Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

NORTH LOTTS & GRAND CANAL DOCK

PLANNING SCHEME

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

ENVIRONMENTAL REPORT

Prepared by
Planning and Economic Development Department
Dublin City Council
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Table of Contents

Section 9 Monitoring Measures

List of Abbreviations

AA	Appropriate Assessment
BAP	Biodiversity Action Plan
BOD	Biological Oxygen Demand
CFRAMS	Catchment Flood Risk Area Management Studies
CHP	Combined Heat and Power
COD	Chemical Oxygen Demand
CSO	Central Statistics Office
CSOs	Combined Sewer Overflows
DBTF	Dublin Bay Task Force
DCIHR	Dublin City Industrial Heritage Record
DDDA	Dublin Docklands Development Authority
DoEHLG	Department of Environment, Heritage and Local Government
DoECLG	Department of Environment, Community & Local Government
DTO	Dublin Transportation Organisation
CO_2	Carbon Dioxide
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPO	Environmental Protection Objective
ER	Environmental Report
ERBD	Eastern River Basin District.
ESB	Electricity Supply Board
EU	European Union
FSD	Framework for Sustainable Development
GDA	Greater Dublin Area
GDSDS	Greater Dublin Strategic Drainage Study
GHGs	Green House Gases
GIS	Geographical Information Systems
LCA	Landscape Conservation Area
NDP	National Development Plan
NHA	Natural Heritage Area
NIAH	National Inventory Architectural Heritage
NOx	Nitrogen Oxides
NPWS	National Parks and Wildlife Services
NSS	National Spatial Strategy
NTS	Non Technical Summary
OPW	Office of Public Works
pNHA	Proposed Natural Heritage Area
PM_{10}	Particulate Matter
POM	Programme of Measures
QBC	Quality Bus Corridor
RBMP	River Basin Management Plan
RPG	Regional Planning Guidelines

RPS	Record of Protected Structures
SAAO	Special Amenity Area Order
SAC	Special Area of Conservation
SAFER	Strategies and Actions for Flood Emergency Risk Management
SPA	Special Protection Area
SEA	Strategic Environmental Assessment
SuDS	Sustainable Urban Drainage Systems
SDZ	Strategic Development Zone
WFD	Water Framework Directive
WSA	Water Services Supply Area
WSSP	Water Services Strategic Plan
WWTP	Waste Water Treatment Plant

Glossary of Terms and Phrases

Appropriate Assessment :An assessment based on best scientific knowledge, by a person with ecological expertise, of the potential impacts of the plan on the conservation objectives of any Natura 2000 sites (including Natura 2000 sites not situated in an area encompassed by the plan or scheme) and the development, where necessary of mitigation or avoidance measures to preclude negative effects.

Biodiversity: Describes the variability among living organisms on the earth, including the variability within and between species and also within and between ecosystems.

Brownfield Site: Land that is or was occupied by a permanent structure, which has become vacant , underused or derelict and has the potential for redevelopment.

Climate Change: Long Term variations in global temperature and weather patterns, which occur both naturally and as a result of human activity, primarily through greenhouse gas emissions.

Combined Heat and Power: is a system that involves the recovery of waste heat from power generation to form useful energy like useable steam. Combined heat and power is also the production of electricity and thermal energy in a single integrated structure.

Compact City: This term is used to explain a less wasteful pattern of development within the urban area. In spatial terms , all land areas would be used efficiently with effective integration f different uses, services and public transportation. The edges and boundaries of the urban area would be well defined. A city like Barcelona is a good case study.

Core Strategy: Means the strategy contained in a development plan in accordance with Section 5 of the Planning and Development Bill, 2009. The core strategy must show that development plan objectives are consistent with, as far as practicable with national and regional development objectives set out in the National Spatial Strategy and Regional Planning guidelines.

District Heating: District heating (less commonly known as teleheating) is a system for distributing heat generated in a centralised location for residential and commercial heating requirements such as space heating and water heating.

Easter River Basin District : incorporates all or part of twelve counties, Westmeath, Meath, Cavan, Kildare, Offaly, Fingal, South Dublin, Dunlaoghaire- Rathdown, Wicklow, a small portion of Wexford and Louth and Dublin City.

Environmental Protection Objectives : Measures used to show whether the objectives of a plan are beneficial to the environment , to compare the environmental effects or alternatives, or to suggest improvements, if complied with in full, the environmental objectives set should result in an environmentally neutral impact from implementation of the plan.

Environmental Report The part of the plan's documentation which contains the information required by Article 5 and Annex 1 of the SEA Directive.

Flood Risk Assessment: A study to assess the risk of flooding under both the present and future circumstances, such as changes in climate, land use, development or flood risk management.

Flood Risk Management: combines the function of mitigating and monitoring flood risks and may include pre-flood, flood event or post flood activities.

Framework for Sustainable Dublin: This is the term for an overarching structure to co-ordinate , inform and set in place effective guidance over other polices and decision to reach sustainable targets and a sustainable course for the city of Dublin.

Green Corridor: Linear green connection along road and rail routes, rivers and canals, and including cycling routes and rights of way. These interconnect larger open spaces, habitats and areas of natural landscape.

Green Infrastructure: This term is used in two ways. It can describe a network of connected, high quality, multifunctional open spaces, corridors, and the links in between that provide environmental services and multiple benefits for people and wildlife. It is also used to describe a broad range of design measures, techniques and materials that have a sustainable character and have a beneficial environmental impact such as solar panels, wind turbines etc.

Green Roof: A roof with living vegetation growing in a substrate or growing medium, also referred to as eco-roofs, vegetated roofs, or living roofs.

Habitat: A place in which a particular plant of animal lives. Often used in the wider sense referring to major assemblages of plants and animals found together.

Indicators: This word is used either singularly or in conjunction with another term (e.g Sustainable Indicators) and means a measurable and quantitative statistic which, when grouped over a time period, shows a trend.

Key Developing Areas: These are significant and strategic development zones within the city. Their co-ordinated development and inclusion of sustainable principles are an integral part of the core strategy for the city. Proper planning and sustainable development will be guided in these zones by documents such as local area plans and master plans. The main growth areas identified for development in the lifetime of the plan e.g. The North Fringe, Pelletstown, Park West, Cherry Orchard and the Docklands. They combine the main elements of the government's developing areas Initiative (for the co-ordinated delivery of social and physical infrastructure in such areas) with the 'Framework Development Areas' of the current development plan. The development of these areas will create clusters of economic, commercial and residential neighbourhoods close to public transport corridors in accordance with the core strategy of the plan.

Key District Centres: Localised hubs of commercial, retail, employment and community facilities with a distinctive local identity – usually in the form of urban villages and generally delivered by the Z4 (Mixed Services) zoning. There are 9 KDCs, including 2 in the North Fringe key developing area, Finglas, Ballyfermot, Rathmines and Phibsborough Key district centre can lie with a Key Developing Area, as the anchor to the larger area e.g. Ballymun, North Fringe, Rathmines Village is an example of a KDC in its own right that does not lie within key developing area Pelletstown, in contrast, still has growth potential as a key developing area, and does not have a key district centre within it – but has 2 smaller neighbourhoods instead. Also describes distinctive locations in

the inner and outer suburbs of the city that are important focal points for mixed services and facilities that service a distinct catchment area. They include historical town centres such as Rathmines and Phibsborough and the major service zones for new emerging areas such as the North Fringe and Ballymun. This term has replaced the designation of Prime Urban Centres (PUCs) under the 2005-2011 Dublin City Development Plan. Strategically radial routes and public transport routes accessing the city centre, their capacity for future development and their contribution to creating distinctive and special character areas throughout the city.

Kyoto Protocol: An international environmental treaty which legally binds countries that signed into the treaty to reduce their production of greenhouse gases by defined targets over a specified time period. The treaty was signed in 1997 in the city of Kyoto Japan and came into effect in 2005. Targets are set to achieve reductions in emissions by set percentages below 1990 levels.

Metropolitan Area: This is a term used in Regional Planning guidelines and is a reference to the existing built up area of Dublin and its immediate environs (which includes parts of each of the four Dublin local authorities). It is a distinct urbanised area.

Mitigation: The term is used to describe an action that helps to lessen the impacts of a process or development on the receiving environment. It is used most often in association with measures that would seek to reduce negative impacts of a process or development.

Modal shift: This is a term used to describe a situation where people change their travel behaviour (usually between home and work) from a particular type of transport (private car for example) to another more sustainable form of travel (public transport for example).

Over-arching sustainable framework: This is a reference for an overall, city wide guiding structure to co-ordinate and provide effective guidance across all policies and decisions in the achievement of a sustainable city. The Framework for Sustainable Dublin (FSD) is a specific framework established to achieve this.

River Basin Management Plan: As required by the EU Water Framework Directive (2000/60/EC), these plans will establish a strategic plan for the long-term management of the River Basin district.

Scoping: Process to determining what issues are to be addressed and setting out a methodology in which to address them in a constructed manner appropriate to the plan or programme. Scoping is carried out in consultation with the appropriate bodies.

Strategic Environment Assessment: This is a statutory process of assessment to examine the likely significant environmental effects of a plan or programme, prior to their adoption. It identifies consequences of actions prior to implementation and requires appropriate mitigation measures to remove identified impacts as part of the plan or programme. The SEA process came into force in July 2001 from an EU Directive (EU Directive 2001/42/EC).

Sustainable Development: Sustainable development is a very important term in planning and development policies and is used to describe the character of development that minimises negative impacts on the environment and its natural resources. The definition of Sustainable Development comes from the Brundtland

Commission (1983) which states it as development " that meets the needs of the present without compromising the ability of future generations to meet their own needs". The Brundtland Commission was convened as a world commission on the environment amid growing concern for the deterioration of the natural environment, the depletion of natural resources and consequences for social and economic development.

