated natural fauna, flora and habitats.
			0	Neutral / No Impacts	No impacts on designated and undesignated international, national and local sites and species.
			-1	Slight Negative Impacts	Potential for short term, indirect construction phase, disturbance impacts to undesignated natural fauna, flora and habitats. Slight potential for increased spread of invasive species. Temporary displacement of species and habitats that may re-establish in the medium term.
			-2	Moderate Negative Impacts	Potential for short term, direct construction phase, and medium to long term indirect impacts to undesignated natural fauna, flora and habitats. Moderate potential for increased spread of invasive species. Temporary loss of species and habitats that may re-establish in the long term.
			-3	Significant Negative Impacts	Potential for medium to long term direct impacts to undesignated natural fauna, flora and habitats. High potential for increased spread of invasive species. Permanent loss of species and habitats.
2A	Population and Human Health	Minimise risk to human health and risk to life within the	3	Significant Positive Impacts	Improvement in human health and a reduction of risk to life within the local community from potentially significantly reduced number of accidents and incidents from port activities and significantly reduced number of disturbance

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		local community.			complaints from the local community.
			2	Moderate Positive Impacts	Improvement in human health and a reduction of risk to life within the local community from potentially reduced number of accidents and incidents from port activities and reduced number of disturbance complaints from the local community.
			1	Slight Positive Impacts	No change in the human health and risks to the local community, with increased port activity and throughput.
			0	Neutral / No Impacts	No change in the human health and risks to the local community, from no change in port activity.
			-1	Slight Negative Impacts	Potential for temporary disturbance and nuisance impacts to the local community including impacts on human health.
			-2	Moderate Negative Impacts	Potential for short to medium term disturbance and nuisance impacts to the local community including impacts on human health.
			-3	Significant Negative Impacts	Potential for permanent disturbance and nuisance impacts to the local community including impacts on human health. Potential for short, medium or long term increase in risk to life.
2B	Population and Human Health	Provide social infrastructure and amenity facilities for the local	3	Significant Positive Impacts	Potential for greater numbers of and significant improvements to social infrastructure and amenity facilities.
			2	Moderate Positive Impacts	Potential for improvements to / enhancement of existing social infrastructure and

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		community.		Impacts	amenity facilities.
			1	Slight Positive Impacts	No change in social infrastructure and amenities facilities for the local community, with increased port activity and throughput.
			0	Neutral / No Impacts	No change in social infrastructure and amenities facilities for the local community, from no change in port activity.
			-1	Slight Negative Impacts	Potential for short term disturbance and nuisance impacts to social infrastructure and amenity facilities available to the local community.
			-2	Moderate Negative Impacts	Potential for medium to long term disturbance and nuisance impacts to social infrastructure and amenity facilities available to the local community. Slight reduction in social infrastructure and amenity facilities available to the local community.
			-3	Significant Negative Impacts	Potential for permanent reduction in social infrastructure and amenity facilities available to the local community.
2C	Population and Human Health	Provide employment for the local community.	3	Significant Positive Impacts	Potential for permanent increases in direct and indirect employment opportunities as a result of the Masterplan 2040.
			2	Moderate Positive Impacts	Potential for permanent increases in indirect employment opportunities as a result of the Masterplan 2040.
			1	Slight Positive Impacts	Potential for temporary increases in employment opportunities.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
			0	Neutral / No Impacts	No change in employment opportunities for the local community.
			-1	Slight Negative Impacts	Potential for short term, disruption, disturbance and nuisance impacts on the local community workforce.
			-2	Moderate Negative Impacts	Potential for temporary reduction in employment opportunities.
			-3	Significant Negative Impacts	Potential for medium to long term reduction in employment opportunities.
3A	Geology, Soils and Landuse	Protect the coastline from erosion.	3	Significant Positive Impacts	Medium to long term increase of new soil or land resource that is protected from coastal erosion.
			2	Moderate Positive Impacts	Reduced area of soil or land resource at risk from coastal erosion.
			1	Slight Positive Impacts	No change in areas of existing functional soil and land resource, with increased port activity and throughput.
			0	Neutral / No Impacts	No change in areas of existing functional soil and land resource, from no change in port activity.
			-1	Slight Negative Impacts	Potential for slight alteration of natural coastal processes and sediment transport.
			-2	Moderate Negative Impacts	Potential for alteration of natural coastal processes and sediment transport, with increased risk of coastal erosion to soil and land resource.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
			-3	Significant Negative Impacts	Potential for medium to long term loss of soil and land resource.
3B	Geology, Soils and Landuse	Protect the soil and sediment from contamination.	3	Significant Positive Impacts	Potential for remediation and clean up of all contaminated soils and sediments in the vicinity of the Port.
			2	Moderate Positive Impacts	Potential for containment and management of contaminated soils and sediments in the vicinity of the Port, with increased port activity and throughput. Potential for remediation and clean up of some contaminated soils and sediments in the vicinity of the Port.
			1	Slight Positive Impacts	No change in the potential for contamination and sterilisation of soils and sediments, with increased port activity and throughput.
			0	Neutral / No Impacts	No change in the potential for contamination and sterilisation of soils and sediments, from no change in port activity.
			-1	Slight Negative Impacts	Potential for short term, construction phase contamination of soils and sediments.
			-2	Moderate Negative Impacts	Medium to long term increased potential for contamination of soils and sediments from Port activities..
			-3	Significant Negative Impacts	Potential for long term contamination and sterilisation of soils and sediments from Port activities.
4A	Water	No negative impacts on the	3	Significant Positive Impacts	Potential improvement of water body overall status.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	2	Moderate Positive Impacts	Potential for regional improvement of water quality with improved water quality discharges from the Port. Removal of man-made structures for more natural coastal morphology.
			1	Slight Positive Impacts	Potential for localised improvement of water quality. Reduced potential for spills and runoff.
			0	Neutral / No Impacts	No impacts on status of coastal waters, surface waters and groundwater, from no change in port activity.
			-1	Slight Negative Impacts	Potential for localised, short term or infrequent negative impacts on water quality.
			-2	Moderate Negative Impacts	Increased potential for permanent or frequent negative impacts on water quality discharges from the Port. Impacts on water body morphology with increased man-made structures.
			-3	Significant Negative Impacts	Potential deterioration of water body overall status.
4B	Water	Reduce water usage and wastewater generated at the Port per unit of freight and passenger	3	Significant Positive Impacts	Potential for significant reduction in water consumption and wastewater generation per unit of freight and passenger throughput.
			2	Moderate Positive Impacts	Potential moderate reduction in water consumption and wastewater generation per unit of freight and passenger throughput.
			1	Slight Positive Impacts	Potential for slight reduction in water consumption and wastewater generation per unit of freight and passenger throughput.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
		throughput.	0	Neutral / No Impacts	No change in water consumption and wastewater generation.
			-1	Slight Negative Impacts	Potential for slight increase in water consumption and/or wastewater generation per unit of freight and passenger throughput.
			-2	Moderate Negative Impacts	Potential for moderate increase in water consumption and/or wastewater generation per unit of freight and passenger throughput.
			-3	Significant Negative Impacts	Potential for significant increase in water consumption and/or wastewater generation per unit of freight and passenger throughput.
4C	Water	No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	3	Significant Positive Impacts	Potential for development to contribute to flood risk management within and in the vicinity of the Port. Multi-benefit development.
			2	Moderate Positive Impacts	Potential for development to contribute to flood risk management in several locations in the Port. Multi-benefit development.
			1	Slight Positive Impacts	Potential for development to contribute to flood risk management in a localised area of the Port. Multi-benefit development.
			0	Neutral / No Impacts	No change in flood risk at the Port.
			-1	Slight Negative Impacts	Potential for increased flood risk to localised area of Dublin Port.
			-2	Moderate Negative Impacts	Potential for increased flood risk to several areas of Dublin Port.
			-3	Significant Negative Impacts	Potential for increase in flood risk regionally within and in the vicinity of the Port.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
				Impacts	Transferred flood risk to outside the Port.
5A	Air, Noise and Vibration	Minimise impacts on air quality in the area.	3	Significant Positive Impacts	Potential for significant reductions in air pollution to the area.
			2	Moderated Positive Impacts	Potential for moderate reductions in air pollution to the area.
			1	Slight Positive Impacts	Potential for slight reductions in air pollution to the area.
			0	Neutral / No Impacts	No change in air quality in the area.
			-1	Slight Negative Impacts	Potential for temporary or infrequent breaches of air quality thresholds, not impacting the local community.
			-2	Moderate Negative Impacts	Potential for temporary or infrequent breaches of air quality thresholds, potentially impacting the local community.
			-3	Significant Negative Impacts	Potential for medium and long term, or frequent breaches of air quality thresholds.
5B	Air, Noise and Vibration	Minimise noise impacts in the area.	3	Significant Positive Impacts	Potential for significant reductions in noise impacts to the area.
			2	Moderated Positive Impacts	Potential for moderate reductions in noise impacts to the area.
			1	Slight Positive Impacts	Potential for slight reductions in noise impacts to the area.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
			0	Neutral / No Impacts	No change in noise impacts in the area.
			-1	Slight Negative Impacts	Potential for temporary or infrequent breaches of noise thresholds, not impacting the local community.
			-2	Moderate Negative Impacts	Potential for temporary or infrequent breaches of noise thresholds, potentially impacting the local community.
			-3	Significant Negative Impacts	Potential for medium and long term, or frequent breaches of noise thresholds.
5C	Air, Noise and Vibration	Minimise vibration impacts in the area.	3	Significant Positive Impacts	Potential for significant reductions in vibration impacts to the area.
			2	Moderated Positive Impacts	Potential for moderate reductions in vibration impacts to the area.
			1	Slight Positive Impacts	Potential for slight reductions in vibration impacts to the area.
			0	Neutral / No Impacts	No change in vibration impacts in the area.
			-1	Slight Negative Impacts	Potential for temporary or infrequent breaches of vibration thresholds, not impacting the local community.
			-2	Moderate Negative Impacts	Potential for temporary or infrequent breaches of vibration thresholds, potentially impacting the local community.
			-3	Significant Negative Impacts	Potential for medium and long term, or frequent breaches of vibration thresholds.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
				Impacts	
6A	Climatic Factors	Minimise emissions of greenhouse gases and port carbon footprint from development and activity.	3	Significant Positive Impacts	Potential for a significant decrease in GHG emissions and carbon footprint.
			2	Moderated Positive Impacts	Potential for a moderate decrease in GHG emissions and carbon footprint.
			1	Slight Positive Impacts	Potential for a slight decrease in GHG emissions and carbon footprint. Enhanced natural GHG sequestering natural cover.
			0	Neutral / No Impacts	No change in GHG emissions and carbon footprint.
			-1	Slight Negative Impacts	Slight increase in GHG emissions and carbon footprint. Loss of GHG sequestering natural cover.
			-2	Moderate Negative Impacts	Moderate increase in GHG emissions and carbon footprint.
			-3	Significant Negative Impacts	Significant increase in GHG emissions and carbon footprint.
6B	Climatic Factors	Adaptation to potential climatic change.	3	Significant Positive Impacts	All Port receptors protected from climate change influenced flood risk for the 0.5% AEP event. Developments adaptable to climatic change influenced flood risk.
			2	Moderated Positive Impacts	Some Port receptors protected from climate change influenced flood risk for the 0.5% AEP event. Developments adaptable to climatic change influenced flood risk.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
			1	Slight Positive Impacts	Port developments are adaptable to climatic change influenced flood risk.
			0	Neutral / No Impacts	No change in risk at Port from climate change influenced flooding.
			-1	Slight Negative Impacts	Development not planned to be adaptable to climatic change.
			-2	Moderate Negative Impacts	Development not planned to be adaptable to climatic change. Increased risk of climate change influenced flooding to few receptors within the Port.
			-3	Significant Negative Impacts	Development not planned to be adaptable to climatic change. Increased risk of climate change influenced flooding to several receptors within and/or outside of the Port.
7A	Material Assets & Infrastructure	Protect existing and develop new material assets and infrastructure.	3	Significant Positive Impacts	Potential for significant development and operation of new port infrastructure with minimal disruption to existing material assets. Significantly increased port capacity and activity.
			2	Moderate Positive Impacts	Potential for development and operation of new port infrastructure with minimal disruption to existing material assets. Increased port capacity and activity.
			1	Slight Positive Impacts	Potential for development and operation of new port infrastructure with disruption to existing material assets. Slightly increased port capacity and activity.
			0	Neutral / No Impacts	No development of new port infrastructure. Current port capacity and activity maintained.
			-1	Slight Negative Impacts	Short term disturbance impacts during construction or maintenance works to existing material assets and infrastructure. Temporary disturbance to port

No.	Topic	Objective	Score	Score Description	Example Of Impacts
					capacity and activity.
			-2	Moderate Negative Impacts	No development of new port infrastructure with disruption to existing material assets and infrastructure. Potentially reduced Port capacity and activity. Hindrance to Port activity.
			-3	Significant Negative Impacts	Loss of existing material assets and infrastructure with no development of new port infrastructure. Potentially significantly reduced Port capacity and activity. Significant hindrance to Port activity.
7B	Material Assets & Infrastructure	Reduce waste generation and increase the rates of reuse and recycling at the Port.	3	Significant Positive Impacts	Potential for significant reduction in waste generation and significant increase in rates of reuse and recycling with increased Port capacity and activity.
			2	Moderate Positive Impacts	Potential for moderate reduction in waste generation and moderate increase in rates of reuse and recycling with increased Port capacity and activity.
			1	Slight Positive Impacts	Potential for slight reduction in waste generation and slight increase in rates of reuse and recycling. Re-use of construction materials within the site.
			0	Neutral / No Impacts	No change in percentage of waste directed to landfill. No change in percentage of waste reused and recycled.
			-1	Slight Negative Impacts	Potential for temporary increase in percentage of waste directed to landfill. Potential for temporary decrease in percentage of waste reused and recycled. Construction phase waste materials not being used within the site.
			-2	Moderate Negative Impacts	Potential for increases in percentage of waste directed to landfill. Potential for

No.	Topic	Objective	Score	Score Description	Example Of Impacts
				Impacts	decreases in percentage of waste reused and recycled.
			-3	Significant Negative Impacts	Potential for a significant increases in percentage of waste directed to landfill. Potential for a significant reductions in percentage of waste reused and recycled.
8A	Cultural, Architectural & Archaeological Heritage	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	3	Significant Positive Impacts	Potential for increased protection / preservation of several heritage features. Significant incorporation of heritage features into the Port Estate. Creation of amenity value for a number of architectural / cultural features.
			2	Moderate Positive Impacts	Potential for improvement on the setting of several heritage features. Incorporation of heritage features into the Port Estate. Protection of the existing amenity for a number of architectural / cultural features .
			1	Slight Positive Impacts	Potential for slight incorporation of heritage features into the Port Estate. Potential for increased awareness of port heritage features. Heritage information can be made available throughout the Dublin Port estate.
			0	Neutral / No Impacts	No loss or damage to heritage features. No negative impacts on heritage feature settings.
			-1	Slight Negative Impacts	Potential for impacts on the setting of locally designated heritage features. Slight reduction in the incorporation of heritage features into the Port Estate. Partial loss of access to heritage features.
			-2	Moderate Negative Impacts	Potential for impacts on the setting of international or nationally designated heritage features, or potential for loss of or damage to locally designated heritage features. Reduction in the incorporation of heritage features into the Port Estate.

No.	Topic	Objective	Score	Score Description	Example Of Impacts
9A	Landscape & Visual Amenity	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port.			Loss of access to architectural features reducing amenity value of such features.
			-3	Significant Negative Impacts	Potential for the loss of or damage to international or nationally designated heritage features. Significant reduction in the incorporation of heritage features into the Port Estate.
			3	Significant Positive Impacts	Potential enhancement of designated landscapes and scenic views, the landscape / seascape and visual amenity. Many receptors.
			2	Moderate Positive Impacts	Potential localised improvement of landscape / seascape and visual amenity. Several receptors.
			1	Slight Positive Impacts	Potential permanent improvement of local views. Few receptors.
			0	Neutral / No Impacts	No impacts on the landscape / seascape quality and visual amenity.
			-1	Slight Negative Impacts	Potential short term / disturbance impacts on local views and the local landscape / seascape. Few receptors.
			-2	Moderate Negative Impacts	Potential localised negative impacts on and deterioration of the landscape / seascape and visual amenity. Several receptors.
			-3	Significant Negative Impacts	Potential negative impacts on and deterioration of designated landscapes and views, the landscape / seascape quality and visual amenity. Many receptors.