Sustainable Urban Drainage Systems: A form of drainage that aims to control runoff as close to its source as possible using a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques.

Synergies: This term refers to strong connections between different locations, a complimentary character in terms of activities and types of uses and correspondingly strong interactions between the locations with frequent movement patterns between the locations.

Taking in Charge: This is a term to describe when a local authority takes over the running/ maintenance/ownership of lands that were developed privately but which have public access and a wider public benefit in their provision. The local authority thereafter looks after these areas for the public. Examples are residential estate roads and public parks.

Traffic/Transport Assessment: Also referred to as a Traffic Impact Assessment, this is a detailed assessment of the impacts of a proposed development on the transportation systems of the surrounding environment and is used to help inform decisions on design, access proposals, quantum of new car parking etc. It assesses the capacity of the existing street network to absorb additional quantities of trips and makes recommendations for traffic management, promotes integration with public transport etc.

Urban Form: This term is a collective reference for the various separate important elements that create an urban area. These elements include at a broad level the relationship between streets, blocks, individual buildings, open space etc. Understanding the urban form of a particular area can identify strengths and weaknesses of the existing area's character and can inform positive ideas for new proposals to respect or restore the urban form.

Urban Sprawl: A term used to describe uncoordinated or haphazard expansion of urban type development into undeveloped and rural areas that adjoin the boundary of a town or city. Urban sprawl can erode the lines of division between urban locations and the countryside.

Water Framework Directive: A European Community Directive (2000/60/EC) designed to integrate the way we manage water bodies across Europe. It requires all inland and coastal waters to reach "good status" or "good ecological potential" in the case of heavily modified water bodies by 2015

List of Figures

List of Tables

SECTION 1

1. SEA Introduction & Planning Scheme

1.1 Purpose of Strategic Environmental Assessment

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Grand Canal Dock and North Lotts Planning Scheme. The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption of the Planning Scheme. The SEA is carried out in order to comply with the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended. This report should be read in conjunction with the Planning Scheme.

Strategic Environmental Assessment (SEA) is a process described as the "formal, systematic assessment of the likely effects on implementing a plan or programme before a decision is made to adopt the plan or programme" and its purpose is to systematically identify and evaluate the likely significant environmental effects on the plan area and environs of implementing the Planning Scheme. SEA affords a high level of protection of the environment and contributes to the integration of environmental considerations into the preparation of a plan with a view to promoting sustainable development by ensuring that an environmental assessment is carried out of certain plans and programmes which are likely to have effects that are significant on the environment. The SEA informs the plan making authority of the likely and significant environmental effects as a result of implementing the plan. The assessment process is recognised as a central mechanism in promoting sustainable development, in raising awareness of the significant environmental issues experienced by an area and ensuring that these issues are addressed within the capacity of the planning system to do so.

The likely significant effects on the environment of implementing the Planning Scheme, and reasonable plan alternatives, are described and evaluated in this report. This report includes information that may be reasonably required taking into account:

- Current knowledge and methods of assessment
- The contents and level of detail in the plan
- The stage of the plan in the decision-making process, and
- The extent to which certain matters are more appropriately assessed at different levels in the planning process in order to avoid duplication of assessment.

1.2 Legislative Background

European Directive 2001/42/EC of the European Parliament and of the Council of Ministers, on the Environmental Assessment of Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirements of SEA be carried out on plans and programmes which are prepared for a number of sections including land use, transport, energy, waste agriculture etc.

The SEA Directive was transposed into Irish Law in 2004 by two Statutory instruments (S.I's) and were amended in 2011.

- ***European Communities (Environmental Assessment of Certain Plan and Programmes) Regulations 2004, S.I. No.435 of 2004***

- ***European Communities (Environmental Assessment of Certain Plan and Programmes) (Amendment) Regulations 2011, S.I. No. 200 of 2011***
- ***Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I No. 436 of 2004***
- ***Planning and Development (SEA) (Amendment) Regulations 2011, S.I. 201 of 2011***
- ***Planning and Development (Amendment) regulations 2011 S.I. 262 of 2011***

1.3 Integration of SEA Process with Appropriate Assessment and Flood Risk Assessment

The European Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the Habitats Directive, provides for the framework for legal protection of habitats and species of European Importance. An EU wide network of sites known as the Natura 2000 Network was established consisting of Special Areas of Conservation (SACs) and Special Protection Areas (SPA's) protected under the Wild Birds Directive 79/409/EEC. Article 6(3) and 6(4) of the Directive provides for an assessment process which would assess the effects of a proposed plan or project on a Natura 200 site before the plan or project is allowed to proceed. In 1997 the Habitats Directive was transposed into Irish Law through the European Union (Natural Habitats) Regulations S.I.94 and the regulations were later amended by S.I233 (1998) and S.I 378 (2005) . In 2008 the DECLG issued Circular letter SEA 1/08 to Local Authorities regarding AA of Land use Plans, that they had failed to properly transpose the Habitats Directive into Irish Law and implement the Habitats and Birds Directive. To assist local authorities the DECLG issued 'Appropriate Assessment of Plan & Projects in Ireland – Guidance for Planning Authorities'. Many of the Articles within the European Communities (Birds and Natural Habitats) Regulations 2011 S.I.477 came into force in September 2011. Part V of the Regulations relates to AA however these requirements were incorporated into the Planning and Development Act 2000, as amended. The Environment (Miscellaneous Provisions) Act 2011 amends many sections of the planning and Development Act 200 , as amended, and in particular it amends sections relating to AA to ensure European requirements are met. The AA process was run in parallel with the SEA process for the Planning Scheme and informed the SEA process.

The EU Floods Directive (FD) 2007/60/EC on the Assessment and Management of Flood Risks' requires Member States to assess and manage flood risks. The OPW as the lead agency is implementing this process. A National Preliminary Flood Risk Assessment (PFRA) was completed to identify areas where significant flood risk exists. Areas of further assessment were identified throughout the country and were subject to more detailed analysis. These steps are being carried out as part of the National Catchment Flood Risk Assessment and Management (CFRAM) Studies which must be completed by 2015. These CFRAM studies will contain objectives and actions and remedial measures to be taken for managing floods.

The DECLG & OPW prepared the 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities (DECLG & OPW,2009) in order to integrate the assessment and management of flood risk into the planning process. The Guidelines indicate that Flood Risk Assessment (FRA) should be integrated into the SEA process. This should be done as early as possible in the SEA process so that the SEA is fully informed of the flood risks. As part of the SEA process a Stage 2 Flood Risk Assessment

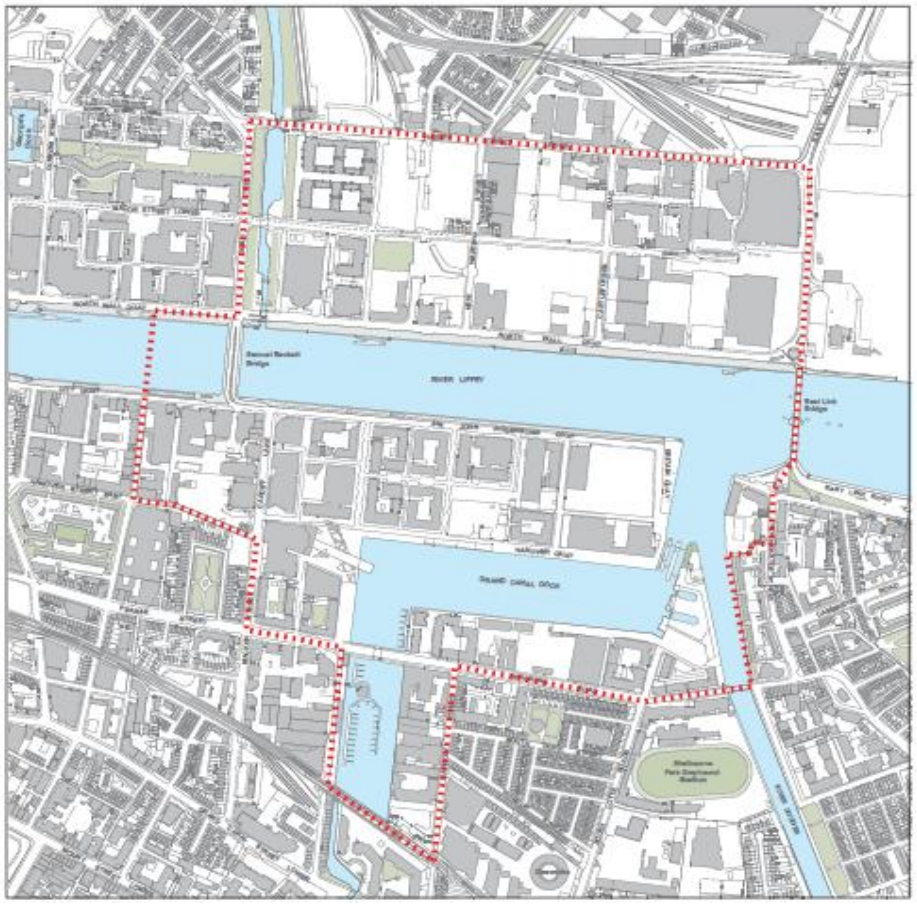
was carried out for the Planning Scheme which included a flood management strategy for the area and best available flood maps. This process was fully integrated into the SEA process.

1.4 Planning Scheme Boundary

The Planning Scheme boundary (see figure 1) equates to the SDZ area as designated by the Minister. This area replaces the two Dublin Docklands Development Authority Section 25 Planning Schemes, namely the North Lotts Planning Scheme and the Grand Canal Dock Planning Schemes. The area as designated is also identified as a Key Developing Area (KDA) and a Strategic Development and Regeneration Area (SDRA) under the core strategy of the Dublin City Development Plan 2011 -2017.

Over the past fifteen years the vast majority of the Docklands area has been successfully redeveloped, however there are a number of strategic sites and vacant lands at the core of the regeneration area in North Lotts and Grand Canal Dock which need to be redeveloped to consolidate the achievements to date and to help sustain a critical mass necessary to support a vibrant mixed-use urban quarter and to attract inward investment. The SDZ area comprises some 66ha of the overall 520ha Dublin Docklands Area, as set out in the Dublin Docklands Master Plan 2008, and relates to the extent of the DDDA's North Lotts and Grand Canal Dock Section 25 Planning Schemes.

Figure 1 – Planning Scheme Boundary



1.5 Statutory Context for SDZ

Part IX of the Planning and Development Act 2000-2011 provides for the designation of a Strategic Development Zone (SDZ) to facilitate development which in the opinion of the Government is of economic or social importance to the State. The Government designated lands at North Lotts and Grand Canal Docks in the Dublin Docklands as a site for a Strategic Development Zone (SDZ) on the 18th December 2012 (S.I.No.530/2012) and specified Dublin City Council as the Development Agency. Where land is designated as an SDZ by Government Order, a Planning Scheme must be prepared by the Development Agency before any development can be permitted in the SDZ Area. The SDZ planning process is detailed in Section 165 to 171 of the Planning and Development Act 2000 – 2010.

1.6 Contents of Planning Scheme

The Planning Scheme document has been prepared by Dublin City Council and comprised of a written document with accompanying maps. An Environmental Report (Strategic Environmental Assessment), Appropriate Assessment and a Flood Risk Assessment also accompany the Planning Scheme.

The structure of the Planning Scheme is as follows:

1) **Introduction and Background**

This chapter sets out the challenges and opportunities facing the area. It sets out the historical context, policy context and background to the Planning Scheme area. With this foundation the chapter sets out the vision, principles, and themes for North Lotts – Grand Canal Dock which underpins all the chapters and aspects of the Planning Scheme.

2) T**he Docklands SDZ area today and the Future**

The chapter sets out the existing key statistics in relation to population and employment. It also provides an analysis of the following areas, including: the profile of the SDZ resident population, the socio economic profile of the SDZ population, modes of travel , educational attainment & housing characteristics

3) **Vision and High Level Themes for Scheme**

This chapter outlines the vision the North Lotts – Grand Canal Planning Scheme area and set out a number of high level themes which include.

i) Sustainability
ii) Economic Renewal & Employment
iii) Quality of Living
iv) Identity
v) Infrastructure
vi) Movement & Connectivity

4) Achieving the Vision and High level Themes

This chapter sets out the achievements to date in the Docklands area and the challenges facing the area and sets out the way forward for the Planning Scheme area. The chapter is divided into a number of subsections as identified below:

a) Economic Regeneration
b) Residential Neighbourhoods
c) Community Development
d) Movement
e) Sustainable Infrastructure
f) Built Heritage
g) Culture
h) Retail
i) Tourism & Leisure
j) Urban Structure & Design, Density, Height
k) Green Infrastructure
l) Public realm
m) Land use & Mix
n) Sustainable Building Quality & Design

5) Nature and Extent of Proposed Development in Scheme

The preceding chapter 4 sets out the high level themes (including the Framework for a Sustainable Dublin) the key structuring principles and the key building blocks, together with a suite of objectives, all of which are necessary to achieve a successful city quarter of social and economic importance in the state.

Chapter 5 translates these identified themes, principles and objectives into a development code to guide the nature and extent of the proposed development in the SDZ.

The urban structure map identifies the main structuring principles and is based on a hierarchy with a declining scale:

1. The historic orthogonal grid
2. The City Blocks
3. Local Streets and spaces
4. The Urban Block
5. The Public Realm
6. The Five Hubs:
    - Station Square/Spencer.
    - Point Village.
    - Grand Canal Square.
    - Britain Quay.
    - Barrow Street/Boland's Mills.

6) Implementation and Monitoring the SDZ Planning Scheme

This chapter sets out how the implementation of the SDZ will operate, the Governance and monitoring, promotion and marketing, and also funding the public infrastructure in the Planning Scheme.

7) SEA & AA Summary

This chapter outlines the statutory context for the SEA and AA procedure and summaries the findings of both Environmental Reports.

1. 7 Main Objective of the Planning Scheme

In line with National & Regional policies and guidelines and the Dublin City Development Plan 2011 -2017, the purpose of the Planning Scheme is to set out the form, scale and nature of development and supporting infrastructure that will enable the delivery of smart growth that is economically sound, environmentally friendly, and supportive of healthy communities – growth that enhances quality of life.

1.8 Relationship with other Relevant Plans and Programmes.

The Planning Scheme for the SDZ has been prepared to accord with the hierarchy of land uses and spatial plans and other relevant policies at national, regional and city level. In particular the SDZ scheme accords with the following hierarchy of strategies and plans:

(Please refer to Appendix C for full list of plans and programmes, and summary of their key objectives)

- **The National Spatial Strategy 2002-2020 (NSS)** recognises that Dublin as the capital city and national gateway plays a vital national role and that the performance of its economy is essential to the success and competitiveness of the national economy. In order to sustain this role as the engine of the economy, it advocates the physical consolidation of Dublin. The Docklands SDZ lies at the heart of the metropolitan core, with its capacity to facilitate a significant supply of modern commercial and office space in tandem with its high levels of accessibility, make it a crucial national resource for innovation, enterprise and employment, and as such it fully accords with the NSS. The premier gateway status is envisaged to remain in any successor to the NSS.

- **The National Development Plan 2007-2013 (NDP)** also supports the regeneration of the wider Docklands Area and acknowledges that it has been a factor that has contributed to the success of the Dublin Gateway.

- **The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (RPGs),** translates the national strategy to the regional level with a similar emphasis on Dublin as the driver of national development and the need to physically consolidate the growth of the Metropolitan Area. The RPGs settlement hierarchy seeks to prioritise and focus investment and growth to achieve integration of infrastructure, employment and new housing. Further consolidation of the Docklands SDZ lands will maximise the use of recently installed physical

infrastructure such as the Luas C1 Extension, the Samuel Beckett Bridge and in the longer term the DART Underground.

- **Transport 21 and Smarter Travel – A Sustainable Transport Future 2009-2010,** are the capital investment frameworks under the National Development Plan to deliver the transport system in Ireland. The Docklands Rail Station at Sherriff Street which caters for mainline commuter services and the extension of the Luas Red Line from Connolly Station to the Point Village have been delivered under Transport 21. The longer term proposals for DART Underground with a station at Spencer Dock will facilitate interchange with the Luas, DART and mainline commuter services, making the proposed SDZ lands highly accessible on a city and national level. The Government's transport policy recognises the vital importance of continued investment in transport to ensure a competitive economy, but also sets out the necessary steps to ensure the use of more sustainable transport modes such as walking, cycling and public transport.

- **Dublin City Development Plan 2011-2017**, reinforces and distils these higher level plans with the promotion of the intensification and consolidation of the city. It seeks to achieve this by way of regeneration and renewal of the inner city and redevelopment of brownfield areas. It also emphasises the city's role as the national gateway and key economic driver of growth for the region and state as a whole, with the need for the city to develop sufficient critical mass to compete at an international level.

  The development plan **core strategy** designates the Docklands, including the Docklands SDZ, as a Key Developing Area (KDA) and a Strategic Development Regeneration Area (SDRA). KDAs relate to those areas of the city with substantial development capacity and the potential to support economic or cultural specialism's essential for the growth and diversification of the city. SDRAs relate to important Brownfield sites with the potential to deliver a significant quantum of mixed uses. The Docklands SDZ exhibits all these characteristics with an opportunity for continued physical and social regeneration of the Docklands, supporting the emergence of the area as a new and vibrant economic, cultural and amenity quarter of the city.

  The development plan sets out a series of **Guiding Principles** in chapter 16 for the North Lotts and Grand Canal Dock SDRAs. These principles promote the creation of a new urban neighbourhood with a socially cohesive community and high quality physical environment. A number of principles stress the need to forge spatial connections with the wider docklands area, the city centre and surrounding neighbourhoods as well as linkages with the IFSC. Optimising the potential of key Brownfield sites to contribute to the city in employment and economic terms and fostering the area's role as an emerging cultural destination are also key governing principles relevant for the Docklands SDZ Area. The plan also identifies the Docklands Area as one of the very limited locations in the city that has the potential to accommodate landmark buildings for economic and identity reasons appropriate for a capital city.

  The City Development Plan is consistent with the Docklands Master plan 2008.

  - **Dublin Docklands Area 2008-2013 Master Plan** set out a 5 year framework for the regeneration of the Docklands Area as defined by the Dublin Docklands Development Authority Act, 1997. The area extends to circa 520 Ha and consists of both established communities and new areas that have been subsequently developed with newly emerging employment and residential neighbourhoods.

The Master Plan reflects the statutory objectives as set out under the 1997 Act, namely, the social and economic regeneration of the Dublin Docklands Area on a sustainable basis; improvements in the physical environment of the Dublin Docklands Area; and the continued development in the Docklands of services of, for and in support of, or ancillary to, the financial sector of the economy.

The Master Plan in turn is driven by five strategic objectives: accelerating physical roll out of development; achieving genuine architectural legacy; fulfilling the potential of the docklands; realising quality of life; and creating a sense of place.