APPENDIX F

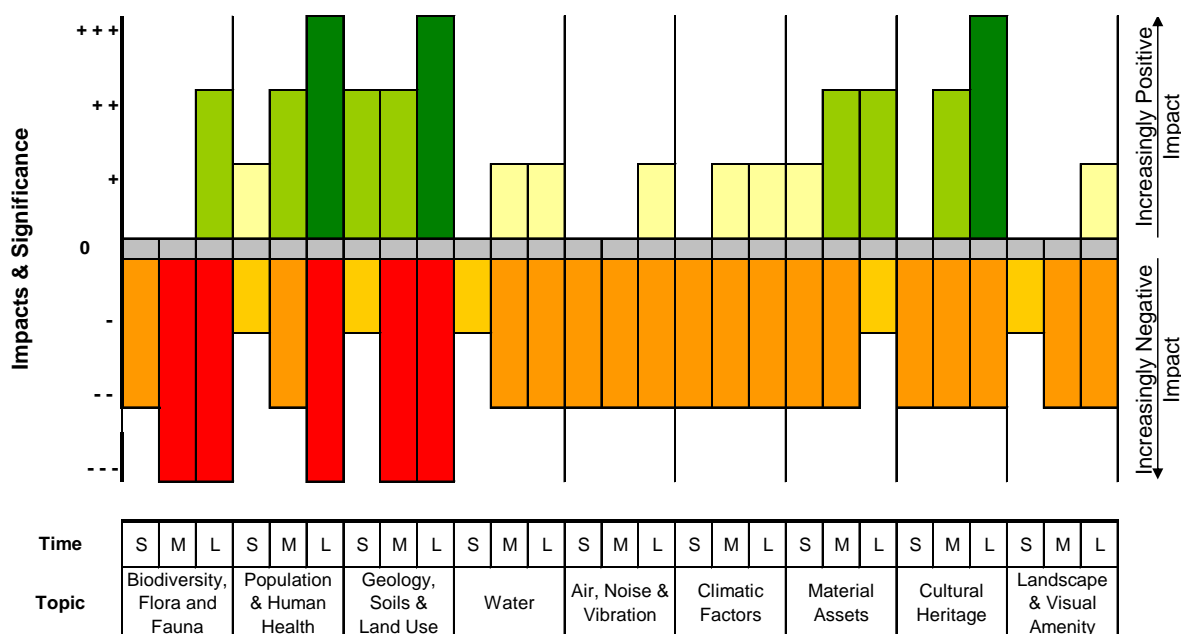
Assessment

The following section provides a quantitative and qualitative assessment of the proposed technically feasible phased developments available to the Masterplan 2040. The development options are scored against the SEO given in **Table 3.2**. The scoring guidelines used for this assessment can be found in **Appendix E** of this report. Following scoring of the development option against these SEOs there is a wider commentary on potential impacts by environmental topic area.

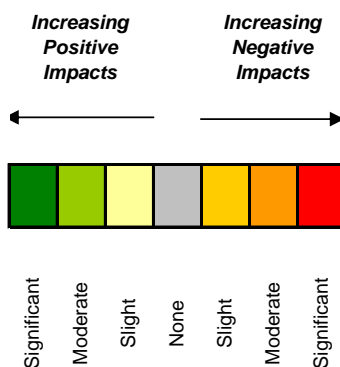
F.1 OPTION 1

Proposed Option			
The development projects outlined in the first iteration of the Dublin Port Masterplan 2012 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in Section 7.1 .			
Receiving Environment			
<ul style="list-style-type: none"> The existing key environmental issues for the receiving environment of the Dublin Port Masterplan can be found in Section 5 – Baseline and Relevant Environmental Issues. The receiving environment is concentrated in core Dublin Port Estate. The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term. 			
Environmental Assessment (Example)			
Environmental Topic	Short Term Timescale Impacts	Medium Term Timescale Impacts	Long Term Timescale Impacts
Biodiversity, Flora & Fauna (BFF)	-2	-3	-3/+2
Population & Human Health (PHH)	-1/+1	-2/+2	-3/+3
Geology, Soils and Landuse (S)	-1/+2	-3/+2	-3/+3
Water (W)	-1	-2/+1	-2/+1
Air, Noise & Vibration (ANV)	-2	-2	-2/+1
Climatic Factors (C)	-2	-2/+1	-2/+1
Material Assets & Infrastructure (MA)	-2/+1	-2/+2	-1/+2
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenity (L)	-1	-2	-2/+1

Summary Chart of Impacts



Key



Discussion of Impacts

Biodiversity, Flora & Fauna

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on bird species of South Dublin Bay and River Tolka Estuary SPA, including nesting terns on the dolphins directly south of Berths 52/53, across the River Liffey. There is the

potential for temporary, indirect, slight sedimentation impacts on the South Dublin Bay and River Tolka Estuary SPA and the Rockabill to Dalkey Island SAC directly downstream. There is the potential for temporary, direct and indirect, moderate disturbance impacts on porpoises of the Rockabill to Dalkey Island SAC from construction works. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on Habitats Directive protected Annex II freshwater and marine species including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be affected by construction. There is the potential for long term, indirect, moderate disturbance impacts on bird species found from the South Dublin Bay and River Tolka Estuary SPA with increased marine traffic to the area. There is the potential for temporary, direct and indirect, cumulative and in combination impacts from marine construction works and normal port operation, such as disturbance impacts from increased traffic to the area.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to terns nesting at the Dolphins, Dublin Docks pNHA which are directly adjacent to Berths 52/53, across the River Liffey. There is the potential for temporary, indirect sedimentation impacts to the biodiversity, flora and fauna of the Dublin Bay Biosphere, South Dublin Bay pNHA, North Dublin pNHA and Dolphins, Dublin Docklands pNHA. There is the potential for long term, indirect, moderate disturbance impacts to the biodiversity, flora and fauna of the Dublin Bay Biosphere, Dolphins, Dublin Docks pNHA, South Dublin Bay pNHA and North Dublin pNHA with the potential for increased marine traffic within the vicinity of these sites.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts on undesignated biodiversity and habitats in the vicinity of works; however this is a highly industrialised area that has already been altered by the long term development and operations of the Port. There is unlikely to be any permanent impacts on undesignated biodiversity and habitats from this phase of the proposed development.

There is the potential for temporary, cumulative and in combination impacts from construction work, with normal port operations ongoing in tandem with development, resulting in disturbance impacts on both designated and undesignated biodiversity, flora and fauna, in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the transitional and coastal waterbodies. There is the potential for cumulative and in combination, permanent impacts from the development, with normal port operations ongoing in tandem with increased port operations and activity, resulting in slightly increased disturbance impacts on both designated and undesignated biodiversity and habitats in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the waterbodies.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for temporary, direct, moderate disturbance impacts to the harbour porpoise of the Rockabill to Dalkey Island SAC from dredging activity. There is the potential for temporary, direct moderate disturbance impacts to Habitats Directive protected Annex II species such as Atlantic salmon, harbour seal and grey seal whose habitats and/or foraging areas may be affected by dredging activities. There is the potential for temporary, indirect sedimentation impacts during dredging to the habitats and species found within the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and North Bull Island Ramsar site. There is unlikely to be any permanent impacts on the European designated habitats and species within and in close vicinity to dredging activities, as this area is regularly dredged as part of Dublin Port's maintenance dredging, with the local habitats and species adjusted to this recurring activity.

There is the potential for temporary, indirect sedimentation impacts from dredging on the North Dublin Bay pNHA and North Bull Island Nature Reserve which are directly adjacent to a northern region of the navigation channel.

There is the potential for temporary, direct and indirect, slight disturbance and sedimentation impacts to local undesignated species however this is a regularly dredged area with the local habitats and species adjusted to this recurring activity.

Construction of public realm and greenway.

There is the potential for temporary, direct and indirect, moderate disturbance impacts of constructing a 4 km cycle and pedestrian greenway directly adjacent to the bird species of the South Dublin Bay and River Tolka Estuary SPA, the North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere. There is the potential for temporary, indirect slight sedimentation impacts from construction on the South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere. There is the potential for permanent, indirect, slight disturbance impacts on the bird species of the South Dublin Bay and River Tolka Estuary SPA, species within the North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere from increased numbers of people accessing the greenway. There is the potential for long term, direct, moderate positive impacts of the greenway to the bird species in the South Dublin Bay and River Tolka Estuary SPA, species within the North Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere as the greenway acts as an environmental buffer to port operations, and offers the opportunity for increased public education and awareness of environmental issues.

There is the potential for temporary, direct and indirect, construction phase, slight disturbance and sedimentation impacts on local undesignated biodiversity, however as this is a highly industrialised area and impacts are likely to be limited. There is the potential for long term, moderate positive impacts from the greenway on the local biodiversity, flora and fauna, with a naturalisation of this area, providing habitats and foraging area for local wildlife.

Construction of revised road network in Northern Lands.

There is the potential for temporary, indirect, slight disturbance impacts on local biodiversity, flora and fauna, within Dublin Port from construction of a revised road network, which are likely to result in noise emissions and vibration from the construction vehicles; however this is a heavily industrialised area with any biodiversity here accustomed to the ongoing impacts from the operation of the Port.

The NIS highlighted the potential for the following impacts arising from these developments in the short term:

- Highly turbid water arising from elevated suspended sediments during marine works has the potential to impact the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- There is the potential for construction and operational activity to result in pollution incidents with spillages or leakages of polluting substances into nearby water bodies, potentially impacting the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- Underwater acoustic energy escaping into the marine environment during significant marine engineering construction works has the potential to disturb or injure the qualifying interests of the Lambay Island SAC (harbour seal and grey seal) and the Rockabill to Dalkey Island SAC

(harbour porpoise).

- There is the potential for construction and operational phase aerial noise and visual disturbance impacts potentially impacting the integrity of the South Dublin Bay and River Tolka Estuary SPA, from development of the public realm and a greenway interfacing the Tolka Estuary, with proposed road network improvements behind the greenway corridor.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for temporary, direct, moderate disturbance impacts to the harbour porpoises of Rockabill to Dalkey Island SAC from dredging activity. There is the potential for temporary, direct, moderate disturbance impacts to Habitats Directive protected Annex II species, such as Atlantic salmon, harbour seal and grey seal, whose habitats and/or foraging areas may be affected by dredging activities. There is the potential for temporary, indirect, slight sedimentation impacts during dredging to the habitats and species found within the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and North Bull Island Ramsar site. There is unlikely to be any permanent impacts on the European designated habitats and species within and in close vicinity to dredging activities, as this area is regularly dredged as part of Dublin Port's maintenance dredging with the habitats and biodiversity adjusted to this recurring activity.

There is the potential for temporary, indirect, slight sedimentation impacts from dredging on the North Dublin Bay pNHA and North Bull Island Nature Reserve which are directly adjacent to a northern region of the navigation channel.

There is the potential for temporary, direct and indirect, slight sedimentation and disturbance impacts to local undesignated species, however this is a regularly dredged area with the biodiversity, flora and fauna adjusted to this recurring activity.

There is the potential for temporary, cumulative and in combination impacts from construction work, with normal port operations ongoing in tandem with development, resulting in disturbance impacts on both designated and undesignated biodiversity, flora and fauna, in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the transitional and coastal waterbodies. There is the potential for cumulative and in combination, permanent impacts from the development, with normal port operations ongoing in tandem with increased port operations and activity, resulting in slightly increased disturbance impacts on both designated and undesignated biodiversity and habitats in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the waterbodies.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA from major demolition and construction works upstream. There is the potential for temporary, indirect, slight sedimentation impacts on the species and habitats of the South Dublin Bay and River Tolka Estuary SPA, Sandymount Strand/Tolka Estuary Ramsar site and South Dublin Bay SAC. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on Habitats Directive designated Annex II freshwater and marine species including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging

areas may be affected by demolition and construction work.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to terns nesting at the Dolphins, Dublin Docks pNHA, which are downstream of the construction and demolition works. There is the potential for temporary, indirect, slight sedimentation impacts to the biodiversity and habitats of the Dublin Bay Biosphere, North Bull Island Nature Reserve, South Dublin Bay pNHA, North Dublin pNHA, and Dolphins, Dublin Docklands pNHA.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts on the undesignated biodiversity, flora and fauna in the vicinity of works; however this is a highly industrialised area that has already been significantly altered by the development and the operation of the Port. There is the potential for the permanent, slight increase in the area of undesignated habitat with the demolition of a section of the North Quay Wall.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA with the infilling of 21 ha of this protected area. There is the potential for temporary, direct and indirect, moderate sedimentation impacts to the bird species within the South Dublin Bay and River Tolka Estuary SPA from construction works. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on Habitats Directive designated Annex II species, including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be affected by the infilling. There is the potential for temporary, indirect, slight sedimentation impacts on the biodiversity, flora and fauna of the North Dublin Bay SAC, North Bull Island SPA, North Bull Island Ramsar site, Rockabill to Dalkey Island SAC, Sandymount Strand/Tolka Estuary Ramsar site and South Dublin Bay SAC. There is the potential for permanent loss of habitat for the bird species of the South Dublin Bay and River Tolka Estuary SPA with the loss of an area of this protected site, and the Habitats Directive Annex II protected species using the navigation channel. There is the potential for long term, direct and indirect, disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA and the Annex II protected species whose habitats and/or foraging areas are affected by the increased operations and traffic to this area. There is the potential for long term, indirect, moderate sedimentation impacts to the birds in the South Dublin Bay and River Tolka Estuary SPA with the potential for a change in coastal processes further altering the area.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA, which is located directly north of the area to be infilled, and the biodiversity of the Dublin Bay Biosphere. There is the potential for temporary, indirect, slight sedimentation impacts to the biodiversity, flora and fauna of the Dolphin, Dublin Docks pNHA, North Bull Island Nature Reserve, and South Dublin Bay pNHA from infilling and construction works. There is the potential for long term, direct and indirect, disturbance and sedimentation impacts to the biodiversity, flora and fauna of the North Dublin Bay pNHA and Dublin Bay Biosphere, with habitat loss, increased operations and changes in local coastal processes likely post-construction.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts to the local undesignated habitats and biodiversity from infilling and construction works. There is the potential for long term impacts to the local undesignated habitats and biodiversity with a loss of habitat. There is the potential for long term, indirect, moderate disturbance impacts to the local undesignated biodiversity, flora and fauna with increased traffic to the area. There is the

potential for long term, indirect, moderate sedimentation impacts to the local undesignated biodiversity, flora and fauna with changes in local coastal processes.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail. Extension/upgrade of Southern Greenway.

There is the potential for temporary, indirect, slight sedimentation impacts to the Habitats Directive designated Annex II designated species, such as the Atlantic salmon, freshwater crayfish, grey seal and harbour seal whose habitats and/or foraging areas may be affected by the construction works. There is the potential for temporary, direct and indirect, moderate disturbance impacts of extending/upgrading the Southern Greenway directly adjacent to the bird species found within the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere. There is the potential for temporary, indirect, moderate sedimentation impacts from construction of the greenway in close vicinity of the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere. There is the potential for long term, indirect, slight disturbance impacts on the species found within the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere with an increase in numbers of people visiting the greenway. There is the potential for long term, direct, positive impacts of the greenway on the species within the South Dublin Bay and River Tolka Estuary SPA, South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere as the greenway acts as an environmental buffer to port operations and offers the opportunity for increased public education and awareness of environmental issues.

There is the potential for temporary, direct and indirect, slight construction phase disturbance and sedimentation impacts on local undesignated biodiversity, flora and fauna, however as this is a highly industrialised area impacts are likely to be limited. There is the potential for long term, moderate positive impacts from the greenway on the local biodiversity with a naturalisation of this area, providing habitats and foraging area for wildlife.

Creation of a 400m turning basin at the eastern entrance to the Port's working quays.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA with the creation of the manoeuvring space, part of which may encroach upon the protected area. There is the potential for temporary, direct and indirect, moderate sedimentation impacts to the South Dublin Bay and River Tolka Estuary SPA with the dredging of the manoeuvring space. There is the potential for temporary, direct and indirect, disturbance impacts on Habitats Directive designated Annex II species, including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals whose habitats and/or foraging areas may be affected by dredging. There is the potential for temporary, indirect, slight sedimentation impacts on the biodiversity and habitats of North Dublin Bay SAC, North Bull Island SPA, North Bull Island Ramsar site, Rockabill to Dalkey Island SAC, Sandymount Strand/Tolka Estuary Ramsar site and South Dublin Bay SAC. There is the potential for permanent, direct alterations of the habitats used by the Habitats Directive designated Annex II species within this area with the creation of this manoeuvring space, although the manoeuvring space is predominantly located in the navigation channel, which is routinely dredged as part of DPC's maintenance dredging. There is the potential for permanent, indirect disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA and the Habitats Directive designated Annex II species whose habitats and/or foraging areas may be affected by increased

operations and traffic to this area, with vessels of greater size visiting the Port more often.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA, which is located directly north of the manoeuvring space and the biodiversity of the Dublin Bay Biosphere. There is the potential for temporary, indirect moderate sedimentation impacts to the Dolphin, Dublin Docks pNHA, North Bull Island Nature Reserve, and South Dublin Bay pNHA from construction works. There is the potential for long term, direct and indirect, disturbance impacts to the North Dublin Bay pNHA and biodiversity of the Dublin Bay Biosphere with the manoeuvring space allowing for increasing vessel sizes and increased frequency of visits.

There is the potential for temporary, direct and indirect, slight sedimentation and disturbance impacts to local undesignated species; however this is a regularly dredged area with the habitats and species adjusted to this recurring activity. There is the potential for long term, indirect, moderate disturbance impacts to local undesignated biodiversity, flora and fauna with a greater frequency of vessels and vessel sizes using the manoeuvring space, with increasing noise and potential for accidental spillages in the area.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction and reclamation works on bird species of South Dublin Bay and River Tolka Estuary SPA including nesting terns on the dolphins directly adjacent to and within the area to be reclaimed. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction and reclamation works on Habitats Directive designated Annex II freshwater and marine species including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be within the navigation channel directly within and adjacent to construction works. There is the potential for temporary, indirect, slight sedimentation impacts on the bird species of the South Dublin Bay and River Tolka Estuary SPA, and the porpoises of the Rockabill to Dalkey Island SAC. There is the potential for temporary, direct and indirect, moderate disturbance impacts on porpoises of the Rockabill to Dalkey Island SAC, from noise and vibration from piling activities and impacts from accidental pollution releases into the water body. There is the potential for a long term to permanent loss of terns from the South Dublin Bay and River Tolka Estuary SPA with the reclamation work. There is the potential for the long term or permanent loss of habitat for the Habitats Directive designated Annex II with the reclamation work. There is the potential for long term, indirect, moderate disturbance impacts on bird species found within the South Dublin Bay and River Tolka Estuary SPA with increased marine traffic to the area.

There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction and reclamation works on the Dolphins, Dublin Docks pNHA directly adjacent to and within the area to be reclaimed. There is the potential for a permanent loss of the Dolphins, Dublin Docks pNHA resulting from the reclamation work. There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA, and biodiversity of the Dublin Bay Biosphere from major reclamation and construction works. There is the potential for long term, indirect, disturbance and sedimentation impacts to the North Dublin Bay pNHA, and biodiversity of the Dublin Bay Biosphere with increased activity to the Southern Port Lands.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts on undesignated biodiversity, flora and fauna in the vicinity of works; however this is a highly industrialised area that has already been significantly altered by development and the operation of the Port. There is the potential for permanent loss in the area of undesignated habitat with the reclamation of land off the Poolbeg Peninsula.