It provides a framework to guide the development of the Docklands Area over the five-year period and beyond, embracing social regeneration, economic development, land use, transportation, infrastructure, urban design, arts, tourism, culture, leisure and implementation. The five-year life of the current Docklands Master Plan expires in November 2013.

Grand Canal Dock and North Lotts Section 25 Planning Schemes

These two schemes essentially cover the same 90Ha area as the new SDZ area (including water bodies). They provide a local planning framework under the Docklands Master Plan, setting out area-specific guidance in relation to land use mix, urban design, amenities and transportation. The schemes are primarily physical in nature but reflect the social and economic policies of the Docklands Area Master Plan. In this regard, the Grand Canal Dock and North Lotts Schemes were important elements in the implementation of the broader strategy for Docklands during the first ten-year framework of the Master Plan under the 1998 and 2007 Master Plans.

The Grand Canal Dock Planning Scheme 2000 (Amended 2006) has produced a successful new urban quarter around the Grand Canal Dock, including An Bord Gais Theatre Hub, a vibrant residential/commercial mixed use zone, and the attraction of digital media industry to the area (e.g. Google)

The Docklands North Lotts Planning Scheme 2002 (Amended 2006) follows a set of principles to extend the successful IFSC, Mayor Street areas eastwards to the Point Village. Major achievements include the National Conference Centre and the new LUAS line.

In addition to the above, there are a number of non-statutory local level plan which the SDZ scheme has had regard to' including:

- **Dublin Port Master Plan 2012-2040** is a non-statutory plan which sets out a vision for the operations of the port. It acknowledges the importance of the emerging cruise liner tourism and potential of the natural amenities of Dublin Bay. The Master plan seeks to ensure that there is harmony and synergy between the plan for the Port, Dublin Docklands Area and Dublin City, whilst the integration of the Port with the City and its people is a core aim of the Master plan.

- **The River Regeneration Strategy, 2001** aims to maximise the amenity potential of the River Liffey with a series of initiatives for river based projects, a number of which have been successfully implemented including the upgrading of the Dublin City Moorings and the Docklands Maritime Festival.

- **The Campshire Vision, 2007** looks at how the Liffey with its water, waterfront and docks has the potential to become a new centre for employment, leisure, culture and the arts and assesses how connections from the city centre and surrounding areas can make the campshires more accessible and inviting. The strategy is based on three pillars: 'Making Connections, Creating Destinations and Animating the Water'.

- **The City Canals Plan, 2010** was prepared on a partnership basis between Dublin City Council, Docklands Authority and Waterways Ireland. The plan relates to the canals and associated docks within the city boundary area. It identifies the recreational and tourism potential for specific sections of the canals, including the Royal Canal and Grand Canal at Docklands. Proposals which relate specifically to SDZ are.

- **The Cruise Traffic & Urban Regeneration of City-Port Heritage - Local Action Plan for Dublin, 2011** sets out a strategy for the development of cruise tourism and urban regeneration of the port area to create an urban quarter that facilitates sustainable and consolidated growth in the city and to articulate a new relationship between the city and port through the development of the cruise tourism sector. This represents a joint strategy prepared by Dublin City Council, Dublin Port and the Docklands Authority.

1.9 Environmental Protection Objectives

The Planning Scheme is subject to a number of high level environmental protection policies and objectives with which it must comply, including those which have been identified as Strategic Environmental Objectives.

Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status by 2015

1.10 Integrating SEA into the Plan-Making Process

As with the Appropriate Assessment (AA), the SEA needs to be fully integrated with the various stages of the Planning Scheme preparation process in order to ensure that the environmental implications do not impact negatively upon the environment as a result of changes to policy. In this regard both the AA and the SEA were done in house by the SDZ planning team, which meant that environmental issues were fully integrated into the Planning Scheme throughout the process.

The Findings of the Strategic Environmental Assessment (SEA) are presented in an earlier version of the Environmental Report (ER) which accompanied the Draft Planning Scheme on public display and was updated in order to take account of the recommendations and submissions. The Environmental Report was also updated in order to take account of changes which were made to the draft Planning Scheme that was placed on public display. The proposed amendments or material alterations to the draft

Planning Scheme underwent SEA & AA and the findings were also placed on public display alongside the Material Alterations.

The purpose of the Environmental Report is to provide a clear understanding of the likely consequences of decisions regarding the future development of the SDZ lands over the lifetime of the plan. Amendments were made to the draft Planning Scheme at each stage of the process and are subject to SEA and AA. This evaluation was then presented to the Elected Members in the form of an SEA report on the managers report. These reports assessed whether the proposed material alterations would require full SEA or Habitats Directive Assessment and these were assessed against the Environmental Protection Objectives.

It was considered that significant adverse effects were not likely as a result of the proposed material alterations to the draft Planning Scheme. On adoption of the Planning Scheme these environmental assessment reports were used to update the original Environmental Report into a final Environmental Report which accompanies the adopted plan. In the final Environmental Report additional text is included in bold and italic font.

SECTION 2

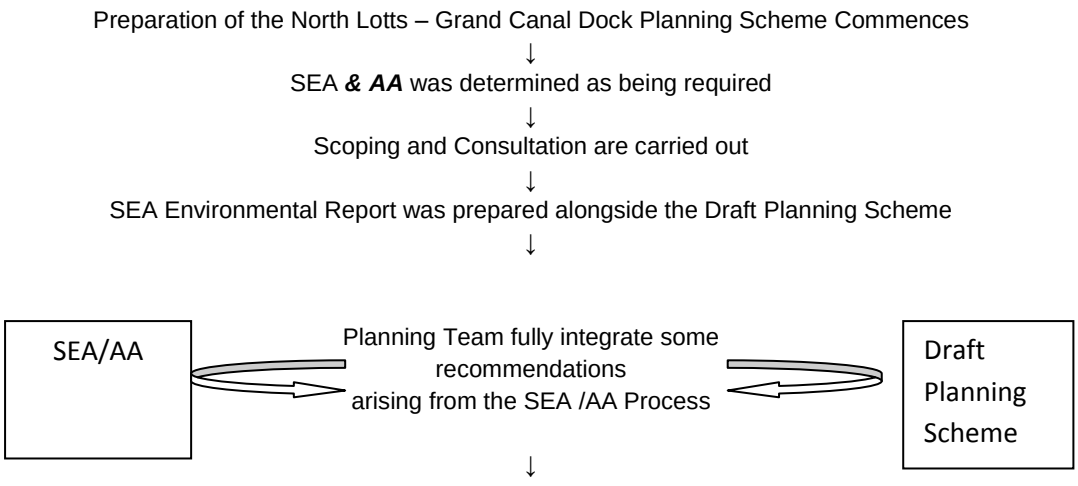
2. Strategic Environmental Assessment Methodology

2.1 Introduction

The SEA has been carried out in accordance with the requirements of Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment and the requirements of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 to 2011. The SEA Guidelines for Planning Authorities, published by the Department of Environment, Heritage and Local Government (DoEHLG) in 2004, were utilised for guidance purposes.

The diagram below sets out how the SEA ***& AA*** has been undertaken alongside the preparation of the Planning Scheme.

Figure 2.1 - Stages in the Planning Scheme/SEA *& AA* Preparation Process



2.2 Consultation Process

In line with recommended best practice, the SEA process benefited from multi-disciplinary inputs across Dublin City Council's departments including waste management, Roads and Traffic Division for their input into Movement section. The City Archaeologist, Conservation, Heritage, Community and Arts Department for their input into built heritage, culture, community development & Tourism chapters. City Architects have played a pivotal role in the urban structure & design sections, public realm sections, and designing the City Blocks. Parks and landscape Division have been involved from the start in the Green Infrastructure and public realm sections. Housing Department and Economic Development Unit have also been consulted in relation to economic regeneration and housing sections of the Planning Scheme. Finally Drainage and Wastewater sections have been involved throughout the process and have provided guidance and advice throughout, and have also compiled a strategic overview of Flooding in the SDZ.

Over several few months individual meetings were held with a number of prescribed bodies and key stakeholders including: Enterprise Ireland, ESB, Bord Gais, ComReg, Eircom, Dublin Bus, Iarnrod Eireann, Waterways Ireland, Rail Procurement Agency, An Bord Pleanala, An Taisce, Office Public Works, Environmental Protection Agency, An Taisce, Office of Public Works, Environmental Protection Agency, National Parks and Wildlife Service, National Transport Authority, An Post, Department of Education, Schools planning/Spatial Policy Section, NAMA Representatives, Docklands Business Forum and Chamber of Commerce.

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As part of the process Dublin City Council has been working closely with the Dublin Docklands Development Authority, in order to ensure a smooth transition.

The Planning Scheme has also been informed by a number of reports and mentoring from external consultants, in particular in relation to the AA and SEA,(Scott Cawley Ecological Consultancy Services) Soil contamination Issues (Flannery Nagel) and design Input from Conor Norton (Loci)

As part of the pre draft stage of the Planning Scheme, a large number of consultations were carried out to inform the community, employers, landowners and statutory bodies of the process and to:

- Identify the issues arising in the potential SDZ Planning Scheme Area and the wider Docklands
- Identify the successful elements of this city-quarter that makes it attractive as a place to live, work and visit and
- Identify areas for improvement.

Consultation was carried out over several months and comprised of three Board Meetings, two Council meetings with Central and South Area Committees, consultation on an on-going basis with Community Liaison Committee and also five workshops on infrastructure, urban design, economic and social regeneration issues.

As part of the consultation process The Studio facilitated 'Street Conversations' which were carried out in November 2012 at the request of the Planning Department DCC, as a prelude to the formal consultations on the Docklands SDZ. In total 537 conversations were held over 7 days at the following locations within the Docklands – Barrow Street, Grand Canal Square, Pearse Street, Ringsend, East Wall – Church Street, National College of Ireland (NCI) , North Quays, Sean O'Casey Centre East Wall, and Seville Place. The purpose of these

conversations were to have an informal open and flexible process to encourage positive engagement and inclusive participation . Out of these conversations seven key themes emerged.