The NIS highlighted the potential for the following impacts arising from these developments in the medium term:

- Highly turbid water arising from elevated suspended sediments during marine works has the potential to impact the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- There is the potential for construction and operational activity to result in pollution incidents with spillages or leakages of polluting substances into nearby water bodies, potentially impacting the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- Underwater acoustic energy escaping into the marine environment during significant marine engineering construction works (piling and dredging) has the potential to disturb or injure the qualifying interests of the Lambay Island SAC (harbour seal and grey seal) and the Rockabill to Dalkey Island SAC (harbour porpoise).
- There is the potential for construction and operational phase aerial noise and visual disturbance impacts resulting from the following developments, potentially impacting the integrity of the South Dublin Bay and River Tolka Estuary SPA:
 - Development of public realm and a greenway (and to a lesser degree port road improvements also) will interface with South Dublin Bay/Sandymount Strand.
 - Reclamation and redevelopment of deepwater berthage on the southern port lands will occur where the principal breeding colonies of the tern populations are located.
- There is the potential for habitat loss to permanently impact the integrity of the South Dublin Bay and River Tolka Estuary SPA, with the removal of dolphins which SPA feature tern species breed on as part of the redevelopment of Southern Port Lands.

Population & Human Health

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary, indirect, slight disturbance impacts on the Ringsend, East Wall, Clontarf and Sandymount communities from development activities, such as piling to construct new quay walls, increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for long

term, indirect, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with an increase in port operations, leading to increases in traffic through the local communities with increased noise emissions, air emissions and vibration levels, potentially impacting on human health and wellbeing. There is the potential for temporary, cumulative and in combination impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for long term, cumulative and in combination, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities to the local communities from implementation of this option in the short term of the Masterplan.

There is the potential for temporary, direct and indirect, construction phase increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials, and then indirect increases in local employment from provision of services to construction staff. There is the potential for long term, direct and indirect, increases in employment with greater capacity at Dublin Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is unlikely to be any temporary impacts on human health and risks to the local communities as a result of dredging activities. There is the potential for long term indirect, impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with the dredged navigation channel allowing larger vessels contributing to greater air emissions to enter the Port and requiring more support such as buses for cruise liner passengers, which will increase local noise emissions, air emissions and vibration levels to the Ringsend, East Wall, Clontarf and Sandymount communities potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities to the local communities from implementation of this option in the short term of the Masterplan.

There is the potential for direct, temporary, slight increases in employment throughout the dredging programme with personnel needed to undertake the dredging and support services. There is the potential for indirect, long term, positive impacts from increases in employment with the dredged channel allowing larger vessels into Dublin Port, increasing the capacity of the Port.

Construction of public realm and greenway.

There is the potential for indirect, temporary, slight disturbance impacts from the construction of a 4km cycle and pedestrian greenway east of the East Wall local community and south of the Clontarf local community (across the Tolka Estuary). There is the potential for direct, long term improvements in human health and wellbeing, and a decrease in the likelihood of disturbance to

the local communities as the greenway allows for recreational activity to occur improving the health of those using it, and acts as an environmental buffer to the East Wall and Clontarf communities from the Port's activities. There is the potential for cumulative and in combination, temporary impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in slightly increased noise emissions, air emissions and vibration levels potentially impacting on human health.

There is the potential for a direct, long term increase in amenity facilities at the Port with the provision of a 4km cycle and pedestrian greenway, which is likely to provide significant positive impacts to the health and wellbeing of local users.

There is the potential for direct, temporary, construction phase increases in employment opportunities, which may provide for slight positive impacts on local employment levels.

Construction of revised road network in Northern Lands.

There is the potential for indirect, temporary, slight disturbance impacts, particularly on the East Wall and Ringsend communities, with an increase in construction vehicles, resulting in increased traffic emissions, construction emissions, noise levels and vibration levels, potentially negatively impacting on human health and wellbeing. There is the potential for indirect, long term impacts, particularly on the East Wall and Ringsend communities, with the revised road network allowing for greater road traffic to the Port, resulting in increased traffic emissions, noise levels and vibration levels potentially negatively impacting on human health and wellbeing. There is the potential for cumulative and in combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities, with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially locally impacting on human health and wellbeing. There is the potential for cumulative and in combination, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities for the local community from implementation of this option in the short term of the Masterplan.

There is the potential for direct and indirect, temporary, construction phase increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials, providing slight positive impacts on local employment opportunities.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is unlikely to be any temporary impacts in human health and risks to the local communities as a result of dredging activities. There is the potential for indirect, long term, moderate negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with the dredged navigation channel allowing larger vessels with greater air emissions to enter the Port, requiring more support such as buses for cruise liner passengers which will increase noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the

potential for cumulative and in combination, long term, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels to the Ringsend, East Wall, Clontarf and Sandymount communities potentially impacting on human health.

There is unlikely to be any change in social infrastructure and amenities for the local community from implementation of this option in the medium term of the Masterplan.

There is the potential for direct and indirect, temporary, construction phase increases in employment throughout the dredging programme with personnel needed to undertake the dredging and support services, leading to slight positive impacts on local employment levels. There is the potential for indirect, permanent increases in employment with the dredged channel allowing larger vessels into Dublin Port, increasing the capacity at the Port, which may lead to significant positive impacts on local employment in the long term.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for direct and indirect, temporary, moderate disturbance and nuisance impacts particularly on the East Wall and Ringsend communities, from the demolition of the North Quay Wall, with increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for indirect, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with an increase in port operations leading to increases in traffic through the local communities, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination permanent impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health.

There is unlikely to be any change in social infrastructure and amenities to the local communities from implementation of this option in the medium term of the Masterplan.

There is the potential for direct and indirect, temporary, construction phase increases in employment including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, permanent increases in employment with a greater capacity at Dublin Port, potentially giving significant positive impacts on local employment opportunities.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for direct and indirect, temporary, moderate negative disturbance and nuisance impacts, predominantly on the Clontarf community which is located directly north of the site (across the Tolka Estuary), with increased traffic emissions, construction emissions, noise

levels and vibration levels to the area, potentially impacting on human health and wellbeing. There is the potential for indirect, long term, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with increases in port operations leading to increases in traffic through the local communities, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, long term, significant negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is the potential for improvements of existing social infrastructure with the Northern cycle and pedestrian greenway being extended into this area, providing moderate positive impacts in the medium to long term.

There is the potential for direct and indirect, temporary construction phase increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, long term increases in employment with greater capacity at Dublin Port, giving significant positive impacts on local employment opportunities.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for indirect, temporary, slight negative disturbance impacts, predominantly the East Wall and Ringsend local communities, from increases in construction traffic to the area resulting in increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing.

There is the potential for a direct, long term increase in social infrastructure at the Port with the provision of a graving dock, pump house and interpretive zone, leading to significant positive impacts.

There is the potential for direct, temporary, slight increases in employment opportunities, during the construction phase, from the implementation of this option in the medium term.

Creation of a 400m manoeuvring space

There is unlikely to be any temporary impacts in human health and risks to the local communities as a result of dredging activities to create the manoeuvring space. There is the potential for indirect, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with the manoeuvring space allowing larger vessels and more frequent visits, with greater air emissions, to enter the Port, requiring more support such as buses for cruise liner passengers with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, long term, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations

ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities for the local community from the implementation of this option in the medium term.

There is the potential for direct, temporary, construction phase increases in employment throughout the dredging programme with personnel needed to undertake the dredging and support services. There is the potential for indirect, long term increases in employment with the dredged channel allowing larger vessels into Dublin Port, increasing the capacity at the Port, leading to long term significant positive impacts on local employment.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for indirect, construction phase, slight negative disturbance impacts, particularly to the East Wall and Ringsend communities, from development activities resulting in increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for indirect, long term, significant negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with an increase in port operations and the development of a new bridge over the River Liffey, leading to increases in traffic through the local communities, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in combination, temporary to long term, negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities, with normal port operations ongoing in tandem with development and then increased operations, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities for the local community from the implementation of this option in the medium term.

There is the potential for direct and indirect, temporary, construction phase increases in employment including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, long term increases in employment with a greater capacity at Dublin Port, leading to long term significant positive impacts on local employment opportunities.

Extension/upgrade of Southern Greenway.

There is the potential for indirect, temporary, slight negative disturbance impacts, predominantly on the Ringsend community which is located directly south of the proposed greenway, from the construction of the Southern cycle and pedestrian greenway resulting in increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for direct, long term improvements in human health and wellbeing, and a decrease in the likelihood of disturbance to the local communities as the greenway allows for recreational activity, improving the health of local users and it acts as an environmental buffer to the Ringsend community from the Port's activities. There is the potential for cumulative and in combination, temporary, slight negative impacts on the Ringsend, East Wall,

Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is the potential for a direct, long term increase in amenity facilities at the Port with the provision of the Southern cycle and pedestrian greenway, leading to long term positive impacts on the local community.

There is the potential for direct, temporary, construction phase increases in employment opportunities, leading to slight positive impacts on local employment opportunities.

Geology, Soils & Landuse

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for permanent, slight alteration of natural coastal processes and sediment transport with the infilling of Berths 52/53.

There is the potential for direct, permanent, remediation and clean-up of contaminated soils in the vicinity of the Port, such as asbestos materials in the Alexandra Basin West (the revetment) being removed as part of these works, leading to moderate positive impacts. There is the potential for indirect, long term increases in contamination of soils and sediments with construction works likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

Dredging at Alexandra Basin West and the navigation channel has the slight potential for short to long term alterations to local coastal processes, however no real change to the area of existing functional soil and land resource, with increased port activity and throughput.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from the disturbance of materials by the dredging activity in potentially contaminated areas, thereby mobilising contaminants. There is the potential for direct, permanent, remediation and clean-up of some contaminated soils in the vicinity of the Port, with dredging occurring in areas of potentially contaminated soils within the navigation channel and Alexandra Basin West, leading to moderate positive impacts in the long term. There is the potential for indirect, long term increases in contamination of soils and sediments with dredging activities likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Construction of public realm and greenway.

Development of the public realm areas and greenway is unlikely to have any impacts on existing coastal erosion and coastal processes, and is unlikely to have any impacts on port operations.

Development of the public realm areas and greenway has the potential for short term, construction phase contamination of soils and sediments, however there are unlikely to be any operational impacts in the medium and long term.

Construction of revised road network in Northern Lands.

Development of the revised road network in the Northern Lands is unlikely to have any impacts on existing coastal erosion and coastal processes, and will contribute to increased port activity and throughput.

Development of the revised road network in the Northern Lands has the potential for short term, construction phase contamination of soils and sediments, however there are unlikely to be any operational impacts in the medium and long term.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

Completion of the capital dredging programme at Alexandra Basin West and the navigation channel has the slight potential for medium to long term alterations to local coastal processes, however no real change to the area of existing functional soil and land resource, with increased port activity and throughput.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from the disturbance of materials by the dredging activity in potentially contaminated areas, thereby mobilising contaminants. There is the potential for direct, permanent, remediation and clean-up of some contaminated soils in the vicinity of the Port, with dredging occurring in areas of potentially contaminated soils within the navigation channel and Alexandra Basin West, leading to moderate positive impacts in the long term. There is the potential for indirect, long term increases in contamination of soils and sediments with dredging activities likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Completion of the ABR Project with the demolition of North Quay Wall.

There will be the permanent loss of land resource with the demolition of the North Quay Wall; however this is a man-made feature being removed to allow greater access to the Port.

There is the potential for direct, temporary, construction phase contamination of soils and sediments with the demolition of the North Quay Wall, with the potential for mobilisation of contaminants. There is the potential for indirect, long term increase in contamination of soils and sediments with construction work likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha,

development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for the permanent gain of approximately 21ha of protected land resource from reclamation of land from the estuary for development of Ro-Ro facilities, leading to moderate positive impacts. However there is also the permanent loss of seabed from the reclamation, leading to moderate negative impacts. There is the potential for the medium to long term alteration of natural coastal processes and sediment transport with reclamation works.

There is the potential for direct, temporary, construction phase contamination of soils and sediments with the construction of the Ro-Ro facility in natural marine habitat. There is the potential for direct, permanent, contamination and sterilisation of soils and sediments with the extension of port land into natural marine habitat. There is the potential for indirect, long term increases in contamination of soils and sediments with construction works likely to result in increases in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is unlikely to be any temporary or permanent change in areas of existing functional soil and land resource, coastal processes, and no change in port activity from implementation of this option.

The public realm works are unlikely to cause any temporary or permanent change in the potential for contamination and sterilisation of soils and sediments, and cause no change in port activity.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for localised loss of seabed in the manoeuvring space and the potential for localised alterations of coastal processes in the medium to long term, however this contributes to increased port activity.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from the disturbance of potentially contaminated sediments, causing their mobilisation. There is the potential for indirect, long term increases in contamination of soils and sediments with the manoeuvring space likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for direct, permanent loss of seabed resource with the reclamation of 12.6 ha in front of the Poolbeg Power Station; however this is a historically industrialised, non-pristine area with port activity being the norm. There is the potential for alteration of natural coastal processes and sediment transport with reclamation works. With this option there is the long term gain of a new land resource for port activities, protected from coastal erosion.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from construction activities in a number of locations, however particularly in the 12.6 ha reclamation. There is the potential for indirect, long term increases in contamination of soils and sediments with the construction likely to result in an increase in port activity, increasing the potential for incidences of contaminant release to the soils and sediment.

Extension/upgrade of Southern Greenway.

Development of the greenway is unlikely to have any impacts on existing coastal erosion and coastal processes, and is unlikely to have any impacts on port operations.

Development of the greenway has the potential for temporary, construction phase contamination of soils and sediments, however there are unlikely to be any operational impacts in the long term.

Water

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, construction phase, slight negative impacts on water quality with construction works directly in and adjacent to the Liffey Estuary Lower water body, potentially resulting in accidental releases and pollutant runoff. There is the potential for direct, permanent, slight negative impacts on water body morphology with increased man-made structures at the Port including the infilling at Berths 52/53. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. There is the potential for indirect, long term impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in combination impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for direct, temporary, construction phase increases in water usage and wastewater generated at Dublin Port. There is the potential for indirect, long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on existing facilities. There is the potential for long term, cumulative and in combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with port development and the increase in throughput post-construction phase.

Several areas of the proposed ABR project have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas have however been planned incorporating flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure. As

this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for direct, temporary, slight negative impacts on water quality with dredging activities increasing suspended solids within the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for indirect, long term, moderate negative impacts to water quality with increases in the frequency of visits and size of vessels passing through the Port, resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for long term, cumulative and in combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the dredging, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for indirect, long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem the increase in throughput post-dredging.

The capital dredging programme will not be impacted by and will have no impact on local flood risk.

Construction of public realm and greenway.

There is the potential for direct, temporary, slight negative construction phase impacts on water quality with construction works directly adjacent to the Tolka Estuary water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for long term, localised, slight improvement of water quality with reduced potential for spills and runoff with the greenway acting as a buffer between port operations and the natural environment. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with proposed development, resulting in greater potential for accidental release of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is unlikely to be any long term change in water consumption and wastewater generated from the public realm and greenway developments.

Several areas of the proposed greenway and public realm have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. These developments are likely to be considered water compatible, however may still require further flood risk assessment at the detailed level. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Construction of revised road network in Northern Lands.

There is the potential for direct, temporary, slight negative construction phase impacts on water

quality to the surrounding Liffey Estuary Lower and Tolka Estuary water bodies from greater potential for accidental release and runoff of pollutants. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with construction, resulting in greater potential for accidental releases and run off of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the construction, resulting in greater potential for accidental release and run off of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, cumulative and in combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with the increase in throughput post-construction phase.

Several areas of the proposed revised road network in the Northern lands have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. This development is likely to be considered less vulnerable, however may still require further flood risk assessment at the detailed level. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for direct, temporary, slight negative impacts on water quality from dredging activities by increasing suspended solids within the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in the frequency of visits and size of vessels passing through the Port, resulting in greater potential for accidental release and runoff of pollutants into the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for long term, cumulative and in combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the dredging, resulting in greater potential for accidental releases and run off of pollutants into the water bodies surrounding Dublin Port.

There is the potential for long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with the increase in throughput post-dredging.

The capital dredging programme will not be impacted by and will have no impact on local flood risk.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for direct, temporary, construction phase, slight negative impacts on water quality with construction works directly within the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in operations at the Port

resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for the permanent partial removal of the man-made North Quay Wall structure; however the coastal morphology will still be heavily modified. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for permanent, cumulative and in combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in throughput post-construction phase.

The North Quay Wall has not been identified as being at risk of coastal flooding and will not be impacted by and should have no impact on local flood risk.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for direct, temporary construction phase, slight negative impacts on water quality with construction works directly in and adjacent to the Liffey Estuary Lower water body resulting in greater potential for accidental release and runoff of pollutants. There is the potential for direct, permanent, moderate negative impacts on water body morphology with increased man-made structures at the Port including the 21 ha Ro-Ro facility. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental release and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, giving greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on existing current facilities. There is the potential for long term, cumulative and in combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in throughput post-construction phase.

The proposed area of infilling for the Dublin Gateway Project could be within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas will require further flood risk assessment at the detailed level to ascertain if the proposed infrastructure is appropriate. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, slight negative construction phase impacts on water quality with construction works adjacent to the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port. These developments are however unlikely to negatively impact water status in the long term.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, slight increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people using Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in people using the Port post-construction phase.

Several areas of the proposed public realm and heritage trail have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas will require further flood risk assessment at the detailed level to ascertain if the proposed infrastructure is appropriate. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct, temporary, slight negative impacts on water quality from the dredging required to create the manoeuvring space, increasing suspended solids within the Liffey Estuary Lower water body. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in vessel trip frequency and size passing through the Port resulting in greater potential for accidental release and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for long term, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the dredging, resulting in greater potential for accidental release and run off of pollutants into the water bodies surrounding Dublin Port.

There is the potential for long term, indirect increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on existing current facilities. There is the potential for long term, cumulative and in

combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem the increase in throughput post-dredging.

The creation of a manoeuvring space at the eastern entrance to the Port's working quays will not be impacted by and will have no impact on local flood risk.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for direct, temporary construction phase, slight negative impacts on water quality with construction works directly in and adjacent to the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for direct, long term, slight negative impacts on water body morphology with increased man-made structures at the Port including the reclamation of 12.6 ha of seabed. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, providing greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the current facilities. There is the potential for long term cumulative and in combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with port development and the increase in throughput post-construction phase.

The development of a bridge over the River Liffey should not be impacted by and will have no impact on local coastal flood risk, however has the slight potential to cause additional back up effects on fluvial flooding from the River Liffey, with the potential for direct and indirect negative impacts in the long term. Several areas of the proposed revised road network in the Southern lands and the area for development of a multi-purpose berth in front of the Poolbeg Power Station have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. These developments are likely to be considered less vulnerable or water compatible, however may still require further flood risk assessment at the detailed level. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Extension/upgrade of Southern Greenway.

There is the potential for direct, temporary construction phase, slight negative impacts on water

quality with construction works directly adjacent to the Dublin Bay and Liffey Estuary Lower water bodies resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for long term, localised improvement of water quality with reduced potential for spills and runoff with the greenway acting as a buffer between port operations and the natural environment. There is unlikely to be any long term impacts on water status and quality from the implementation of this option.

There is the potential for temporary, construction phase increases in water usage and wastewater generated at Dublin Port during the development of this option. There is unlikely to be any long term changes in water consumption and wastewater generated from implementation of this option.

The areas of the proposed southern greenway have not been identified as being at risk of coastal or fluvial flooding and will not be impacted by and will have no impact on local flood risk.

Air, Noise and Vibration

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall, Ringsend, Clontarf and Sandymount communities. There is the potential for indirect, long term, infrequent breaches of local air quality, noise and vibration thresholds, with increased industrial operation and traffic to this area post-construction, however are not likely to impact the local communities. There is the potential for temporary cumulative and in combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased traffic and ships to Dublin Port post-dredging, however not likely to impact the local communities. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased traffic and ships post-construction.

Construction of public realm and greenway.

There is the potential for direct, temporary, infrequent construction phase breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for long term, slight positive impacts from reductions in air pollution, noise impacts and vibration impacts with the greenway acting as a buffer between port activity and the Clontarf community. There is the potential for temporary, cumulative and in combination impacts on air

quality, noise and vibration with normal port operations ongoing in tandem with development; however these impacts are unlikely to extend into the long term.

Construction of revised road network in Northern Lands.

There is the potential for direct, temporary, infrequent, construction phase breaches of local air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for indirect, long term, infrequent breaches of local air quality, noise and vibration thresholds, as a result of increased traffic within the Northern Port Lands, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased traffic and ships to Dublin Port post-dredging, which are however not likely to impact the local communities. There is the potential for long term, cumulative and in combination, slight negative, impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased traffic and ships post-construction.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for direct, temporary, moderate negative construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall and Ringsend communities, from traffic, dust and large machinery works. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased industrial operation and traffic to this area post-construction, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction, from increased port traffic and materials handling.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the Clontarf and Ringsend communities, from traffic, dust and large machinery works. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased industrial operation and traffic to this area post-construction, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise

and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction, from increased port traffic and materials handling.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, infrequent, construction phase, local breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is unlikely to be any long term impacts on air quality, noise and vibration from these developments.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for indirect, long term, infrequent breaches of local air quality, noise and vibration thresholds, with increased traffic and ships to Dublin Port post-dredging, which are however not likely to impact the local communities. There is the potential for long term, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased traffic and ships post-construction.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall and Ringsend communities. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds with increased industrial operation and traffic to this area post-construction, potentially impacting the East Wall and Ringsend communities. There is the potential for temporary, cumulative and in combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction.

Extension/upgrade of Southern Greenway.

There is the potential for direct, temporary, infrequent construction phase breaches of local air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for long term, slight reductions in air pollution, noise impacts and vibration impacts with the greenway acting as a buffer between port activity and the Ringsend community. There is the potential for temporary, cumulative and in combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development.

Climatic Factors

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, moderate, construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port and a loss of GHG sequestering natural cover. There is the potential for temporary cumulative and in combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

All areas of the proposed ABR project have been identified as being within either Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments have been planned at the detailed project level to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for direct, temporary, slight, construction phase increases in GHG emissions and carbon footprint from dredging over the course of the dredging programme. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with the dredging resulting in increases in vessel trips and sizes to the Port. There is the potential for temporary cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with dredging. There is the potential for long term, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased ship traffic resulting from dredging works.

The capital dredging programme will not be impacted by and will have no impact on climatic change influenced flooding.

Construction of public realm and greenway.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for direct, long term, slight decreases in GHG emissions and carbon footprint with the greenway enhancing natural GHG sequestering vegetation. There is the potential for temporary cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with construction works.

All areas of the proposed greenway and public realm have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced

flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Construction of revised road network in Northern Lands.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with construction resulting in increases in road traffic within the Northern Port Lands. There is the potential for temporary cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with construction of the revised road network. There is the potential for long term, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased road traffic resulting from the revised road network.

All areas of the proposed revised road network in the Northern lands have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint from dredging over the course of the dredging programme. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with the dredging resulting in increases in vessel trips and sizes to the Port. There is the potential for temporary, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with dredging. There is the potential for long term, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased ship traffic resulting from dredging works.

The capital dredging programme will not be impacted by and will have no impact on climatic change influenced flooding.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for direct, temporary, moderate, construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port. There is the potential for temporary, cumulative and in combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

Some areas of the North Quay Wall have been identified as being within Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for direct, temporary, moderate construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port. There is the potential for temporary cumulative and in combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

The proposed area of infilling for the Dublin Gateway Project could be within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for temporary, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There are unlikely to be any long term impacts of the development on GHG emissions and Carbon footprints.

The proposed areas for public realm and heritage trail have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint from dredging to create the manoeuvring space. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with the manoeuvring space resulting in increases in vessel trips and sizes to the Port. There is the potential for temporary, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with dredging activity. There is the potential for long

term, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased ship traffic and ship size resulting from the manoeuvring space.

The creation of a manoeuvring space at the eastern entrance to the Port's working quays will not be impacted by and will have no impact on climatic change influenced flooding.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for direct, temporary, moderate construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port and a loss of GHG sequestering natural cover. There is the potential for temporary, cumulative and in combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

The development of a bridge over the River Liffey should not be impacted by and will have no impact on local coastal flood risk, however has the potential to cause additional back up effects on fluvial flooding from the River Liffey, with the potential for direct and indirect, moderate negative impacts in the long term. Several areas of the proposed revised road network in the Southern lands and all the area for development of a multi-purpose berth in front of the Poolbeg Power Station has been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments are not planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Extension/upgrade of Southern Greenway.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for direct, long term, slight decreases in GHG emissions and carbon footprint with the greenway enhancing natural GHG sequestering vegetation. There is the potential for temporary, cumulative and in combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with construction works.

The areas of the proposed southern greenway have not been identified as being at risk of coastal or fluvial flooding, for mid-range future scenario flood risk, and will not be impacted by and will have no impact on local flood risk.

Material Assets & Infrastructure

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

Development of the ABR project will provide new port infrastructure in the medium to long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the short term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 60 million tonnes. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

Development of the ABR project is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the short term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for short term disturbance impacts to port operations and infrastructure as a result of the capital dredging programme. This dredging programme however provides the potential for medium and long term increases in port activity and throughput by allowing for larger and greater numbers of vessels visiting the Port. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

The capital dredging programme gives the potential for short term, temporary, moderate increases in dredge materials directed to the offshore dumpsite, however there is no net loss of materials from the Bay with tides constantly recycling/moving dredged fine sands from the dumpsite around the Dublin Bay area. Indirectly this dredging contributes to increased capacity at the Port that is likely to lead to medium and long term increases in wastes generated by Port activity. However based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Construction of public realm and greenway.

Development and operation of the new public realm and greenway will provide new, green infrastructure for the public to use in the medium and term, however may have slight disturbance impacts to local port activity in the short term.

Development of the public realm and greenway is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be

additional significant wastes generated by the public realm and greenway areas in the medium and long term during operation, and materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Construction of revised road network in Northern Lands.

Development and operation of the revised road network in the Northern Lands will provide new, improved transport infrastructure for Port activity in the medium and term, however may have slight disturbance impacts to local port activity in the short term. The revised road network will service the increases in port activity and throughput in the Northern Lands in the medium and long term of the Plan.

Development of the revised road network in the Northern Lands is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the revised road network in the Northern Lands in the medium and long term during operation, and materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for short term disturbance impacts to port operations and infrastructure as a result of the capital dredging programme. This dredging programme however provides the potential for medium and long term increases in port activity and throughput by allowing for larger and greater numbers of vessels visiting the Port. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the long term.

The capital dredging programme gives the potential for medium term, temporary, moderate increases in dredge materials directed to the offshore dumpsite, however there is no net loss of materials from the Bay with tides constantly recycling/moving dredged fine sands from the dumpsite around the Dublin Bay area. Indirectly this dredging contributes to increased capacity at the Port that is likely to lead to long term increases in wastes generated by Port activity. However based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Completion of the ABR Project with the demolition of North Quay Wall.

The demolition of part of the North Quay Wall will provide new port infrastructure in the medium to long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. This development in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 60 million tonnes. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

The demolition of part of the North Quay Wall is likely to temporarily create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. This development in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

Completion of the Dublin Gateway Project will provide new port infrastructure in the long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 60 million tonnes. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the long term.

Completion of the Dublin Gateway Project is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the long term, including cumulatively or in-combination with wastes from ongoing port operations.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

Development and operation of the new public realm in the northern Port Lands will provide new recreational infrastructure for the public to use in the long term, however may temporarily have slight disturbance impacts to local port activity during construction.

Development of the public realm is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the public realm in the long term during operation, and materials sent to landfill should not increase in the long term, including cumulatively or in-combination with wastes from ongoing port operations.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for temporary, slight disturbance impacts to port operations and infrastructure as a result of the creation of a manoeuvring space. This manoeuvring space however provides the potential for long term increases in port activity and throughput by allowing for larger and more

frequent vessels visiting the Port. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

The creation of the manoeuvring space, requiring dredging works, gives the potential for temporary, slight increases in dredge materials directed to the offshore dumpsite, however this activity will not continue into the long term. Indirectly this dredging contributes to increased capacity at the Port that is likely to lead to long term increases in wastes generated by Port activity. However based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the long term, including cumulatively or in-combination with wastes from ongoing port operations.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

Development of the Southern Port Lands and bridge will provide new port infrastructure in the long term, with minimal temporary disruption to existing port activity. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 60 million tonnes. Increased Port throughput is however likely to indirectly cause slightly increased disturbance and disruption to local traffic and the local road network in the medium and long term.

Development of the Southern Port Lands and bridge is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Extension/upgrade of Southern Greenway.

Development and operation of the new greenway will provide new green infrastructure for the public to use in the long term, however may have temporary, slight disturbance impacts to local port activity.

Development of the Southern greenway is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the greenway in the long term during operation, and materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Cultural, Architectural & Archaeological Heritage

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary construction phase, moderate impacts on the setting of the NIAH sites in close vicinity to Alexandra Basin West, and a potential for loss of or damage to locally designated heritage features. There is the potential for permanent loss or damage to unidentified heritage features with the infilling of Berths 52/53 and a graving dock.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for temporary construction phase, slight impacts on the setting of, and damage to, local heritage features, particularly shipwrecks with the dredging works. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging programme.

Construction of public realm and greenway.

There is unlikely to be any impacts on cultural heritage features with the development of the public realm and greenway, with there being no known heritage features or sites located in the vicinity.

Construction of revised road network in Northern Lands.

There is the potential for temporary, construction phase, moderate negative impacts on the setting of the NIAH sites in the Northern Port Lands, and a potential for loss of or damage to locally designated heritage features. There is the potential for long term incorporation of heritage features into the Port Estate with the revised road network potentially improving the access of the public to port heritage sites.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for temporary construction phase, slight negative impacts on the setting of, and damage to, local heritage features, particularly shipwrecks with dredging works. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging programme.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for temporary reduction in the incorporation of heritage features into the Port Estate, with the dismantling of the North Quay Wall Lighthouse in order to allow for it to be moved to a new location on the North Quay Wall. There is the potential for long term increased awareness of the North Quay Wall Lighthouse once it has been relocated.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha,

development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for moderate negative impacts from the permanent loss or damage to unidentified marine heritage features with the infilling of 21 ha.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for medium and long term increased protection of several heritage features including the graving dock and pump house with significant incorporation of these features into the Port Estate. In addition there is likely to be the creation of amenity value for a number of features including the North Quay Wall Lighthouse, giving significant positive impacts in the long term.

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

Avoid loss and damage to heritage, and incorporate features into port estate.

There is the potential for temporary, construction phase impacts on the setting of and damage to local heritage features, particularly shipwrecks. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging works.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for temporary, construction phase impacts on the Tom Clarke Bridge which is designated as a conservation area in the Dublin City Council Development Plan 2016-2022, with the construction of a bridge directly adjacent to it. There is the potential for permanent impacts (including damage or loss) to the nationally designated sea wall directly adjacent to the reclaimed area. There is the potential for permanent loss or damage to unidentified marine heritage features with the reclamation works area.

Extension/upgrade of Southern Greenway.

There is unlikely to be any impacts on cultural heritage features with the development of the greenway, with there being no known heritage features or sites located in the vicinity.

Landscape & Visual Amenity

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53 and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is unlikely to be any impacts in the short, medium and long term, on the overall landscape

and visual amenity of the area with no sensitive or designated landscapes, or sensitive receptors in close vicinity to these areas of development, in an already heavily developed area.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is unlikely to be any additional impacts of the dredging on the seascape and visual amenity of the area, with ships in this area being the norm, arriving into and leaving Dublin Port regularly, alongside ongoing maintenance dredging works.

Construction of public realm and greenway.

There is the potential for temporary construction phase, slight negative impacts on local views from areas north of the greenway, across the Tolka Estuary. There is the potential for long term improvement of local views from areas north of the greenway, across the Tolka Estuary, with the greenway acting as a buffer between port operations and local receptors, thereby slightly improving the landscape of the area.

Construction of revised road network in Northern Lands.

There is unlikely to be any impacts on the general landscape and visual amenity with no sensitive or designated landscapes, or sensitive receptors in close vicinity to this area of development.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is unlikely to be any additional impacts of the dredging on the seascape and visual amenity of the area, with ships in this area being the norm, arriving into and leaving Dublin Port regularly, alongside ongoing maintenance dredging works.

Completion of the ABR Project with the demolition of North Quay Wall.

There is the potential for temporary construction phase, slight negative impacts on local views and the local landscape from Ringsend which is directly south of the north Quay Wall, across the River Liffey. There is unlikely to be any long term, negative impacts of the partial demolition of the North Quay Wall on the landscape/seascape, or on views to local receptors.

Completion of the Dublin Gateway Project including an eastward extension of approximately 21 ha, development of two new river berths and development of a multi-user check in area for Ro-Ro traffic. This development will provide a new Ro-Ro facility in the Northern Port Lands.

There is the potential for temporary construction phase impacts of the infilling of 21 ha directly south of the North Bull Island Special Amenity Area and within the landscape of the Dublin Bay Biosphere. There is the potential for permanent, moderate negative impacts on, and deterioration of, the seascape and visual amenity of the North Bull Island Special Amenity Area and the landscape of the Dublin Bay Biosphere with the creation of this industrial area in a previously natural marine habitat.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for temporary construction phase, slight negative impacts of development of the Stoney Blocks interpretative zone on local views from the area around the Tom Clarke Bridge. There is the potential for long term improvement of local views with the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone adjacent to the area around the Tom Clarke Bridge and north (across the River Liffey of Ringsend).

Creation of a 400m manoeuvring space at the eastern entrance to the Port's working quays.

There is unlikely to be any additional impacts of the dredging on the seascape and visual amenity of the area, with ships in this area being the norm, arriving into and leaving Dublin Port regularly, alongside ongoing maintenance dredging works.

Development of a bridge over the River Liffey and upgrading the road network in the Southern Port Lands. Reclaiming of 12.6 ha for development of a multi-purpose berth in front of the Poolbeg Power Station. Development of new quay wall and berth directly west of reclaimed land for bulk solid.

There is the potential for temporary construction phase, slight negative impacts of development of the new bridge over the River Liffey on local views in the area. There is the potential for temporary construction phase, slight negative impacts of reclamation and construction of new berths on the landscape and seascape of the area. There is the potential for long term, slight negative impacts of the new bridge over the River Liffey on local views in the area with increases in road traffic, and the development of the new berths in previously marine natural habitat to the landscape of the area.

Extension/upgrade of Southern Greenway.

There is the potential for temporary construction phase, slight negative impacts on local views from Ringsend which is located directly adjacent to the greenway. There is the potential for long term improvement of local views from Ringsend, with the greenway acting as a buffer between port operations and local receptors.

Summary of Impacts

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will result in long term increases in freight and passenger throughput in the long term, although this will be capped at 60 million tonnes per annum. There is the potential for medium and long term moderate to significant negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on material assets with construction activities in the medium term, this is likely to reduce to slight negative impacts in the operational phase, with greater freight and passenger throughput.