Finally as part of the ***pre draft*** consultation process a number of half day sessions were held from 19th October 2012 to 27th December 2012, 4 special sessions were also held to facilitate meetings with the senior forum, youth forum, youth care, and residents associations

At the scoping stage(see section 2.5 below), the Planning Authority was required to consult with statutory consultees listed below. A scoping issues paper was sent to the Statutory consultees on the 16th November 2012. A number of responses were received, from the EPA and also the Department of Arts Heritage and Gaeltacht. Their submissions were taken on board in the compilation of the Environmental report for the draft Planning Scheme. Dublin City Council placed the draft Planning Scheme on public display for a period of 6 weeks from Monday 25th March 2013 to Friday 10th May inclusive during which time submissions and observations were invited. A total of 120 submissions were received on the draft Planning Scheme including a number of submissions from Environmental Authorities and prescribed bodies. A managers report was prepared on the submissions received providing a response and recommendations. Of the alterations proposed to the draft Planning Scheme, 17 new objectives were proposed, 13 objectives were altered/amended and 3 objectives were deleted. A number of additional objectives were inserted on foot of submissions from the prescribed bodies such as the EPA, OPW and DECLG in particular. All amendments to the draft Planning Scheme including all new and or amended objectives and any significant text changes were screened for SEA and AA.

The manager's report (234/2013) was circulated to the Councillors with the SEA and AA Environmental Assessments. Following the Managers report on submission the council received a total of 131 motions form the elected members, A managers report was prepared and submitted (Report 235/2024) with recommendation to the Elected Members for their consideration on the 22nd July 2013. The Elected Members having considered the managers reports(234/2013 & 235/2013) in accordance with Section 169 of the Planning and Development Act 2000, as amended, resolved to make subject to variations and modifications to the Draft Planning Scheme. Of the alterations proposed 22 new objectives were proposed, 19 objectives were altered and 3 were deleted. Dublin City Council placed the proposed amendments on public display for a period of four weeks from Tuesday the 13th August to Tuesday the 10th September inclusive during which time submissions and observations were invited. A total of 59 submissions were received on the proposed amendments. Submissions were received from a number of statutory bodies and were taken on board during the SEA process. The managers report number 322.2013 on the submissions received form the public display alongside the AA and SEA Environmental Reports were circulated to the Elected Members on the 7th of October. Two workshops were held with the Councillors on the 10th of October and they then had up until the 16th of October to submit motions. A total of 28 motions were received.

The Manager's report on motions (323/2013) further to report No. 322./2013 was circulated to the Elected Members prior to the Council meeting on the 5th of November 2013. The Council by resolution agreed to make the North Lotts and Grand Canal Dock Planning Scheme, Strategic Development Zone.

2.3 SEA & AA

The Planning Scheme has been prepared in accordance with the requirements of the Planning and Development Act, 2000, and by the Planning and Development (Amendment) Act 2010, and also the Planning and Development (Strategic Environmental Assessment) regulations 2004 and Article 6 of the Habitats Directive 92/43/EEC.

The Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) processes, undertaken in tandem with the preparation of the Planning Scheme, have ensured full integration and consideration of environmental issues throughout each stage of the preparation process.

2.4 Screening

The Planning & Development (Strategic Environmental Assessment) Regulations 2004 and as amended by Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. 201 of 2011) make mention of the circumstances under which a proposed development must be accompanied by an Environmental Report. In the case of a Strategic Development Zone, the legislation automatically requires the provision of an Environmental Report in conjunction with the Planning Scheme.

2.5 Scoping

Having established that SEA is mandatory for a Strategic Development Zone, the next step was scoping the contents of the Environmental Report (ER). Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. Scoping is undertaken early in the process to ensure that all relevant issues are identified and dealt with.

Under Article 6 of the SEA Directive, the competent authority, in this case Dublin City Council, preparing the plan is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to the included in the Environmental Report. Under S.I. 436 of 2004 and as set out in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and S.I. 201 of 2011 amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004 the statutory consultees have been established as being:

- **(i)** Environmental Protection Agency (EPA),
- **(ii)** the Department of Environment, Community and Local Government,(DECLG)
- **(iii)** Department of Arts, Heritage and Gaeltacht Affairs (if potential significant impacts in relation to the architectural or archaeological heritage or to nature conservation)
- **(iv)** Department of Agriculture, Fisheries and Food (if potential significant effect on marine environment / fisheries),
- **(v)** the Department of Communications, Energy and Natural Resources(DCENR) (if potential significant effect on marine environment / fisheries),
- **(vi)** The adjoining planning authority to the plan area.(Fingal, South Dublin and Dun-Laoghaire Rathdown Co. Council)

2.5.1 Scoping and consultation with the environmental authorities and adjoining local authorities

In line with best practice, a Scoping Issues Paper was prepared by the planning authority to facilitate the consultation process. This was sent out to the statutory agencies on the 16th November 2012. Two submissions were received within the four week consultation period.

2.6 Summary of Feedback from the Environmental Authorities

2.6.1 Submission from the Environmental Protection Agency (EPA)

A submission was received from the EPA dated 11th December 2012. As part of the SEA submission a SEA Scoping Guidance Documents, SEA pack a Environmental Integration Checklist was submitted to assist in undertaking the Environmental assessment.

Summary of specific comments to be considered

- Flood Risk Assessment (and associated CFRAMS)
- Protection/Improvement of Water Quality (in line with the Programme of Measures for the appropriate Water Unit in the Eastern River Basin Management Plan)
- Promoting the establishment of an integrated traffic management plan (and taking into consideration the recommendations of the Greater Dublin Area Draft Transport Strategy, as appropriate and relevant.
- Protection of areas of designated landscape character (including seascape, coast-scape, urban-scape) and integrating the Building Heights Strategy as appropriate
- Protection of designated national and international conservation areas(Natural Heritage Areas and Nature 2000 sites, including candidate & proposed sites)
- Promotion of a 'plan-lead' approach to integration, green infrastructure, and ecological corridors/linkages in the development of the Planning Scheme.
- Further comment will be provided by the Agency upon receipt of the Draft Environmental Report and Planning Scheme.
- Note should be taken of updated SEA Regulations/Circular, SI No.200 of 2011, and S.I No.201 of 2011, also DoEHLG Circular PSSP 6/2011 issued on 25th July 2011.
- Should refer to the recent European Communities (Birds and natural Habitats) Regulations 2011 (S.I No477 of 2011) .
- Environmental Authorities- reminded under the SEA Regulations to give notice to the stature Authorities.

2.6.2 Submission from the Department of Arts, Heritage and Gaeltacht Affairs

A submission was received from the Department of Arts Heritage and Gaeltacht on the 13th December 2012.

SEA Issues

- The area of the SZD Planning Scheme contains an important wildlife corridor. The Royal and Grand Canals are both designated as proposed Natural Heritage Areas (pNHA) and both link up with the River

Liffey in the Docklands area**.** They list a number of birds that use the general vicinity for nesting and feeding.

- Bats and otters both listed on the Habitats Directive for strict protection. Peregrine falcons also nest and hunt in the wider Docklands and are listed in annex 1.
- Note that our reference to Guillemots nesting in the area should be amended to Black Guillemots which are a different species, which nest in holes in the wall. Consideration should be given to their potential nesting places.
- Consideration should be given for providing nesting platforms for Peregrine Falcons on buildings of appropriate heights.
- The proposed SDZ area links into River Liffey where there are nesting terns within the South Dublin Bay and River Liffey Tolka Estuary SPA. Seals occur in the river Liffey occasionally, and also present in Dublin Bay.
- With regard to marine issues they refer to www.npws.ie/marine.
- They advise DCC to prepare an inventory of/and if necessary carry out a survey of the habitats and species present in the proposed area, before preparing the SDZ to fully inform the process.
- When carrying out the SEA it is recommended that the Biodiversity Strategic Environmental Objectives in the SEA cover habitats and species both within and outside of designated sites .
- It is recommend that Strategic Environmental Objective (SEOs) for biodiversity 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(NHAs), Nature:
    - Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts of 1976 to 2010,
    - Habitats listed on annex I of the Habitats Directive,
    - Species listed on Annexes II and IV of the Habitats Directive,
    - Habitats important for birds,
    - Birds listed on Annex I of the EC Birds Directive,
    - Species protected under the Wildlife Acts including protected flora,
    - Habitats that can be considered to be corridors or stepping stones for the purpose of article 10 of
    - the Habitats Directive,
    - Red data book species,
    - And, biodiversity in general.
- Important that the needs of protected species such as salmon are considered.
- Account should be taken of the Planning System and Flood Risk Management Guidelines , published in 2009. Important the ground and surface waters be protected from pollutants.
- Dublin City Council to ensure that adequate water supplies are present prior to development.
- SDZ should include a Natural Heritage Section and that all designated sites within the and nearby the SDZ should be mapped and listed.
- Reference should be made to the National Biodiversity Plan and also the Dublin City Biodiversity Plan.
- Invasive species - a policy is needed to protect against introduction of such a species.

- Appropriate Assessment – The proposed draft SDZ should be screened for appropriate assessment. Important that the State 1 screening is in place in consolation **with the teams** working on the draft SDZ and SEA so that the draft SDZ will have no significant effects on any Natura 2000 site. Also recommended that DCC consult with other local authorities to determine if there are any other projects or plans which in combination with the proposed SDZ could impact on any Natura 2000 site.