Green amenity areas, including the greenways in the Northern and Southern Port Lands, which act as buffers between port activity and sensitive receptors, are likely to result in the potential for long term moderate benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

The NIS has concluded that development in the short term has the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, and South Dublin Bay and River Tolka SPA. The NIS has concluded that development in the medium term has the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, and South Dublin Bay and River Tolka Estuary SPA.

F.2 OPTION 1: CUMULATIVE / IN-COMBINATION DEVELOPMENT IMPACTS

The Dublin Port Masterplan 2012 is proposing all development projects to be ongoing in tandem with normal port operations, providing for the most significant cumulative and in-combination, positive and negative impacts on receptors in the area. The simultaneous construction of several developments is likely to result in temporary, cumulative and in-combination impacts on the wider environment unless well phased and well planned approaches are developed that can minimise or eliminate the potential for these collective construction impacts.

A number of cumulative and / or in-combination impacts with other Plans and Programmes have been identified. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 and the Dublin City Development Plan 2016-2022 have the potential for impacts in relation to planned infrastructure. In particular, the Poolbeg West SDZ by the Southern Port Lands is designated for mixed use development (which may principally include residential development, commercial and employment activities) in the timeframe of the Dublin Port Masterplan. Development in the area surrounding the Port Estate also includes a 170,000 square foot office building which was approved in March 2016 to be built in the Point Square, and will accommodate up to 2,000 workers. These developments will result in receptors moving closer to Dublin Port as port activity is increasing, leading to cumulative and in-combination impacts on local traffic, air pollution, noise and vibration levels, and the local landscape. The impacts of these developments cumulatively and in-combination with the completion of the Dublin Gateway Project (resulting in the infilling of 21ha of natural and protected habitat) is likely to lead to further negative impacts on local sensitive receptors, including the landscape of Dublin Bay and air quality in the communities and routes around Dublin Port. It is likely that good planning and timing of works should be able to minimise the potential for cumulative or in-combination negative effects in the construction phases of these developments. Future iterations of the Development Plans should have regard to the Dublin Port Masterplan 2012 for future planning zones

and proposed development areas, to minimise the potential for cumulative and in-combination impacts with the implemented and proposed works from the Masterplan.

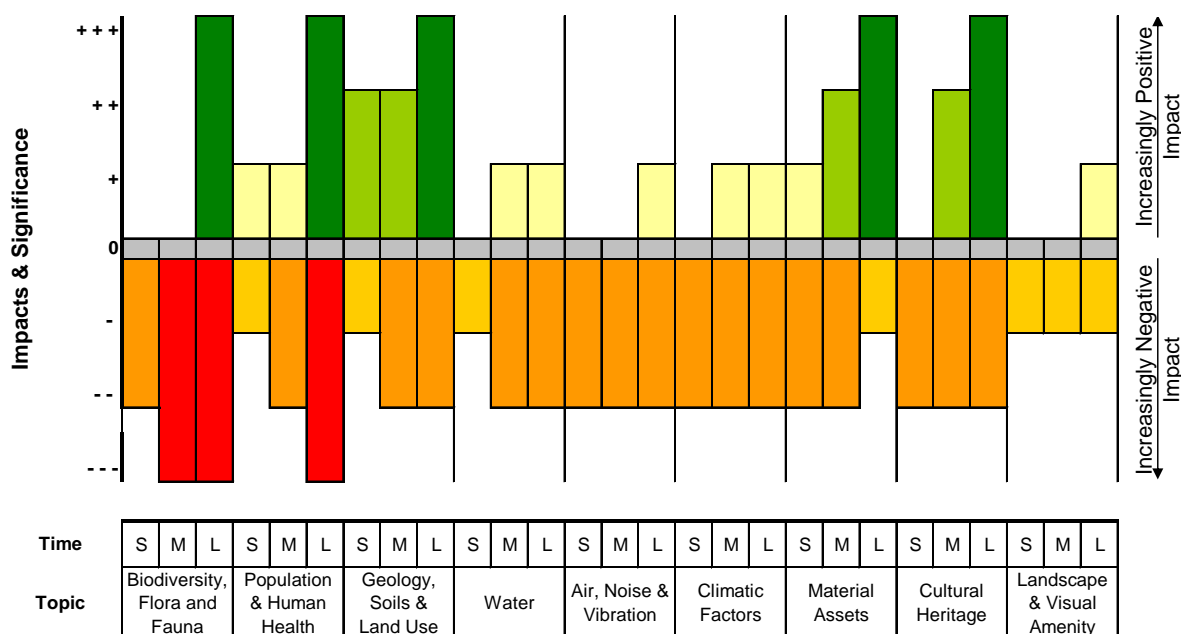
Inshore management in areas that have ongoing and recurring works, such as dredging operations, will need to be carefully planned to minimise the potential for cumulative and / or in-combination impacts, such as on water quality. If possible, these works may be able to be combined to provide future positive symbiotic impacts.

The Dublin Port Masterplan will bring in greater numbers of tourists to the area. Increases in cruise liners to Dublin Port have the potential to result in synergistic benefits with the tourism and recreational sectors in Ireland. This could lead to long term cumulative and in-combination positive impacts on population and material assets. Visitor pressures may increase with the implementation of the Masterplan 2012 and the possibility of an in-combination effect arises as a result of increased demand for and use of the Greenway along the edges of the northern port lands due to the policies, objectives and zonings contained in the Regional Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan.

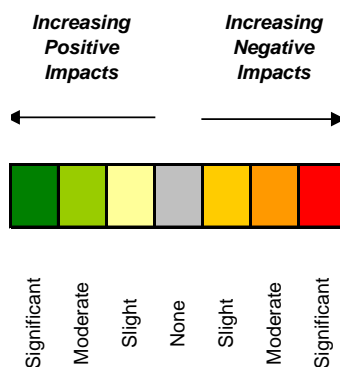
F.3 OPTION 2

Proposed Option			
The development projects outlined in the Masterplan 2040 will go ahead in the short (2017 – 2021), medium (2021 – 2031) and long (2031+) term timescales of the Dublin Port Masterplan, as described in Section 7.1 .			
Receiving Environment			
<ul style="list-style-type: none"> The existing key environmental issues for the receiving environment of the Masterplan 2040 can be found in Section 5 – Baseline and Relevant Environmental Issues. The receiving environment is the core Dublin Inland Port, the Dublin Inland Port and the area in which the SPAR will be developed. The existing key environmental issues are likely to change with development occurring throughout the timescale of the Masterplan 2040. For example, the medium term will be influenced by development that has occurred in the short term, and the long term will be influenced by development that has occurred in the short and medium term. 			
Environmental Assessment			
Environmental Topic	Short Term Impacts	Medium Term Impacts	Long Term Impacts
Biodiversity, Flora & Fauna (BFF)	-2	-3	-3/+3
Population & Human Health (PHH)	-1/+1	-2/+1	-3/+3
Geology, Soils and Landuse (S)	-1/+2	-2/+2	-2/+3
Water (W)	-1	-2/+1	-2/+1
Air, Noise & Vibration (ANV)	-2	-2	-2/+1
Climatic Factors (C)	-2	-2/+1	-2/+1
Material Assets & Infrastructure (MA)	-2/+1	-2/+2	-1/+3
Cultural, Architectural & Archaeological Heritage (H)	-2	-2/+2	-2/+3
Landscape & Visual Amenity (L)	-1	-1	-1/+1

Summary Chart of Impacts



Key



Discussion of Impacts

Biodiversity, Flora & Fauna

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on bird species of South Dublin Bay and River Tolka Estuary SPA, including nesting terns on the dolphins directly south of Berths 52/53, across the River Liffey. There is the potential for temporary, indirect, slight sedimentation impacts on the South Dublin Bay and River Tolka Estuary SPA and the Rockabill to Dalkey Island SAC directly downstream. There is the

potential for temporary, direct and indirect, moderate disturbance impacts on porpoises of the Rockabill to Dalkey Island SAC from construction works. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on Habitats Directive protected Annex II freshwater and marine species including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be affected by construction. There is the potential for long term, indirect, moderate disturbance impacts on bird species found from the South Dublin Bay and River Tolka Estuary SPA with increased marine traffic to the area. There is the potential for temporary, direct and indirect, cumulative and in-combination impacts from marine construction works and normal port operation, such as disturbance impacts from increased traffic to the area.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to terns nesting at the Dolphins, Dublin Docks pNHA which are directly adjacent to Berths 52/53, across the River Liffey. There is the potential for temporary, indirect sedimentation impacts to the biodiversity, flora and fauna of the Dublin Bay Biosphere, South Dublin Bay pNHA, North Dublin pNHA and Dolphins, Dublin Docklands pNHA. There is the potential for long term, indirect, moderate disturbance impacts to the biodiversity, flora and fauna of the Dublin Bay Biosphere, Dolphins, Dublin Docks pNHA, South Dublin Bay pNHA and North Dublin pNHA with the potential for increased marine traffic within the vicinity of these sites.

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts on undesignated biodiversity and habitats in the vicinity of works; however this is a highly industrialised area that has already been altered by the long term development and operations of the Port. There is unlikely to be any permanent impacts on undesignated biodiversity and habitats from this phase of the proposed development.

There is the potential for temporary, cumulative and in-combination impacts from construction work, with normal port operations ongoing in tandem with development, resulting in disturbance impacts on both designated and undesignated biodiversity, flora and fauna, in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the transitional and coastal waterbodies. There is the potential for cumulative and in-combination, permanent impacts from the development, with normal port operations ongoing in tandem with increased port operations and activity, resulting in slightly increased disturbance impacts on both designated and undesignated biodiversity and habitats in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the waterbodies.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for temporary, direct, moderate disturbance impacts to the harbour porpoise of the Rockabill to Dalkey Island SAC from dredging activity. There is the potential for temporary, direct moderate disturbance impacts to Habitats Directive protected Annex II species such as Atlantic salmon, harbour seal and grey seal whose habitats and/or foraging areas may be affected by dredging activities. There is the potential for temporary, indirect sedimentation impacts during dredging to the habitats and species found within the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and North Bull Island Ramsar site. There is unlikely to be any permanent impacts on the European designated habitats and species within and in close vicinity to dredging activities, as this area is regularly dredged as part of Dublin Port's maintenance dredging, with the local habitats and species adjusted to this recurring activity.

There is the potential for temporary, indirect sedimentation impacts from dredging on the North Dublin Bay pNHA and North Bull Island Nature Reserve which are directly adjacent to a northern

region of the navigation channel.

There is the potential for temporary, direct and indirect, slight disturbance and sedimentation impacts to local undesignated species however this is a regularly dredged area with the local habitats and species adjusted to this recurring activity.

Construction of public realm and greenway.

There is the potential for temporary, direct and indirect, moderate disturbance impacts of constructing a 4 km cycle and pedestrian greenway directly adjacent to the bird species of the South Dublin Bay and River Tolka Estuary SPA, the North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere. There is the potential for temporary, indirect slight sedimentation impacts from construction on the South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere. There is the potential for permanent, indirect, slight disturbance impacts on the bird species of the South Dublin Bay and River Tolka Estuary SPA, species within the North Dublin Bay pNHA, and the biodiversity of the Dublin Bay Biosphere from increased numbers of people accessing area of the greenway. There is the potential for long term, direct, moderate positive impacts of the greenway to the bird species in the South Dublin Bay and River Tolka Estuary SPA, species within the North Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere as the greenway acts as an environmental buffer to port operations, and offers the opportunity for increased public education and awareness of environmental issues.

There is the potential for temporary, direct and indirect, construction phase, slight disturbance and sedimentation impacts on local undesignated biodiversity, however as this is a highly industrialised area and impacts are likely to be limited. There is the potential for long term, moderate positive impacts from the greenway on the local biodiversity, flora and fauna, with a naturalisation of this area, providing habitats and foraging area for local wildlife.

Construction of revised road network in Northern Lands.

There is the potential for temporary, indirect, slight disturbance impacts on local biodiversity, flora and fauna, within Dublin Port from construction of a revised road network, which are likely to result in noise emissions and vibration from the construction vehicles; however this is a heavily industrialised area with any biodiversity here accustomed to the ongoing impacts from the operation of the Port.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any direct or indirect, long term impacts of development of the Dublin Inland Port and relocation of non-core users to this area on internationally or nationally designated sites and species due to there being no impact pathways between the Dublin Inland Port and any designated sites or species.

There is the potential for direct, temporary, slight negative disturbance impacts on the undesignated biodiversity within the Dublin Inland Port, with the development of buildings, roads and yards within this site. There is the potential for direct, permanent loss of undesignated habitat and displacement of species within the Dublin Inland Port from an area, which was partly an old golf course and partly grazing land, to a highly developed area with buildings, roads and yards. There is the potential for indirect, permanent, disturbance impacts of development of the Dublin Inland Port on undesignated biodiversity, flora and fauna, with a loss of habitat, increased noise levels, vibration levels and air emissions to the area, however there is the potential for these

species to re-establish in the surrounding undeveloped areas.

The NIS highlighted the potential for the following impacts arising from these developments in the short term:

- Highly turbid water arising from elevated suspended sediments during marine works has the potential to impact the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- There is the potential for construction and operational activity to result in spillages or leakages of polluting substances into nearby water bodies, potentially impacting the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, North Bull Island SPA, and South Dublin Bay and River Tolka Estuary SPA.
- Underwater acoustic energy escaping into the marine environment during significant marine engineering construction works (piling and dredging) has the potential to disturb or injure the qualifying interests of the Lambay Island SAC (harbour seal and grey seal) and the Rockabill to Dalkey Island SAC (harbour porpoise).
- There is the potential for construction and operational phase aerial noise and visual disturbance impacts potentially impacting the integrity of the South Dublin Bay and River Tolka Estuary SPA, from development of the public realm and a greenway interfacing the Tolka Estuary, with proposed road network improvements behind the greenway corridor.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for temporary, direct, moderate disturbance impacts to the harbour porpoises of Rockabill to Dalkey Island SAC from dredging activity. There is the potential for temporary, direct, moderate disturbance impacts to Habitats Directive protected Annex II species, such as Atlantic salmon, harbour seal and grey seal, whose habitats and/or foraging areas may be affected by dredging activities. There is the potential for temporary, indirect, slight sedimentation impacts during dredging to the habitats and species found within the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, North Dublin Bay SAC and North Bull Island Ramsar site. There is unlikely to be any permanent impacts on the European designated habitats and species within and in close vicinity to dredging activities, as this area is regularly dredged as part of Dublin Port's maintenance dredging with the habitats and biodiversity adjusted to this recurring activity.

There is the potential for temporary, indirect, slight sedimentation impacts from dredging on the North Dublin Bay pNHA and North Bull Island Nature Reserve which are directly adjacent to a northern region of the navigation channel.

There is the potential for temporary, direct and indirect, slight sedimentation and disturbance impacts to local undesignated species, however this is a regularly dredged area with the biodiversity, flora and fauna adjusted to this recurring activity.

There is the potential for temporary, cumulative and in combination impacts from construction work, with normal port operations ongoing in tandem with development, resulting in disturbance impacts on both designated and undesignated biodiversity, flora and fauna, in close vicinity to the works

from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the transitional and coastal waterbodies. There is the potential for cumulative and in-combination, permanent impacts from the development, with normal port operations ongoing in tandem with increased port operations and activity, resulting in slightly increased disturbance impacts on both designated and undesignated biodiversity and habitats in close vicinity to the works from increased traffic to the area, increased noise, vibration and air emissions, and increased potential for accidental release of pollutants into the waterbodies.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA from major demolition and construction works upstream. There is the potential for temporary, indirect, slight sedimentation impacts on the species and habitats of the South Dublin Bay and River Tolka Estuary SPA, Sandymount Strand/Tolka Estuary Ramsar site and South Dublin Bay SAC. There is the potential for temporary, direct and indirect, moderate disturbance impacts from major construction works on Habitats Directive designated Annex II freshwater and marine species including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be affected by demolition and construction work.

There is the potential for temporary, direct and indirect, moderate disturbance impacts to terns nesting at the Dolphins, Dublin Docks pNHA, which are downstream of the construction and demolition works. There is the potential for temporary, indirect, slight sedimentation impacts to the biodiversity and habitats of the Dublin Bay Biosphere, North Bull Island Nature Reserve, South Dublin Bay pNHA, North Dublin pNHA, and Dolphins, Dublin Docklands pNHA

There is the potential for temporary, direct and indirect, moderate disturbance and sedimentation impacts on the undesignated biodiversity, flora and fauna in the vicinity of works; however this is a highly industrialised area that has already been significantly altered by the development and the operation of the Port. There is the potential for the permanent, slight increase in the area of undesignated habitat with the demolition of a section of the North Quay Wall.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct and indirect, temporary, moderate negative disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA with the creation of the manoeuvring space and the construction of a new jetty, both of which will be adjacent to this protected area. There is the potential for a long term to permanent loss of terns from the South Dublin Bay and River Tolka Estuary SPA with the reclamation work. There is the potential for the long term or permanent loss of habitat for the Habitats Directive designated Annex II with the reclamation work. There is the potential for direct and indirect, temporary, moderate sedimentation impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA, from construction works and dredging of the manoeuvring space adjacent to this protected site. There is the potential for direct and indirect, temporary, moderate disturbance impacts from major construction works on Habitats Directive designated Annex II species, including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas may be affected by the reclamation of berths, construction of a new jetty and dredging works. There is the potential for indirect, temporary, slight sedimentation impacts on the biodiversity and habitats of the North Dublin Bay SAC, North Bull Island SPA, North Bull Island Ramsar site,

Rockabill to Dalkey Island SAC, Sandymount Strand/Tolka Estuary Ramsar site and South Dublin Bay SAC. There is the potential for permanent, direct alterations of the habitats used by the Habitats Directive designated Annex II species within this area with the creation of this manoeuvring space, although the manoeuvring space is located in the navigation channel, which is routinely dredged as part of DPC's maintenance dredging. There is the potential for indirect, long term disturbance impacts to the bird species of the South Dublin Bay and River Tolka Estuary SPA and the Habitats Directive designated Annex II species whose habitats and/or foraging areas may be affected by the increased operations and traffic to this area. There is the potential for indirect, long term, significant sedimentation impacts to the birds of the South Dublin Bay and River Tolka Estuary SPA with the potential for changes in local coastal processes.

There is the potential for direct and indirect, temporary, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA which is located north of the jetty, and the biodiversity, flora and fauna of the Dublin Bay Biosphere. There is the potential for indirect, temporary, slight sedimentation impacts to the biodiversity, flora and fauna of the Dolphin, Dublin Docks pNHA, North Bull Island Nature Reserve, and South Dublin Bay pNHA from infilling, dredging and construction works. There is the potential for direct and indirect, permanent, disturbance and sedimentation impacts to the biodiversity, flora and fauna of the North Dublin Bay pNHA and Dublin Bay Biosphere with increased operations and a change in local coastal processes likely post-construction.

There is the potential for direct and indirect, moderate disturbance and sedimentation impacts to the local undesignated habitats and species from infilling, dredging and construction works. There is the potential for permanent impacts to the local undesignated habitats and species with a loss of habitat. There is the potential for indirect, long term, moderate disturbance impacts to the local undesignated habitats and species with increased traffic to the area. There is the potential for indirect, permanent sedimentation impacts to the local undesignated habitats and species with a change in local coastal processes.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail. Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for indirect, temporary, slight sedimentation impacts to the Habitats Directive designated Annex II species, such as the Atlantic salmon, freshwater crayfish, grey seal and harbour seal whose habitats and/or foraging areas may be affected by the construction works. There is the potential for direct and indirect, temporary, moderate disturbance impacts of extending/upgrading the Southern Greenway directly adjacent to the bird species of the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere. There is the potential for direct and indirect, temporary, moderate sedimentation impacts from construction of the greenway in close vicinity of the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere. There is the potential for indirect, long term, slight disturbance impacts on the species found within the South Dublin Bay and River Tolka Estuary SPA, the South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere with an increase in numbers of people visiting the greenway and the Great South Wall. There is the potential for direct, long term, positive impacts of the greenway on the species within the South Dublin Bay and River Tolka Estuary SPA, South Dublin Bay SAC, Sandymount Strand/Tolka Estuary Ramsar site, South Dublin Bay pNHA and the biodiversity of the Dublin Bay Biosphere as it acts as an environmental

buffer to port operations.

There is the potential for direct and indirect, temporary construction phase, slight disturbance and sedimentation impacts on local undesignated biodiversity however as this is a highly industrialised and area impacts will be limited. There is the potential for long term, significant positive impacts of the greenway as acts as a buffer for the local biodiversity, with a naturalisation of this area, providing habitats and foraging area for wildlife.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for direct and indirect, temporary, moderate disturbance impacts from major construction and reclamation works on bird species of the South Dublin Bay and River Tolka Estuary SPA, including nesting terns on the dolphins directly adjacent to and within the area to be reclaimed. There is the potential for direct and indirect, temporary, moderate disturbance impacts from major construction and reclamation works on Habitats Directive designated Annex II freshwater and marine species, including Atlantic salmon, river lamprey, freshwater crayfish, and grey and harbour seals, whose habitats and/or foraging areas are within the navigation channel directly within and adjacent to construction works. There is the potential for indirect, temporary, slight sedimentation impacts on the bird species in the South Dublin Bay and River Tolka Estuary SPA, and the porpoises of the Rockabill to Dalkey Island SAC. There is the potential for direct and indirect, temporary, moderate disturbance impacts on the porpoises of the Rockabill to Dalkey Island SAC, which are likely to include noise impacts from piling activities and impacts from accidental pollution releases into the water body. There is the potential for a permanent loss of terns of the South Dublin Bay and River Tolka Estuary SPA with the reclamation work. There is the potential for permanent loss of habitat for the Habitats Directive designated Annex II found within the navigation channel with the reclamation work. There is the potential for indirect, permanent, moderate disturbance impacts on bird species found within the South Dublin Bay and River Tolka Estuary SPA with increased marine traffic to the area.

There is the potential for direct and indirect, temporary, moderate disturbance impacts from major construction and reclamation works on the Dolphins, Dublin Docks pNHA directly adjacent to and within the area to be reclaimed. There is the potential for a permanent loss of the Dolphins, Dublin Docks pNHA resulting from the reclamation work. There is the potential for direct and indirect, temporary, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA, and biodiversity of the Dublin Bay Biosphere from major reclamation and construction works. There is the potential for indirect, long term, moderate disturbance and sedimentation impacts to the North Dublin Bay pNHA, and biodiversity of the Dublin Bay Biosphere with increased activity to the Southern Port Lands.

There is the potential for direct and indirect, temporary, moderate disturbance and sedimentation impacts on undesignated biodiversity, flora and fauna in the vicinity of works; however this is a highly industrialised area that has already been altered by development and the operation of the Port. There is the potential for permanent loss in the area of undesignated habitat with the reclamation of land off the Poolbeg Peninsula and for the development of the SPAR.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any direct or indirect, long term impacts of development of the Dublin Inland Port and relocation of non-core users to this area on internationally or nationally designated sites and species due to there being no impact pathways between the Dublin Inland Port and any designated sites or species.

There is the potential for direct, temporary, slight negative disturbance impacts on the undesignated biodiversity within the Dublin Inland Port, with the development of buildings, roads and yards within this site. There is the potential for direct, permanent loss of undesignated habitat and displacement of species within the Dublin Inland Port from an area, which was partly an old golf course and partly grazing land, to a highly developed area with buildings, roads and yards. There is the potential for indirect, permanent, disturbance impacts of development of the Dublin Inland Port on undesignated biodiversity, flora and fauna, with a loss of habitat, increased noise levels, vibration levels and air emissions to the area, however there is the potential for these species to re-establish in the surrounding undeveloped areas.

The NIS highlighted the potential for the following impacts arising from development in the medium term:

- Highly turbid water arising from elevated suspended sediments during marine works has the potential to impact the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.
- There is the potential for construction and operational activity to result in spillages or leakages of polluting substances into nearby water bodies, potentially impacting the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, North Bull Island SPA, and South Dublin Bay and River Tolka Estuary SPA.
- Underwater acoustic energy escaping into the marine environment during significant marine engineering construction works (piling and dredging) has the potential to disturb or injure the qualifying interests of the Lambay Island SAC (harbour seal and grey seal) and the Rockabill to Dalkey Island SAC (harbour porpoise).
- There is the potential for construction and operational phase aerial noise and visual disturbance impacts resulting from the following development, potentially impacting the integrity of the South Dublin Bay and River Tolka Estuary SPA:
 - Development of public realm and a greenway (and to a lesser degree port road improvements also) will interface with South Dublin Bay/Sandymount Strand.
 - The MP2 Project will abut the SPA at the eastern edge of the Northern Port Lands.
 - Reclamation and redevelopment of deepwater berthage on the southern port lands will occur where the principal breeding colonies of the tern populations are located.

There is the potential for habitat loss to permanently impact the integrity of the South Dublin Bay and River Tolka Estuary SPA, with development of the MP2 Project adjacent to the SPA (potentially modifying sedimentation and scouring patterns in the SPA resulting in net loss changes in habitats) and the removal of dolphins which SPA feature tern species breed on as part of the redevelopment of Southern Port Lands.

Population & Human Health**SHORT TERM**

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary, indirect, slight disturbance impacts on the Ringsend, East Wall, Clontarf and Sandymount communities from development activities, such as piling to construct new quay walls, increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for long term, indirect, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with an increase in port operations, leading to increases in traffic through the local communities with increased noise emissions, air emissions and vibration levels, potentially impacting on human health and wellbeing. There is the potential for temporary, cumulative and in-combination impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for long term, cumulative and in-combination, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities to the local communities from implementation of this option in the short term of the Masterplan.

There is the potential for temporary, direct and indirect, construction phase increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials, and then indirect increases in local employment from provision of services to construction staff. There is the potential for long term, direct and indirect, increases in employment with greater capacity at Dublin Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is unlikely to be any temporary impacts on human health and risks to the local communities as a result of dredging activities. There is the potential for long term indirect, impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with the dredged navigation channel allowing larger vessels contributing to greater air emissions to enter the Port and requiring more support such as buses for cruise liner passengers, which will increase local noise emissions, air emissions and vibration levels to the Ringsend, East Wall, Clontarf and Sandymount communities potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities to the local communities

from implementation of this option in the short term of the Masterplan.

There is the potential for direct, temporary, slight increases in employment throughout the dredging programme with personnel needed to undertake the dredging and support services. There is the potential for indirect, long term, positive impacts from increases in employment with the dredged channel allowing larger vessels into Dublin Port, increasing the capacity of the Port.

Construction of public realm and greenway.

There is the potential for indirect, temporary, slight disturbance impacts from the construction of a 4km cycle and pedestrian greenway east of the East Wall local community and south of the Clontarf local community (across the Tolka Estuary). There is the potential for direct, long term improvements in human health and wellbeing, and a decrease in the likelihood of disturbance to the local communities as the greenway allows for recreational activity to occur improving the health of those using it and acts as an environmental buffer to the East Wall and Clontarf communities from the Port's activities. There is the potential for cumulative and in-combination, temporary impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in slightly increased noise emissions, air emissions and vibration levels potentially impacting on human health.

There is the potential for a direct, long term increase in amenity facilities at the Port with the provision of a 4km cycle and pedestrian greenway, which is likely to provide significant positive impacts to the health and wellbeing of local users.

There is the potential for direct, temporary, construction phase increases in employment opportunities, which may provide for slight positive impacts on local employment levels.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any change in the human health of risks to the local communities with increased port activity, as this area is industrial in nature with the closest local community being Ballymun which is across the M50 motorway.

There is unlikely to be any change in social infrastructure and amenities for the local community with the implementation of this option.

There is the potential for direct, temporary, slight increases in employment throughout the development of the Dublin Inland Port including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for indirect, long term increases in employment with the Dublin Inland Port allowing for greater throughput at Dublin Port.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is unlikely to be any temporary impacts in human health and risks to the local communities as a result of dredging activities. There is the potential for indirect, long term, moderate negative

impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with the dredged navigation channel allowing larger vessels with greater air emissions to enter the Port, requiring more support such as buses for cruise liner passengers which will increase noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, long term, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels to the Ringsend, East Wall, Clontarf and Sandymount communities potentially impacting on human health.

There is unlikely to be any change in social infrastructure and amenities for the local community from implementation of this option in the medium term of the Masterplan.

There is the potential for direct and indirect, temporary, construction phase increases in employment throughout the dredging programme with personnel needed to undertake the dredging and support services, leading to slight positive impacts on local employment levels. There is the potential for indirect, permanent increases in employment with the dredged channel allowing larger vessels into Dublin Port, increasing the capacity at the Port, which may lead to significant positive impacts on local employment in the long term.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for direct and indirect, temporary, moderate disturbance and nuisance impacts particularly on the East Wall and Ringsend communities, from the demolition of the North Quay Wall, with increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing. There is the potential for indirect, long term impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with an increase in port operations leading to increases in traffic through the local communities, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination permanent impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health.

There is unlikely to be any change in social infrastructure and amenities to the local communities from implementation of this option in the medium term of the Masterplan.

There is the potential for direct and indirect, temporary, construction phase increases in employment including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, permanent increases in employment with a greater capacity at Dublin Port, potentially giving significant positive impacts on local employment opportunities.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land

reclamation, demolition and construction of buildings and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct and indirect, temporary, moderate disturbance and nuisance impacts with increased traffic emissions, construction emissions, noise levels and vibration levels, predominantly on the Ringsend and East link communities, potentially impacting on human health and wellbeing. There is the potential for indirect, long term, significant negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities, with an increase in port operations leading to increases in traffic through the local communities with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities, with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, long term, significant negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities to the local communities with implementation of this option.

There is the potential for direct and indirect temporary construction phase significant increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, long term, significant increases in employment with a greater capacity at Dublin Port.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for indirect, temporary, slight negative disturbance impacts, predominantly the East Wall and Ringsend local communities, from increases in construction traffic to the area resulting in increased traffic emissions, construction emissions, noise levels and vibration levels potentially impacting on human health and wellbeing.

There is the potential for a direct, long term increase in social infrastructure at the Port with the provision of a graving dock, pump house and interpretive zone, leading to significant positive impacts.

There is the potential for direct, temporary, slight increases in employment opportunities, during the construction phase, from the implementation of this option in the medium term.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for indirect, construction phase, slight disturbance impacts from development activities resulting in increased traffic emissions, construction emissions, noise levels and vibration levels, particularly on the Ringsend (the SPAR will pass through this community) and East Wall communities potentially impacting on human health and wellbeing. There is the potential for indirect, long term, significant impacts on the Ringsend, East Wall, Clontarf and Sandymount communities, with increases in port operations and the development of a new bridge over the River Liffey, leading to increases in traffic with increased noise emissions, air emissions and vibration levels, particularly to the Ringsend community, potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increases in activity at the Port, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing. There is the potential for cumulative and in-combination, long term, significant disturbance impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with increased operations from this construction work, with increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is unlikely to be any change in social infrastructure and amenities for the local community with the implementation of this option.

There is the potential for direct and indirect, temporary construction phase, slight increases in employment, including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for direct and indirect, long term, significant increases in employment with a greater capacity at Dublin Port.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for indirect, temporary, slight disturbance impacts from the construction of the Southern cycle and pedestrian greenway, and creation of 4ha public realm, resulting in increased traffic emissions, construction emissions, noise levels and vibration levels, predominantly on the Ringsend community, which is located directly south of the proposed greenway and buffer areas. There is the potential for direct, long term significant improvements in human health and a decrease in the likelihood of disturbance to the local communities as the greenway and Great South Wall allow for recreational activity to occur, improving the health of local users, and the public realm area acts as an environmental buffer between the Ringsend community and Port activities. There is the potential for cumulative and in-combination, temporary, slight negative impacts on the Ringsend, East Wall, Clontarf and Sandymount communities with normal port operations ongoing in tandem with development, resulting in increased noise emissions, air emissions and vibration levels potentially impacting on human health and wellbeing.

There is the potential for a direct, long term, significant increase in amenity facilities at the Port with the provision of the Southern cycle and pedestrian greenway, an extension of the Great South Wall and the creation of the public realm area.

There is the potential for direct, temporary construction phase, slight increases in employment opportunities from development of these facilities.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any change in the human health of risks to the local communities with increased port activity, as this area is industrial in nature with the closest local community being Ballymun which is across the M50 motorway.

There is unlikely to be any change in social infrastructure and amenities for the local community with the implementation of this option.

There is the potential for direct, temporary, slight increases in employment throughout the development of the Dublin Inland Port including construction workers onsite, engineers designing infrastructure and construction supply companies supplying materials. There is the potential for indirect, long term increases in employment with the Dublin Inland Port allowing for greater throughput at Dublin Port.

Geology, Soils & Landuse

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for permanent, slight alteration of natural coastal processes and sediment transport with the infilling of Berths 52/53.

There is the potential for direct, permanent, remediation and clean-up of contaminated soils in the vicinity of the Port, such as asbestos materials in the Alexandra Basin West (the revetment) being removed as part of these works, leading to moderate positive impacts. There is the potential for indirect, long term increases in contamination of soils and sediments with construction works likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

Dredging at Alexandra Basin West and the navigation channel has the slight potential for short to long term alterations to local coastal processes, however no real change to the area of existing functional soil and land resource, with increased port activity and throughput.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from the disturbance of materials by the dredging activity in potentially contaminated areas, thereby mobilising contaminants. There is the potential for direct, permanent, remediation and clean-up of some contaminated soils in the vicinity of the Port, with dredging occurring in areas of potentially contaminated soils within the navigation channel and Alexandra Basin West, leading to moderate positive impacts in the long term. There is the potential for indirect, long term increases in contamination of soils and sediments with dredging activities likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Construction of public realm and greenway.

Development of the public realm areas and greenway is unlikely to have any impacts on existing coastal erosion and coastal processes, and is unlikely to have any impacts on port operations.

Development of the public realm areas and greenway has the potential for short term, construction phase contamination of soils and sediments, however there are unlikely to be any operational impacts in the medium and long term.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any change in areas of existing functional soil and land resource at risk from coastal erosion with increased port activity and port operations, as the Dublin Inland Port is located away from the coast.

There is the potential for direct, temporary construction phase contamination of soils and sediments with the development of buildings, roads and yards on this semi-natural habitat. There is unlikely to be any long term contamination of soils and sediment with the operation of the Dublin Inland Port, while increasing port activity and throughput.

MEDIUM TERM*Completion of the capital dredging programme as part of the ABR Project.*

Completion of the capital dredging programme at Alexandra Basin West and the navigation channel has the slight potential for medium to long term alterations to local coastal processes, however no real change to the area of existing functional soil and land resource, with increased port activity and throughput.

There is the potential for direct, temporary, construction phase contamination of soils and sediments from the disturbance of materials by the dredging activity in potentially contaminated areas, thereby mobilising contaminants. There is the potential for direct, permanent, remediation and clean-up of some contaminated soils in the vicinity of the Port, with dredging occurring in areas of potentially contaminated soils within the navigation channel and Alexandra Basin West, leading to moderate positive impacts in the long term. There is the potential for indirect, long term increases in contamination of soils and sediments with dredging activities likely to result in an increase in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for permanent loss of existing land resource with the demolition of the North Quay Wall. There is the potential for permanent, slight alteration of natural coastal processes and sediment transport with the construction of the washwall.