2.7 Environmental Baseline Data

The main purpose of describing the existing environment is to identify the current state of the environment, against which the likely effects of implementing the Planning Scheme can be assessed. The baseline in this instance refers to the existing state of the environment in the plan area and environs. Environmental baseline information at the city level is also relevant, and has been described where appropriate.

The environmental impacts of the Planning Scheme can be estimated as the difference in environmental conditions with or without implementation of the plan. Dublin City Docklands existing environment is characterised by way of a description of the environmental receptors as set out in SEA Directive and Regulations i.e.

- Population and Human Health
- Biodiversity, flora and fauna
- Air & Noise
- Climatic Factors
- Water
- Material Assets (transport and waste management)
- Cultural Heritage (including architectural and archaeological heritage)
- Soil and Landscape

The baseline data gathered for the SEA was sourced from readily available, relevant data. Particular reference was given to those aspects of the environment which are experiencing particular plan-related problems. The full environmental baseline data is presented in **Section 3** of this report.

2.8 Environmental Protection Objectives, Targets and Indicators

SEA objectives, referred to as Environmental Protection Objectives (EPOs), are a recognised way of testing the environmental effects of the Planning Scheme. They serve a different purpose from the objectives of the SDZ plan, though in some cases they may overlap. The environmental protection objectives are used to demonstrate whether the Planning Scheme will have a negative, positive or no impact on the environment, to compare the environmental effects of alternative plan scenarios and to suggest improvements if necessary.

For the purposes of the environmental assessment of the Planning Scheme, relevant environmental protection objectives were set by the SEA team having regard to environmental protection objectives established in law, policy, other plans or programmes and from an in-depth knowledge of existing environmental issues to be addressed. Each environmental receptor had between one and four associated environmental protection objectives. For each objective a target was assigned along with measurable indicators which allows for

monitoring. **Section 4** of this report sets out the Environmental Protection Objectives, Targets and Indicators set by the SEA team.

2.9 Identification, Description and Consideration of Alternatives

Article 5 of the SEA Directive requires the plan-making authority to identify, describe and evaluate alternative ways of realising the objectives of the plan. As stated in the Directive "*an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated*." Article 13E of the SEA Regulations 2004 require the identification, description and evaluation of the significant effects on the implementing the plan, and reasonable alternatives and, in accordance with Schedule 2B an outline of the reasons for selecting the alternatives.

A facilitated workshop was held with the Planning and SEA Team to consider alternative ways of delivering on the objectives for the Planning Scheme. For the purposes of the Docklands SDZ plan, three possible realistic alternatives were identified, described and tested against the environmental protection objectives. These three alternatives are as follows:

- Alternative 1 – High Density Approach
- Alternative 2 – Medium Density approach - (Planning Scheme Option)
- Alternative 3 – Low Density Approach

The alternatives were considered reasonable, realistic, capable of implementation and set at the appropriate level at which the Planning Scheme will be implemented operating within the planning hierarchy i.e. the higher the level of the plan the more strategic the options which are available. **Section 5** of this report sets out the details of the Alternatives identified,

Section 6 details the evaluations of the identified Planning Scheme alternatives.

2.10 Assessment of the Impact of the Planning Scheme on the Environment

In accordance with the SEA Directive, the likely significant effects on the environment of implementing the Planning Scheme must be assessed. In line with best practice, as set out in the SEA guidelines, the planning team as a whole carried out the assessment of the likely significant effects of the plan by testing the vision, the high level themes, the objectives, and also the detailed city blocks, contained within Planning Scheme against the environmental protection objectives devised by the SEA team. Policies and objectives were determined to have either : positive impact, very positive impact, insignificant/no impact, negative, very negative, or uncertain impact on the environmental receptors. **Section 7** of this report contains the findings of the detailed evaluation of the preferred alternative against the Environmental Protection Objectives.

2.11 Mitigation

Annex I of the SEA Directive requires the Environmental Report to include measures envisaged to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the plan. These measures are referred to as 'mitigation' measures. These mitigation measures include proactive avoidance of adverse effects on the environment as well as actions taken after any negative effects are noticed. **Section 8** of this report describes the measures devised to mitigate against any potential significant impacts of implementing the Planning Scheme for the SDZ.

2.12 Monitoring

The significant environmental effects of the implementation of the Planning Scheme must be monitored in order to identify at an early stage unforeseen adverse effects and to allow for appropriate remedial action to be undertaken. A monitoring programme has been devised having regard to the existing monitoring mechanisms currently in place in Dublin City Council. **Section 9** of this report sets out the Monitoring Programme.

2.13 Difficulties Encountered

- Information was not available on human health at the local level.
- More spatial representation, by way of mapping or otherwise, of the baseline information for all environmental sectors would prove useful.
- The lack of a centralised information point within Dublin City Council for environmental baseline data presented difficulties.

SECTION 3

3. **Environmental Baseline Data and Environmental Issues**

3.1 Introduction

The main purpose of describing the existing baseline environment of the Planning Scheme is to provide an understanding of the main environmental issues being experienced in the area and to provide the basis for predicting and monitoring issues, and for setting environmental protection objectives.

In accordance with implementation of SEA Directive (2001/42/EC) 'Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities' , an Environmental Assessment of a Land Use Plans must examine the significant effects of the proposed plan on the environment including short, medium and long term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects on issues including:

1. Population (including Human Health)
2. Biodiversity, Flora and Fauna
3. Air Quality & Noise
4. Climatic Factors
5. Water (Including Flooding)
6. Material Assets (transport and waste management)
7. Cultural Heritage (including architectural and archaeological heritage)
8. Landscape (including soil)

The SEA Directive requires that the information on the baseline environment is focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected and the likely evolution of the current environment in the absence of the Planning Scheme. Being consistent with the strategic provisions of the Planning Scheme, this section provides a strategic description of environmental components which have the greatest potential to be affected by implementation of the Planning Scheme.

Article 5 of the SEA Directive states that the report shall include the information that may reasonably be required taking into account:

- Current knowledge and methods of assessment;
- The contents and level of detail in the plan or programme and its stage in the decision-making process; and
- The extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment

What this means in practice is, inter alia, with regard to Planning Schemes, that SEA involves collating currently available, relevant environmental data; it does not require major new research. Where data deficiencies or gaps

exist, this should be acknowledged in the report. The baseline data established the current existing state of the environment and is the basis to assess and predict potential impacts. The headings uses in the following sections correlate with the environmental objectives set out in this environmental report.

3.2 Likely Evolution of the Environment in the Absence of the Planning Scheme

In the absence of the Planning Scheme for the SDZ the area would evolve under the zonings set out under the existing Dublin City Development Plan 2011 – 2017. This will be considered under the 'Do Nothing Scenario' in Section 5.

3.3 Population (including Human Health)

3.3.1 Introduction

This section of the Strategic Environmental Assessment (SEA) provides an assessment of the potential population and human health impacts associated with the development of the lands in the Planning Scheme for the Docklands.

3.3.2 Growing Population in Docklands

There has been significant increase in population in the Dockland between recent census periods and this is evident of the success of the regeneration process to date, particularly in building the population base and expanding the residential community within the heart of the regeneration areas. It is one of the fastest growing areas in the city, region and State. The overall Docklands area (comprising the DED's of North Dock, A, B C, Mansion House A, South Dock, Pembroke East A and Pembroke West A) has increased in population by over 54% between 1996 and 2011. The 2011 Census population for this area recorded almost 27,000 people. Between 2006 – 2011 the population increased by over 36% at a time when the city growth rate was 4%.

3.3.3 Population & Socio economic profile of the area

To date the polices of the Dublin Docklands Development Authority have promoted the continued delivery of high quality housing for contemporary urban living, to position Docklands as a place that attracts a variety of residents and family types, providing opportunities to raise families in a safe, people friendly environment. The City Development Plan contains a progressive suite of policies and standards to achieve quality residential neighbourhoods (Ch. 8 & 17).

In developing the SDZ, it will be important to pursue a successful integration between the resident and the streets they live on, between neighbours and between residents and the wider community. The achievement of a quality lifestyle supported by dynamic uses, all part of a uniquely Dublin waterfront urban setting, are central to the design and layout of schemes in the SDZ Planning Scheme.

There needs to be a holistic approach to housing policy, where the influence of good design principles and interaction with the other key principles of economy, identify, infrastructure, connection and sustainability are recognised as inter related components to encourage the continued development of a successful urban residential neighbourhood.

3.3.4 SDZ Housing Character

The 2011 Census recorded 2,759 housing units within the SDZ boundary, of that total the significant majority were apartment types (93%) with houses comprising just 4% and other/non stated 3%. The majority of the population, including the pre family and young family households, are apartment residents reflecting the higher density design and availability of new apartments in recent years as the area was regenerated. The majority of residential units in the SDZ area are new apartments. The new schemes have high occupancy rates and have successfully attracted a significant new residential population to live in the area. It is noted from the 2011 Census that 11% of households are renting from either the local authority or approved housing bodies. Housing policy for the SDZ Planning Scheme while led and implemented by the local authority will be implemented in collaboration with approved housing bodies who will play an important role in the future provision and management of social housing throughout Dublin City.

The challenge for the Docklands is for housing in the SDZ to create real opportunities for exemplary and innovative designs and successful models of multiple unit management quality. Housing that attracts a new population, and provides choice and options for the existing residents (within the SDZ and adjoining communities) to stay living in their locality , is a core objective. The way forward must continue to promote the sustainable housing policies of the current Master Plan the subject of larger consultation and agreement between the community and stakeholders. Policy for the future must also be implementable, realistic in addressing finance and implementation measures now available (social leasing schemes for example) and informed by new national policy.