There is the potential for direct, temporary construction phase contamination of soils and sediments with the demolition of the North Quay Wall, which may contain contaminated materials, and the

development of a washwall within the water body. There is the potential for indirect, long term increases in contamination of soils and sediments from construction work, which will result in increases in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, and demolition, construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for permanent loss of soil, seabed and land resource with the loss of marine habitat for the construction of a new jetty and the dredging required to create the manoeuvring space, however this is a historically industrialised, non-pristine area with port activity being the norm. There is the potential for the local alteration of natural coastal processes and sediment transport with reclamation and dredging works, leading to slight negative impacts. However, this contributes to increased port activity.

There is the potential for direct, temporary construction phase contamination of soils and sediments with the construction of the jetty in a natural marine habitat and the disturbance of potentially contaminated sediments, causing their mobilisation. There is the potential for direct, long term, contamination and sterilisation of soils and sediments with the construction of the jetty in a natural marine habitat. There is the potential for indirect, long term increases in contamination of soils and sediments from construction work, which will result in increases in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is unlikely to be any temporary or permanent change in areas of existing functional soil and land resource, coastal processes, and no change in port activity from implementation of this option.

The public realm works are unlikely to cause any temporary or permanent change in the potential for contamination and sterilisation of soils and sediments, and cause no change in port activity.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for the direct, permanent loss of soil resource with the partial infill of the southern foreshore of the Inner Liffey Channel for the SPAR, and reclamation of 13.8ha for deepwater berths, however this is a historically industrialised, non-pristine area with port activity being the norm. There is the potential for the local alteration of natural coastal processes and sediment transport with reclamation works. With this option there is the long term gain of a new land resource for port activities, protected from coastal erosion.

There is the potential for direct, temporary construction phase contamination of soils and sediments

from construction activities in a number of locations, particularly the infilling to develop the SPAR and the reclamation of 13.8ha of seabed. There is the potential for direct and indirect, long term increases in contamination of soils and sediments from construction work, which will result in increases in port activity, increasing the potential for incidences of contamination release to the soils and sediment.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

Development of the greenway is unlikely to have any impacts on existing coastal erosion and coastal processes, and is unlikely to have any impacts on port operations.

Development of the greenway has the potential for temporary, construction phase contamination of soils and sediments, however there are unlikely to be any operational impacts in the long term.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is unlikely to be any change in areas of existing functional soil and land resource at risk from coastal erosion with increased port activity and port operations, as the Dublin Inland Port is located away from the coast.

There is the potential for direct, temporary construction phase contamination of soils and sediments with the development of buildings, roads and yards on this semi-natural habitat. There is unlikely to be any long term contamination of soils and sediment with the operation of the Dublin Inland Port, while increasing port activity and throughput.

Water

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, construction phase, slight negative impacts on water quality with construction works directly in and adjacent to the Liffey Estuary Lower water body, potentially resulting in accidental releases and pollutant runoff. There is the potential for direct, permanent, slight negative impacts on water body morphology with increased man-made structures at the Port including the infilling at Berths 52/53. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. There is the potential for indirect, long term impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in-combination impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for direct, temporary, construction phase increases in water usage and wastewater generated at Dublin Port. There is the potential for indirect, long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on existing facilities. There is the potential for long term, cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with port development and the increase in throughput post-construction phase.

Several areas of the proposed ABR project have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas have however been planned incorporating flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for direct, temporary, slight negative impacts on water quality with dredging activities increasing suspended solids within the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for indirect, long term, moderate negative impacts to water quality with increases in the frequency of visits and size of vessels passing through the Port, resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for long term, cumulative and in-combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the dredging, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for indirect, long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in-combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem the increase in throughput post-dredging.

The capital dredging programme will not be impacted by and will have no impact on local flood risk.

Construction of public realm and greenway.

There is the potential for direct, temporary, slight negative construction phase impacts on water quality with construction works directly adjacent to the Tolka Estuary water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for long term, localised, slight improvement of water quality with reduced potential for spills and runoff with the greenway acting as a buffer between port operations and the natural environment. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with proposed development, resulting in greater potential for accidental release of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and

wastewater generated at Dublin Port. There is unlikely to be any long term change in water consumption and wastewater generated from the public realm and greenway developments.

Several areas of the proposed greenway and public realm have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. These developments are likely to be considered water compatible, however may still require further flood risk assessment at the detailed level. These developments could be planned for multi-benefit as flood defences and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for temporary construction phase, slight negative impacts on water quality with construction works in close vicinity to the Ward river water body resulting in greater potential for accidental release and runoff of pollutants into this water body. There is the potential for indirect, long term, slight negative impacts to water quality with an increase in operations at Dublin Inland Port resulting in greater potential for accidental release and runoff of pollutants into the Ward water body. There is the potential for long term, cumulative and in-combination, slight negative impacts with normal industrial operations in the vicinity of the Dublin Inland Port (including the Dublin Airport Logistics Park) ongoing in tandem with increased port operations resulting from the development of Dublin Inland Port.

There is the potential for temporary construction phase increases in water usage and wastewater generated at Dublin Inland Port. There is the potential for long term, cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with the increase in throughput post-construction phase.

As there is no coastal, fluvial or pluvial flood risk predicted at the inland port site it is unlikely that this development will be impacted by or will have any impact on local flood risk.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for direct, temporary, slight negative impacts on water quality from dredging activities by increasing suspended solids within the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in the frequency of visits and size of vessels passing through the Port, resulting in greater potential for accidental release and runoff of pollutants into the Liffey Estuary Lower and Dublin Bay water bodies. There is the potential for long term, cumulative and in-combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the dredging, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for long term increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in-combination, slight negative impacts on the water usage and wastewater generated with normal

port operations ongoing in tandem with the increase in throughput post-dredging.

The capital dredging programme will not be impacted by and will have no impact on local flood risk.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for direct, temporary, construction phase, slight negative impacts on water quality with construction works directly within the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for the permanent partial removal of the man-made North Quay Wall structure; however the coastal morphology will still be heavily modified. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for permanent, cumulative and in-combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in throughput post-construction phase.

The North Quay Wall has not been identified as being at risk of coastal flooding and will not be impacted by and should have no impact on local flood risk. The area for development of the washwall on Southern side of Liffey could be at risk of coastal flooding as is current designated as Flood Zone A (>0.5% AEP) for present day coastal flood risk. This development is likely to be considered water compatible, however may still require further flood risk assessment at the detailed level. This development could be planned for multi-benefit as flood defence and could provide wider protection to Port facilities and infrastructure.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct, temporary construction phase, slight negative impacts on water quality with construction works and dredging directly in and adjacent to the Liffey Estuary Lower water body, resulting in greater potential for accidental release and runoff of pollutants. There is the potential for direct, permanent, slight negative impacts on water body morphology with increased man-made structures at the Port, including the new jetty. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. The encroachment of the new jetty into the water body

is significantly less than that of the Dublin Gateway Project extension, which is reflected in the comparative scoring. There is the potential for indirect, long term, moderate negative impacts on water quality with an increase in operations at the Port (including an increase in vessel trip frequency and size passing through the Port) resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in-combination slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in throughput post-construction phase.

Several areas for the proposed development of MP2 could be within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas will require further flood risk assessment at the detailed level to ascertain if the proposed infrastructure is appropriate. These developments could be planned for multi-benefit as flood defences and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port. The creation of a manoeuvring space at the eastern entrance to the Port's working quays will not be impacted by and will have no impact on local flood risk.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, slight negative construction phase impacts on water quality with construction works adjacent to the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port. These developments are however unlikely to negatively impact water status in the long term.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, slight increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people using Dublin Port, putting pressure on the existing facilities. There is the potential for long term, cumulative and in-combination, slight negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem to port development and the increase in people using the Port post-construction phase.

Several areas of the proposed public realm and heritage trail have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. Developments in these areas will require further flood risk assessment at the detailed level to ascertain if the proposed infrastructure is appropriate. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for direct, temporary construction phase, slight negative impacts on water quality with construction works directly in and adjacent to the Liffey Estuary Lower water body resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for direct, long term, slight negative impacts on water body morphology with increased man-made structures at the Port including the reclamation of 12.6 ha of seabed. However the Liffey Estuary Lower water body is designated as a HMWB as is already heavily modified by the existing port infrastructure, with less stringent WFD objectives in place. There is the potential for indirect, long term, moderate negative impacts to water quality with an increase in operations at the Port resulting in greater potential for accidental releases and runoff of pollutants into the Liffey Estuary Lower water body. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental release and runoff of pollutants into the water bodies surrounding Dublin Port. There is the potential for long term, cumulative and in-combination, moderate negative impacts with normal port operations ongoing in tandem with increased port operations resulting from the development, providing greater potential for accidental releases and runoff of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is the potential for long term, moderate increases in wastewater generated at Dublin Port per unit of freight and passenger throughput with increases in people travelling through Dublin Port, putting pressure on the current facilities.. There is the potential for long term cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with port development and the increase in throughput post-construction phase.

The development of a bridge over the River Liffey should not be impacted by and will have no impact on local coastal flood risk, however has the slight potential to cause additional back up effects on fluvial flooding from the River Liffey, with the potential for direct and indirect negative impacts in the long term. Several areas of the proposed revised road network in the Southern lands and the area for development of a multi-purpose berth in front of the Poolbeg Power Station have been identified as being within Flood Zone A (>0.5% AEP) and Flood Zone B (0.1% to 0.5% AEP) for present day coastal flood risk. These developments are likely to be considered less vulnerable or water compatible, however may still require further flood risk assessment at the detailed level. These developments could be planned for multi-benefit as flood defences and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for direct, temporary construction phase, slight negative impacts on water quality with works directly adjacent to the Dublin Bay and Liffey Estuary Lower water bodies, resulting in greater potential for accidental releases and runoff of pollutants. There is the potential for long term, localised slight improvements of water quality with reduced potential for spills and runoff with the greenway and public realm acting as a buffer between port operations and the natural environment. There is the potential for temporary, cumulative and in-combination, slight negative impacts with normal port operations ongoing in tandem with development, resulting in greater potential for accidental releases of pollutants into the water bodies surrounding Dublin Port.

There is the potential for temporary, construction phase, slight increases in water usage and wastewater generated at Dublin Port. There is unlikely to be any long term changes in water consumption and wastewater generated post construction of the greenway and public realm areas.

The areas of the proposed southern greenway and public realm have not been identified as being at risk of coastal or fluvial flooding and will not be impacted by and will have no impact on local flood risk.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for temporary construction phase, slight negative impacts on water quality with construction works in close vicinity to the Ward river water body resulting in greater potential for accidental release and runoff of pollutants into this water body. There is the potential for indirect, long term, slight negative impacts to water quality with an increase in operations at Dublin Inland Port resulting in greater potential for accidental release and runoff of pollutants into the Ward water body. There is the potential for long term, cumulative and in-combination, slight negative impacts with normal industrial operations in the vicinity of the Dublin Inland Port (including the Dublin Airport Logistics Park) ongoing in tandem with increased port operations resulting from the development of Dublin Inland Port.

There is the potential for temporary construction phase increases in water usage and wastewater generated at Dublin Inland Port. There is the potential for long term, cumulative and in-combination, moderate negative impacts on the water usage and wastewater generated with normal port operations ongoing in tandem with the increase in throughput post-construction phase.

As there is no coastal, fluvial or pluvial flood risk predicted at the inland port site it is unlikely that this development will be impacted by or will have any impact on local flood risk.

Air, Noise & Vibration

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial

demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall, Ringsend, Clontarf and Sandymount communities. There is the potential for indirect, long term, infrequent breaches of local air quality, noise and vibration thresholds, with increased industrial operation and traffic to this area post-construction, however are not likely to impact the local communities. There is the potential for temporary cumulative and in-combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased traffic and ships to Dublin Port post-dredging, however not likely to impact the local communities. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased traffic and ships post-construction.

Construction of public realm and greenway.

There is the potential for direct, temporary, infrequent construction phase breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for long term, slight positive impacts from reductions in air pollution, noise impacts and vibration impacts with the greenway acting as a buffer between port activity and the Clontarf community. There is the potential for temporary, cumulative and in-combination impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development; however these impacts are unlikely to extend into the long term.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for direct, infrequent, temporary construction phase breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for indirect, infrequent, long term breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities, with increased road traffic to Dublin Inland Port post-construction. There is the potential for temporary, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal operations in this industrial area ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal operations in this industrial area ongoing in tandem with increased road traffic to Dublin Inland Port post-construction.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration

thresholds, with increased traffic and ships to Dublin Port post-dredging, which are however not likely to impact the local communities. There is the potential for long term, cumulative and in-combination, slight negative, impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased traffic and ships post-construction.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for direct, temporary, moderate negative construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall and Ringsend communities, from traffic, dust and large machinery works. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased industrial operation and traffic to this area post-construction, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in-combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction, from increased port traffic and materials handling.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of building, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the Clontarf and Ringsend communities, from traffic, dust and large machinery works. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds, with increased industrial operation, traffic and ships to Dublin Port post-construction, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in-combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction, from increased port traffic and materials handling.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, infrequent, construction phase, local breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for temporary, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is unlikely to be any long term impacts on air quality, noise and vibration from these developments.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-

purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for direct, temporary, construction phase breaches of air quality, noise and vibration thresholds, potentially impacting the East Wall and Ringsend communities. There is the potential for indirect, long term, infrequent breaches of air quality, noise and vibration thresholds with increased industrial operation and traffic to this area post-construction, potentially impacting the East Wall and Ringsend communities. There is the potential for temporary, cumulative and in-combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, moderate negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with increased port operations and traffic post-construction.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for direct, infrequent, temporary construction phase breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for long term, slight reductions in air pollution, noise impacts and vibration impacts with the greenway and public acting as a buffer between port activity and the Ringsend community. There is the potential for temporary, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal port operations ongoing in tandem with development.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for direct, infrequent, temporary construction phase breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities. There is the potential for indirect, infrequent, long term breaches of air quality, noise and vibration thresholds, which are however not likely to impact the local communities, with increased road traffic to Dublin Inland Port post-construction. There is the potential for temporary, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal operations in this industrial area ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight negative impacts on air quality, noise and vibration with normal operations in this industrial area ongoing in tandem with increased road traffic to Dublin Inland Port post-construction.

Climatic Factors

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for direct, temporary, moderate, construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port and a loss of GHG sequestering natural cover. There is the potential for temporary cumulative

and in-combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

All areas of the proposed ABR project have been identified as being within either Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments have been planned at the detailed project level to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for direct, temporary, slight, construction phase increases in GHG emissions and carbon footprint from dredging over the course of the dredging programme. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with the dredging resulting in increases in vessel trips and sizes to the Port. There is the potential for temporary cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with dredging. There is the potential for long term, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased ship traffic resulting from dredging works.

The capital dredging programme will not be impacted by and will have no impact on climatic change influenced flooding.

Construction of public realm and greenway.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for direct, long term, slight decreases in GHG emissions and carbon footprint with the greenway enhancing natural GHG sequestering vegetation. There is the potential for temporary cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with construction works.

All areas of the proposed greenway and public realm have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments could be planned to be adaptable to climatic change influenced flooding and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for direct, temporary construction phase, slight increases in GHG emissions and carbon footprint with increased traffic and construction emissions at Dublin Inland Port. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater road traffic to Dublin Inland Port

and greater ship traffic to Dublin Port, and a loss of GHG sequestering semi-natural cover at the Dublin Inland Port. There is the potential for temporary, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

As there is no coastal, fluvial or pluvial flood risk predicted at the inland port site it is unlikely that this development will be significantly impacted by or will have significant impact on climatic change influenced local flood risk. Detailed assessment of this would however need to be undertaken in a project level flood risk assessment.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint from dredging over the course of the dredging programme. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with the dredging resulting in increases in vessel trips and sizes to the Port. There is the potential for temporary, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with dredging. There is the potential for long term, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased ship traffic resulting from dredging works.

The capital dredging programme will not be impacted by and will have no impact on climatic change influenced flooding.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for direct, temporary, moderate, construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the Port. There is the potential for temporary, cumulative and in-combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

Some areas of the North Quay Wall and the potential area for the washwall have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments could be planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container

terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for direct, temporary construction phase, moderate increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with development resulting in increases in port activity, including greater traffic (marine and road) to the Port. There is the potential for temporary, cumulative and in-combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

All areas for the proposed development of MP2 could be within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. Developments in these areas will require further flood risk assessment at the detailed level to ascertain if the proposed infrastructure is appropriate. These developments could be planned for multi-benefit as flood defences and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port. The creation of a manoeuvring space at the eastern entrance to the Port's working quays will not be impacted by and will have no impact on local flood risk.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for direct, temporary, slight construction phase increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for temporary, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There are unlikely to be any long term impacts of the development on GHG emissions and Carbon footprints.

The proposed areas for public realm and heritage trail have been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments could be planned to be adaptable to climatic change influenced flooding. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for direct, temporary construction phase, moderate increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for indirect, long term, moderate increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater traffic (marine and road) to the

Port and a loss of GHG sequestering natural cover with the reclamation areas for the SPAR and deepwater berths. There is the potential for temporary, cumulative and in-combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, moderate increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

The development of a bridge over the River Liffey should not be impacted by and will have no impact on local coastal flood risk, however has the potential to cause additional back up effects on fluvial flooding from the River Liffey, with the potential for direct and indirect, moderate negative impacts in the long term. Several areas of the proposed revised road network in the Southern lands and all the area for development of a multi-purpose berth in front of the Poolbeg Power Station has been identified as being within Flood Zone A (>0.5% AEP) or Flood Zone B (0.1% to 0.5% AEP) for mid-range future scenario coastal flood risk. These developments could be planned for multi-benefit as flood defences and could provide wider protection to Port facilities and infrastructure. As this is coastal flood risk, there is unlikely to be any knock on effects of flooding to the surrounding area, however there is the potential for localised knock on effects within the Port.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for direct, temporary construction phase, slight increases in GHG emissions and carbon footprint with increased traffic and construction emissions. There is the potential for direct, long term, slight decreases in GHG emissions and carbon footprint with the greenway and public realm areas enhancing natural GHG sequestering. There is the potential for temporary, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with construction works.

The areas of the proposed southern greenway and public realm have not been identified as being at risk of coastal or fluvial flooding, for mid-range future scenario flood risk, and will not be impacted by and will have no impact on local flood risk.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for direct, temporary construction phase, slight increases in GHG emissions and carbon footprint with increased traffic and construction emissions at Dublin Inland Port. There is the potential for indirect, long term, slight increases in GHG emissions and carbon footprint with construction resulting in increases in port activity including greater road traffic to Dublin Inland Port and greater ship traffic to Dublin Port, and a loss of GHG sequestering semi-natural cover at the Dublin Inland Port. There is the potential for temporary, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with development. There is the potential for long term, cumulative and in-combination, slight increases in GHG emissions and carbon footprint with normal port operations ongoing in tandem with increased port activity resulting from construction works.

As there is no coastal, fluvial or pluvial flood risk predicted at the inland port site it is unlikely that this development will be significantly impacted by or will have significant impact on climatic change influenced local flood risk. Detailed assessment of this would however need to be undertaken in a project level flood risk assessment.

Material Assets & Infrastructure

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

Development of the ABR project will provide new port infrastructure in the medium to long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the short term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

Development of the ABR project is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the short term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for short term disturbance impacts to port operations and infrastructure as a result of the capital dredging programme. This dredging programme however provides the potential for medium and long term increases in port activity and throughput by allowing for larger and greater numbers of vessels visiting the Port. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

The capital dredging programme gives the potential for short term, temporary, moderate increases in dredge materials directed to the offshore dumpsite, however there is no net loss of materials from the Bay with tides constantly recycling/moving dredged fine sands from the dumpsite around the Dublin Bay area. Indirectly this dredging contributes to increased capacity at the Port that is likely to lead to medium and long term increases in wastes generated by Port activity. However based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Construction of public realm and greenway.

Development and operation of the new public realm and greenway will provide new, green infrastructure for the public to use in the medium and term, however may have slight disturbance

impacts to local port activity in the short term.

Development of the public realm and greenway is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the public realm and greenway areas in the medium and long term during operation, and materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

Development of the Dublin Inland Port will provide new port infrastructure in the medium to long term, with no disruption to existing port activity in the short term. These developments in the short term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term. The Dublin Inland Port however has excellent connectivity to the strategic road network.

Development of the Dublin Inland Port is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the short term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for short term disturbance impacts to port operations and infrastructure as a result of the capital dredging programme. This dredging programme however provides the potential for long term increases in port activity and throughput by allowing for larger and greater numbers of vessels visiting the Port. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the long term.

The capital dredging programme gives the potential for medium term, temporary, moderate increases in dredge materials directed to the offshore dumpsite, however there is no net loss of materials from the Bay with tides constantly recycling/moving dredged fine sands from the dumpsite around the Dublin Bay area. Indirectly this dredging contributes to increased capacity at the Port that is likely to lead to long term increases in wastes generated by Port activity. However based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on

Southern side of Liffey.

The demolition of part of the North Quay Wall will provide new port infrastructure in the medium to long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase of the North Quay Wall demolition and development of the washwall should be able to be minimised through good planning and timing of works. This development in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

The demolition of part of the North Quay Wall is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. Waste materials from these developments can be re-used on site during construction where possible. This development in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

Completion of the MP2 Project will provide new port infrastructure in the medium to long term, with minimal disruption to existing port activity in the short term. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term.

Completion of the MP2 Project is likely to create additional construction phase wastes including dredge materials in the short term, with additional materials potentially being sent to the dumpsite (in the case of dredged material) and landfill. Waste materials can be re-used on site during construction where possible. These developments in the short term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

Development and operation of the new public realm in the northern Port Lands will provide new recreational infrastructure for the public to use in the long term, however may temporarily have slight disturbance impacts to local port activity during construction.

Development of the public realm is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the public realm in the long term during operation, and materials sent to landfill should not increase in the long term, including cumulatively or in-combination with wastes from ongoing port operations.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

Development of the Southern Port Lands and bridge will provide new port infrastructure in the long term, with minimal temporary disruption to existing port activity. Disturbances to port activity during the construction phase should be able to be minimised through good planning and timing of works. These developments in the medium term of the Plan will lead to long term moderate increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause slightly increased disturbance and disruption to local traffic and the local road network in the medium and long term.

Development of the Southern Port Lands and bridge is likely to temporarily create additional construction phase wastes, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

Development and operation of the new greenway and public realm area, and reopening of a section of the Great South Wall will provide new green infrastructure for the public to use in the medium and long term, however may have slight disturbance impacts to local port activity in the short term.

Development and operation of the new greenway and public realm area, and reopening of a section of the Great South Wall is likely to create additional construction phase wastes in the short term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. There is unlikely to be additional significant wastes generated by the greenway in the medium and long term during operation, and materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Development of the Dublin Inland Port and relocation of non-core users to Dublin Inland Port.

Development of the Dublin Inland Port will provide new port infrastructure in the long term, with no disruption to existing port activity in the medium term. These developments in the medium term of the Plan will lead to long term increases in port capacity and activity, and will contribute to reaching a throughput of 77 million tonnes per annum. Increased Port throughput is however likely to indirectly cause increased disturbance and disruption to local traffic and the local road network in the medium and long term. The Dublin Inland Port however has excellent connectivity to the strategic road network.

Development of the Dublin Inland Port is likely to create additional construction phase wastes in the medium term, with additional materials potentially being sent to landfill. These waste materials can be re-used on site during construction where possible. These developments in the medium term of the Plan will lead to long term increases in port capacity, activity and throughput, which is likely to create more wastes for recycling, reusing or sending to landfill. Based on the current DPC waste management programme the proportions of materials sent to landfill should not increase in the medium and long term, including cumulatively or in-combination with wastes from ongoing port operations.

Cultural, Architectural & Archaeological Heritage

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is the potential for temporary construction phase, moderate impacts on the setting of the NIAH sites in close vicinity to Alexandra Basin West, and a potential for loss of or damage to locally designated heritage features. There is the potential for permanent loss or damage to unidentified heritage features with the infilling of Berths 52/53 and a graving dock.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is the potential for temporary construction phase, slight impacts on the setting of, and damage to, local heritage features, particularly shipwrecks with the dredging works. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging programme.

Construction of public realm and greenway.

There is unlikely to be any impacts on cultural heritage features with the development of the public realm and greenway, with there being no known heritage features or sites located in the vicinity.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

There is the potential for permanent loss or damage to the three enclosures located within the

Dublin Inland Port, and to unidentified heritage features in this area with the development of the site. There is the potential for long term increased awareness of heritage features with the potential for new features to be discovered during the development of the Dublin Inland Port.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is the potential for temporary construction phase, slight negative impacts on the setting of, and damage to, local heritage features, particularly shipwrecks with dredging works. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging programme.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for temporary reduction in the incorporation of heritage features into the Port Estate, with the dismantling of the North Quay Wall Lighthouse in order to allow for it to be moved to a new location on the North Quay Wall. There is the potential for long term increased awareness of the North Quay Wall Lighthouse once it has been relocated.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for permanent loss of or damage to unidentified marine heritage features with reclamation required to construct a new jetty. There is the potential for temporary, construction phase impacts on the setting of and damage to local heritage features, particularly shipwrecks. There is the potential for long term increased awareness of port heritage features with shipwrecks and associated heritage features being discovered and conserved throughout the dredging works.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for medium and long term increased protection of several heritage features including the graving dock and pump house with significant incorporation of these features into the Port Estate. In addition there is likely to be the creation of amenity value for a number of features including the North Quay Wall Lighthouse, giving significant positive impacts in the long term.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations adjacent to the Poolbeg SDZ West scheme.

There is the potential for temporary, construction phase impacts on the Tom Clarke Bridge which is designated as a conservation area in the Dublin City Council Development Plan 2016-2022, with

the potential construction of a bridge directly adjacent to it. There is the potential for permanent impacts (including damage or loss) to the nationally designated sea wall directly adjacent to the reclaimed area. There is the potential for permanent loss or damage to unidentified marine heritage features with the reclamation works area.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for temporary construction phase, slight loss of access to heritage features with works on a section of the Great South Wall, which is designated as a national monument on the RMP. There is the potential for the long term incorporation of heritage features into the Port with the extension/upgrade of the Great South Wall.

Development of the Dublin Inland Port and relocation of non-core users to Dublin Inland Port.

There is the potential for permanent loss or damage to the three enclosures located within the Dublin Inland Port, and to unidentified heritage features in this area with the development of the site. There is the potential for long term increased awareness of heritage features with the potential for new features to be discovered during the development of the Dublin Inland Port.

Landscape & Visual Amenity

SHORT TERM

Development of the ABR Project including infilling of Berths 52/53, development of a new river berth and the development of Alexandra Basin West. Non-ABR related development within the Alexandra Basin West will include the development of a new bulk solid conveyor system and partial demolition of existing buildings to extend Ocean Pier multi-purpose area.

There is unlikely to be any impacts in the short, medium and long term, on the overall landscape and visual amenity of the area with no sensitive or designated landscapes, or sensitive receptors in close vicinity to these areas of development, in an already heavily developed area.

Commencement of a capital dredging programme to deepen the Alexandra Basin West and navigation channel to a depth of -10 mCD as part of the ABR Project.

There is unlikely to be any additional impacts of the dredging on the seascape and visual amenity of the area, with ships in this area being the norm, arriving into and leaving Dublin Port regularly, alongside ongoing maintenance dredging works.

Construction of public realm and greenway

There is the potential for temporary construction phase, slight negative impacts on local views from areas north of the greenway, across the Tolka Estuary. There is the potential for long term improvement of local views from areas north of the greenway, across the Tolka Estuary, with the greenway acting as a buffer between port operations and local receptors, thereby slightly improving the landscape of the area.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

With the Dublin Inland Port being set amongst Dublin Airport and the Airport Logistics Park, there is unlikely to be any significant, long term impacts on the overall landscape and visual amenity, with no sensitive or designated landscapes in the vicinity. In this location there are very few local receptors that could be impacted by the development.

MEDIUM TERM

Completion of the capital dredging programme as part of the ABR Project.

There is unlikely to be any additional impacts of the dredging on the seascape and visual amenity of the area, with ships in this area being the norm, arriving into and leaving Dublin Port regularly, alongside ongoing maintenance dredging works.

Completion of the ABR Project i.e. demolition of North Quay Wall and development of washwall on Southern side of Liffey.

There is the potential for temporary construction phase, slight negative impacts on local views and the local landscape from Ringsend which is directly south of the north Quay Wall, across the River Liffey. There is unlikely to be any long term, negative impacts of the partial demolition of the North Quay Wall on the landscape/seascape, or on views to local receptors.

Completion of the MP2 Project i.e. construction and operation of UFT and neighbouring container terminal including demolition and reclamation of berths, construction of a new jetty requiring land reclamation, demolition and construction of buildings, and creation of a 400 m manoeuvring space at the eastern entrance to the Port's working quays.

There is the potential for temporary construction phase, slight negative impacts of the reclamation works for the construction of the jetty directly south of the North Bull Island Special Amenity Area. There is the potential for long term, slight negative impacts on the seascape and visual amenity of the North Bull Island Special Amenity Area with the creation of a jetty within the natural marine habitat, beyond the current extents of the Port.

Public realm works including the conservation of a graving dock and pump house in Northern Port Lands, and the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone as part of the Port Heritage Trail.

There is the potential for temporary construction phase, slight negative impacts of development of the Stoney Blocks interpretative zone on local views from the area around the Tom Clarke Bridge. There is the potential for long term improvement of local views with the provision of the North Quay Wall Light House and Stoney Blocks interpretative zone adjacent to the area around the Tom Clarke Bridge and north (across the River Liffey) of Ringsend.

Development of the SPAR (requiring construction of a bridge over the River Liffey and partial infill of the southern foreshore of the Inner Liffey Channel) and upgrading the road network in the Southern Port Lands. Reclaiming and redevelopment of 13.8 ha for deepwater Lo-Lo and multi-purpose berths, relocating Lo-Lo operations east towards Poolbeg Power Station away from the Poolbeg SDZ West scheme. This relocation will allow for development of Ro-Ro operations

adjacent to the Poolbeg SDZ West scheme.

There is the potential for temporary construction phase, slight negative impacts of development of the SPAR on local views in the area, including the new bridge over the River Liffey. There is the potential for temporary construction phase, slight negative impacts of reclamation and construction of new berths on the landscape and seascape. There is the potential for long term, slight negative impacts of the SPAR, including the new bridge over the River Liffey, on local views in the area with increases in road traffic, and the development of the new berths, in previously natural marine habitat, to the landscape and seascape of the area.

Extension/upgrade of Southern Greenway, reopening of section of Great South Wall as public realm and allocation of 4 ha public realm to create buffer between Southern Port Lands and the Poolbeg SDZ West scheme.

There is the potential for temporary construction phase, slight negative impacts on local views from Ringsend which is located directly adjacent to the greenway and public realm areas. There is the potential for long term, slight improvement of local views from Ringsend, with the greenway and public realm acting as a buffer between port operations and the Ringsend community.

Development of Dublin Inland Port and relocation of non-core users to the Dublin Inland Port.

With the Dublin Inland Port being set amongst Dublin Airport and the Airport Logistics Park, there is unlikely to be any significant, long term impacts on the overall landscape and visual amenity with no sensitive or designated landscapes in the vicinity. In this location there are very few local receptors that could be impacted by the development.

Summary of Impacts

There is the potential for short term, slight to moderate negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage and landscape from development of Dublin Port with this option. These impacts are mainly construction phase disturbances, some of which could be mitigated for with good planning and management. Short term benefits include increases in employment, cleaning up of contaminated soils, and protection of existing and creation of new material assets, all of which improve and extend into the medium and long term. This option will provide port infrastructure likely that is capable of handling the 77 million tonnes of throughput per annum that is envisaged for 2040, resulting in long term significant benefits. There is the potential for medium and long term negative impacts on biodiversity, population and human health, geology, soils and land use, water, air, noise and vibration, climatic factors, cultural heritage, and landscape with the construction and operation of the proposed infrastructure options. Although there is the potential for moderate negative impacts on some material assets in the medium term during construction, this is likely to reduce to slight negative impacts in the operational phase with greater freight and passenger throughput. Green amenity areas, including the greenways in the Northern and Southern Port Lands, which will act as buffers between port activity and sensitive receptors, are likely to result in long term significant benefits to biodiversity, medium and long term slight benefits to water, long term slight benefits to air, noise and vibration, long term slight benefits to climatic factors, and long term slight benefits to landscape. The ABR Project incorporates flood risk assessment at the detailed project level, and will provide wider protection to Port facilities and infrastructure, thereby resulting in medium and long term slight benefits to water and climatic factors. Lastly, there is the potential for significant long term benefits to local heritage with the protection and enhancement of a number of heritage features.

The NIS has concluded that development in the short term has the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to

Dalkey Island SAC, North Bull Island SPA, and South Dublin Bay and River Tolka SPA. The NIS has concluded that development in the medium term has the potential to impact on the integrity of the South Dublin Bay SAC, North Dublin Bay SAC, Lambay Island SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, and South Dublin Bay and River Tolka Estuary SPA.

F.4 OPTION 2: CUMULATIVE / IN-COMBINATION DEVELOPMENT IMPACTS

The Dublin Port Masterplan 2012 is proposing all development projects to be ongoing in tandem with normal port operations, providing for the most significant cumulative and in-combination, positive and negative impacts on receptors in the area. The simultaneous construction of several developments is likely to result in temporary, cumulative and in-combination impacts on the wider environment unless well phased and well planned approaches are developed that can minimise or eliminate the potential for these collective construction impacts.

A number of cumulative and / or in-combination impacts with other Plans and Programmes have been identified. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 and the Dublin City Development Plan 2016-2022 have the potential for impacts in relation to planned infrastructure. In particular, the Poolbeg West SDZ in the Southern Port Lands is designated for mixed use development (which may principally include residential development, commercial and employment activities) in the timeframe of the Dublin Port Masterplan. Development in the area surrounding the Port Estate also includes a 170,000 square foot office building which was approved in March 2016 to be built in the Point Square, and will accommodate up to 2,000 workers. These developments will result in receptors moving closer to Dublin Port as port activity is increasing, leading to cumulative and in-combination impacts on local traffic, air pollution, noise and vibration levels, and the local landscape. It is likely that good planning and timing of works should be able to minimise the potential for cumulative or in-combination negative effects in the construction phases of these developments. Future iterations of the Development Plans should have regard to the Dublin Port Masterplan 2012 for future planning zones and proposed development areas, to minimise the potential for cumulative and in-combination impacts with the implemented and proposed works from the Masterplan.

Inshore management in areas that have ongoing and recurring works, such as dredging operations, will need to be carefully planned to minimise the potential for cumulative and / or in-combination impacts, such as on water quality. If possible, these works may be able to be combined to provide future positive symbiotic impacts.

The Dublin Port Masterplan will bring in greater numbers of tourists to the area with increases in cruise liners to Dublin Port, resulting in synergistic benefits with the tourism and recreational sectors in Ireland. This could lead to long term cumulative and in-combination positive impacts on population and material assets. Visitor pressures may increase with the implementation of the Masterplan 2012 and the possibility of an in-combination effect arises as a result of increased demand for and use of the Greenway along the edges of the northern and southern port lands due to the policies, objectives

and zonings contained in the Regional Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan. The principals of screening will however be applied to the detailed design of the Greenways to ensure that they do not cause a significant decrease in the range, timing or intensity of use of intertidal areas by overwintering waterbird species in South Dublin Bay and River Tolka Estuary SPA.