Apartment Schemes Grand Canal Dock

3.3.5 Human Health

In addition to the impacts of the development on educational, health, and other facilities on the subject lands, it is also important to highlight the potential impacts of such development on existing and potential residents and users. The nature of these impacts is interlinked with the baseline socio economic profile outlined above.

Human health has the potential to be impacted on by other environmental factors such as air, water, or soil through which contaminants or pollutants, which would have the potential to cause harm, can be transported and come into contact with human beings. Hazards and or nuisances to human health can also occur as a result of incompatible adjacent land uses for example. These factors have been considered with regard to the description of the baseline of each environmental component, and the likely identification and evaluation of the likely significant environmental effects of implementing the Planning Scheme.

Based on current data sources, it is not possible to construct a Human Health Baseline for the area. This is due to the fact that there is currently no system for monitoring key health variables in Ireland.

In 1999, the World Health Organisation (WHO) described environmental health as comprising "those aspects of human health, including quality of life, that are determined by chemical, physical, biological, social and psycho-social factors in the environment. It also refers to the theory and practice of assessing, correcting and preventing those factors in the environment that can potentially affect adversely the health of present and future generations".

The influence of environmental factors on human health is well established and can be easily demonstrated in the following diagram

Figure 3 Determinants of Human Health (Whitehead and Dahlgren, G, 1991)

The European Environment and Health Action Plan 2004 – 2010 highlights the major role of health in long-term economic growth and sustainable development and the fact that citizens are concerned about the potential impact of the environment on their health and expect policy makers to act. This includes the maintenance of air quality at a good standard, the provision of good quality drinking water, the protection of biodiversity and natural heritage etc.

The human health impacts of relevance to SEA are those which arise as a result of interaction with other environmental receptors e.g. an over-concentration of pollutants in the air can have severe impacts on human health, excessive noise levels can seriously impact upon quality of life, a safe and constant supply of good quality drinking water is a basic component of a liveable area, the conservation of biodiversity is intrinsic to well-being, food production etc.

Specific information on the health of the population is not readily available at the local level. The Department of Health have published key trend statistics for 2011 at the national level. These trends are can be applied to the population at the local level, namely that the principal cause are (i) diseases of the circulatory system, (ii) cancer and (iii) external causes of injury and poisoning (transport accidents, suicide).

It should be noted that given the significant interrelationships between population & human health and all other environmental receptors, population & human health are explored in greater detail under all the other the environmental receptors including air (air quality and noise), water (quality and supply) etc.

3.3.6. Evolution of Population and Human Health in the absence of Planning Scheme for the Docklands SDZ.

An important aspect of the planning system is its hierarchy of plans and policies – ranging from the National Spatial Strategy, regional planning guidelines, city and county development plans and local area plans. The core strategy of the Dublin City Development Plan 2011 - 2017 i.e. to create a compact, green, smart, well connected city, creating real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms. The Planning Scheme includes new quality of life initiatives such as the strategic green network and the compact sustainable neighbourhood and places a strong emphasis on quality of life aspects such as neighbourhoods that support thriving communities, recreational spaces, new linkages and biodiversity The plan also includes objectives for the development of quality commercial, retail and residential schemes, improvement of water quality, enhancement of biodiversity, public realm improvements etc.

Without the Planning Scheme for the Docklands SDZ, the core strategy of the Dublin City Development Plan would be less likely to be successfully implemented. Future development, including redevelopment of the city blocks, in this area would be less targeted, uncoordinated, developed on a piecemeal basis and with overall less public participation in the future redevelopment of the area with resulting potential significant adverse impacts on population and human health.

3.3.7 Key Environmental Goals – Population and Human Health

- To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.

- The quality of housing, density and location are major factors to be considered in the redevelopment of this plan area given the impact of same on the health of a population.
- Key significant issues and objectives for Population and Human Health include the provision of employment opportunities in the area, the provision of access to educational and amenity facilities with an emphasis of integration and improvement to the quality of life for the Docklands community.

3.3.8 Key Environmental Sensitivities

- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the Planning Scheme. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks.

3.4 Biodiversity, Flora and Fauna

3.4.1 Introduction

This section identifies the impacts of the development on the flora and fauna in the area. The Docklands area possesses areas of diverse character including existing built up areas, former industrial/port lands, water bodies, Brownfield sites, and some wildlife areas.

Biodiversity is the degree of variation of life forms within a given species, ecosystem, biome, or an entire planet. For the purpose of this SEA, biodiversity is assessed in terms of the species of flora and fauna and habitats of the SDZ area and the environs and their associated habitats, and refers to both semi-natural habitats and habitats created or extensively modified by human influence, as well as the plant and animal species that can be found here.

The Environmental Report and Planning Scheme was informed by an Ecological Desktop Study carried out by consultants Scott Cawley, in February 2013. Although there is a varied network of open space in the vicinity of the plan area, such as Irishtown Nature Reserve, Sean Moore Park and Ringsend Park, there is a lack of green space within the SDZ area, which needs to be addressed.

3.4.2 Relevant Legislation and Policy Context

Relevant biodiversity data was tabulated and presented in maps where the location of data records was known. The legal protective status for each species, both flora and fauna, were noted within the table to inform the reader. Relevant status was sourced from both national and international legislation including:

- Wildlife Act, 1976 and Wildlife (Amendment) Act (2000) (as amended); hereafter collectively referred to as the Wildlife Acts.
- European Communities (EC) (Birds and Natural Habitats) Regulations 2011 (S.I No. 477/2011(as amended) hereafter the 'Birds and Habitats Regulations'
- EC Birds Directive 2009/147/EEC
- EC Habitats Directive 92/43/EEC(as amended)
- Flora (Protection) Order 1999
- Bird watch Ireland Birds of Conservation Concern in Ireland (BoCCI)

3.4.3 Zone of Influence

The Zone of Influence (ZOI) is the 'effect area' over which changes could give rise to potentially significant impacts. The zoI over which significant impacts may occur will differ for sensitive ecological receptors depending on the pathway for any potential impacts, as well as the specific nature of different habitats/species (*e.g.* ability to move/disperse or absorb impacts).

In accordance with guidance from the Department of Environment, Heritage and Local Government (2010) a distance of 15km was used as a starting point for identifying potential impacts. It was found that this 15km distance was more than adequate for capturing all potentially significant impacts within the ZoI of the Plan Area.

3.4.4 Designated Areas for Nature Conservation

Two designated areas for nature conservation are located within the SDZ area; these are the Royal and Grand Canals (site code 2130 and 2040 respectively).

Table 3.1 below lists both national and internationally designated sites within a 15km of the SDZ boundary. In total 52 national and international designated sties were recorded. These are illustrated in Figure 3.1 below

Table 3.1 Designated areas within a 15km Radius of the Dublin Docklands SDZ

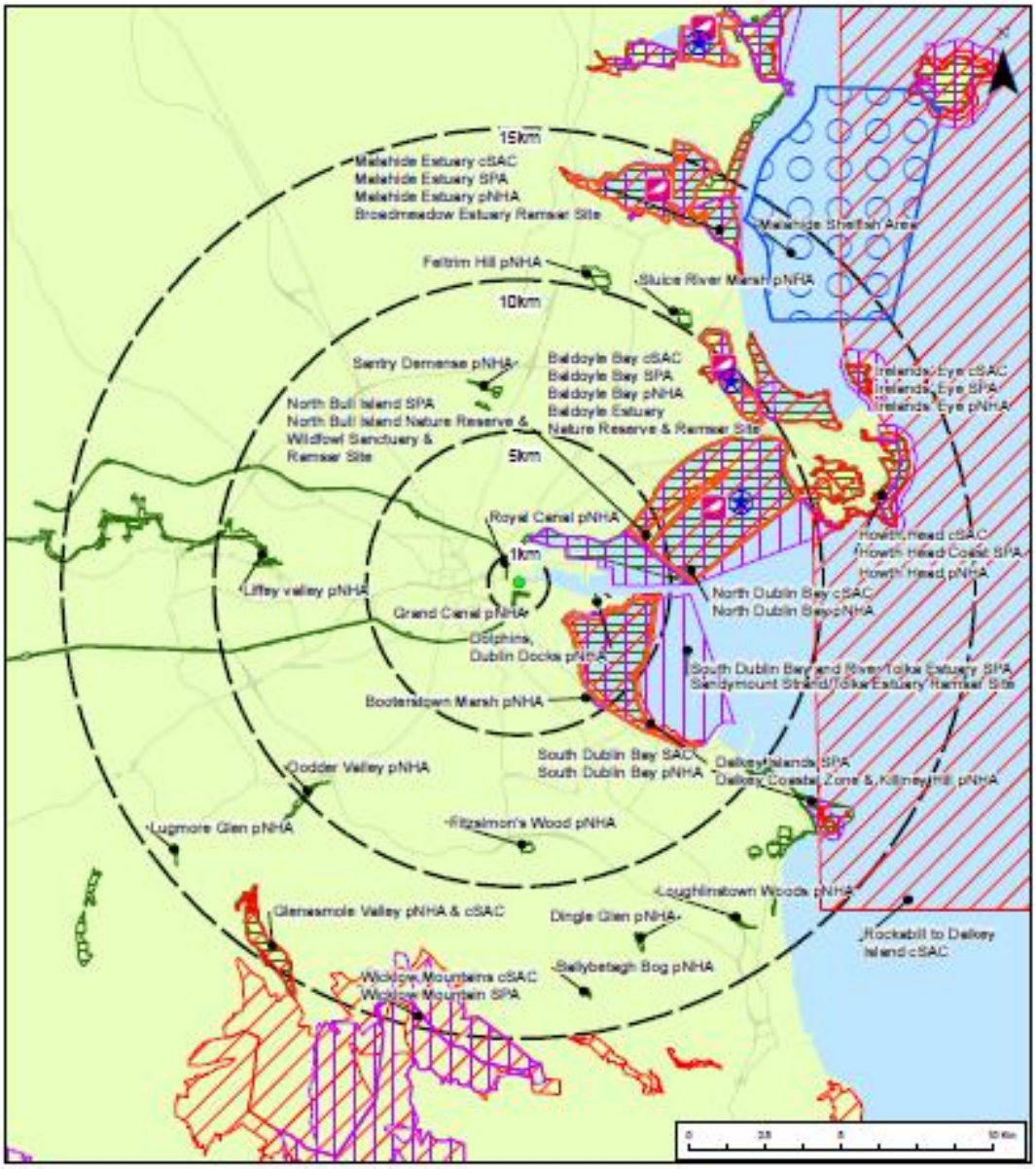
Nature Reserves and Wildfowl Sanctuaries[1]	Special Protection Areas (SPA) [2]	Candidate Special Areas of Conservation (cSAC) [3]	Ramsar Sites[4]	Shellfish Areas[5]	Proposed Natural Heritage Areas[6]
Baldoyle Estuary Nature Reserves and Wildfowl sanctuary	North Bull Island (IE00406)	North Dublin Bay (IE000206)	Baldoyle Bay	Malahide	Royal Canal (2103)
North Bull Island Nature Reserves	Dalkey Island (IE004172)	South Dublin Bay (IE000210)	Fitzsimons Wood		Grand Canal (2104)
	South Dublin Bay & River Tolka Estuary(IE004024)	Baldoyle Bay (IE000199)	Broadmeadow Estuary		Liffey Valley
	Howth Head Coast	Howth Head (IE000202)	North Bull Island		

[1] Sourced: http://www.npws.ie/protectedsites/ (January 2013)
[2] Sourced: www.npws.ie
[3] Sourced: www.npws.ie
[4] Sourced: http://www.ramsar.org/cda/en/ramsar-pubs-notes-anno-ireland/main/ramsarr/1-30-168%5E16569_4000_0_
[5] Sourced:http://www.environ.ie/en/Environment/Water/WaterQuality/ShellfishWaterDirective/StatutoryInstruments
[6] Sourced: http://www.npws.ie/protectedsites/ (January 2013)

	(IE004116)				
	Irelands Eye (IE004117)	Irelands Eye (IE000205)	Sandymount Strand/River Tolka Estuary		Feltrim Hill
	Baldoyle Bay (IE004116)	Malahide Estuary (IE000205)	Ireland's Eye		Santry Demesne
	Malahide Estuary (IE004025)	Glenasmole Valley (IE001209)	North Dublin Bay		
	Wicklow Mountains (IE004040)	Rockabill to Dalkey Islands (IE003000)	Dolphins, Dublin Docks		
		Wicklow Mountains (IE002122)	South Dublin Bay		
			Booterstown Marsh		
			Howth Head		
			Sluice River Marsh		
			Malahide Estuary		
			Baldoyle Bay		
			Portraine Shore		
			Dalkey Coastal Zone and Killiney Hill		
			Dodder Valley		
			Lugmore Glen		
			Glenasmole Valley		
			Ballybetagh Bog		
			Dingle Glen		
			Loughlinstown Woods		

Note: Further background information on pNHAs, cSACs and SPAs, including site synopses for designation(known as Qualifying interests for SACs and SPA's) and detailed conservation targets (if available) can be found on the NPWS website (www.npws.ie) using the site code under protected sites.

Figure 3.1 – National, European and International Sites within a 15km radius



Legend

- Statutory Nature Reserves
- Ramsar Sites
- Shellfish Waters Directive Areas
- Special Protection Areas (SPA)
- candidate Special Area of Conservation (cSAC)
- Buffer km

Title	Figure 1: National, European & International sites within 15km of the LAP		
Project	Draft Docklands SDZ Planning Scheme		
Project No.	130018		
Client	Dublin City Council		
Date	February 2013	Revision	02
scott cawley	Scott Cawley Environmental Consultants 127 Lower Baggot Street Dublin 2 Ireland		

3.4.5 Rare and Protected Flora and Fauna

The SDZ area is set within an entirely urban setting built on reclaimed or in-filled land, and is located at the entrance to Dublin Bay. Dublin Bay is a natural harbour at the confluence of several river basins, and which contain a variety of ecosystems which are biologically diverse and of international and national importance for the species which in-habitat them. The City Council has an objective to promote connectivity of habitats and the enhancement of green corridors of public open space both for biodiversity and amenity values. The system of freshwater streams, rivers, estuarine habitats and beaches that is managed by DCC provides a network of connected natural areas part of the green infrastructure of Dublin City. There are many potential threats to the management of biodiversity, flora and fauna inherent in the pressures of the high density of development. Development of sites adjoining roosting feeding and breeding sites can cause disturbance to fauna and threaten biodiversity. For example construction activities can generate noise, dust and disturb patterns of migratory birds, otters and other highly mobile mammals. Lighting design can affect potential for bat roosting and feeding and connectivity of habitats.

The SDZ area includes an estuarine strip of the River Liffey, the confluence of both the Royal and Grand Canal within the River Liffey and the mouth of the River Dodder. It's location along the quays in Dublin City Centre has resulted in high coverage of the ground, due to development of buildings with large footprints, infrastructure with little green space. However the importance of this area from an ecological perspective cannot be undervalued as the area hosts a wide range of ecological sensitivities due to its close proximity to Dublin Bay, its estuarine character, gateway to two canals and two rivers providing an important link or green corridor inland and upstream.

Distribution records for many rare/protected species are provided in a grid of 10km X 10km that cover all of Ireland on www.npws.ie. Records were obtained from the online database in February 2013 for the Study Area which lies within Irish National Grid 10km(square 013). [7]

No protected flora,(with the exception of Meadow Barley Hordeum secalinum) is known to be within the SDZ area. Meadow Barley was last recorded in North Lotts in 1836, which covers a large area along the Liffey Quays. This grass species is protected under the Irish Flora Protection Order (1999).

Distribution records for rare/protected species were also obtained from the National Biodiversity Data Centre's (NDBC) online database (http://maps.biodiversityirreland.ie) for the SDZ area.[8]

[7] The results of this search can be found in Appendix A. See Report from Scott Cawley 'Ecological Desktop Study to inform the Dublin Docklands Strategic Development Zone Planning Scheme, February 2013.

[8] The results of this search can be found in Appendix A. See Report from Scott Cawley 'Ecological Desktop Study to inform the Dublin Docklands Strategic Development Zone Planning Scheme, February 2013.

3.4.6 Flora

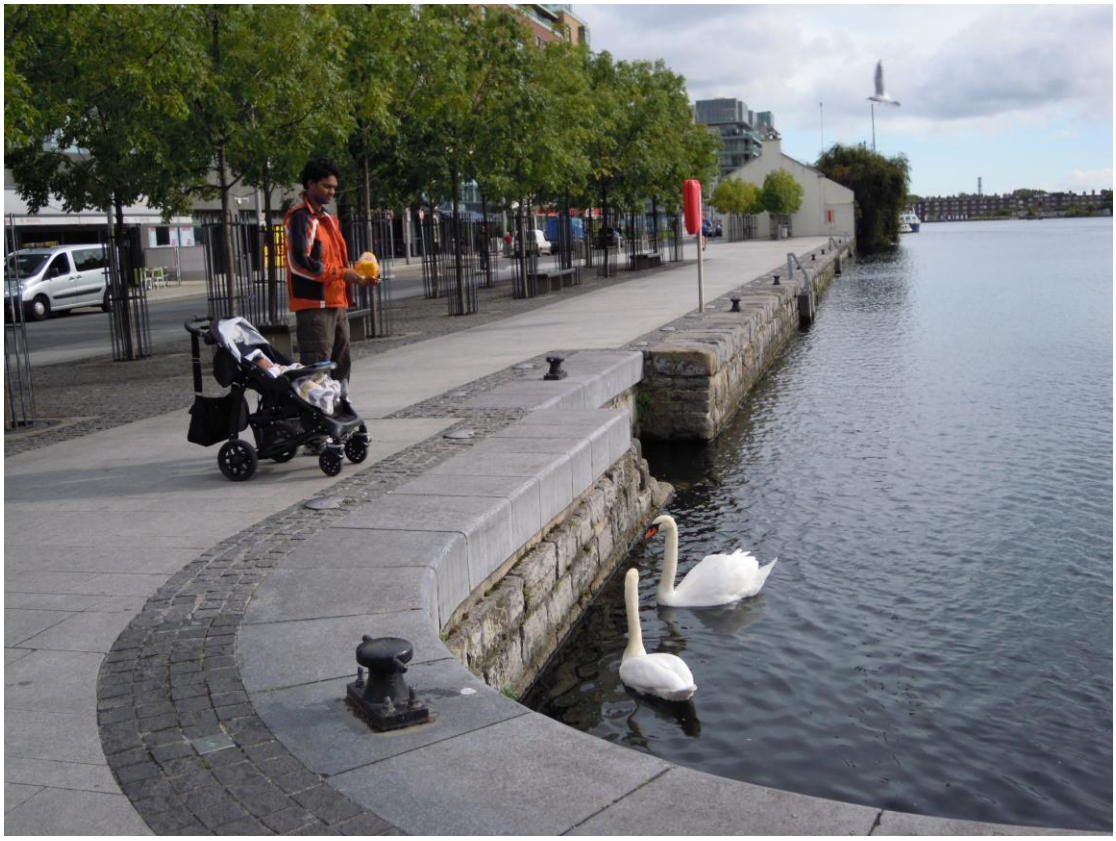
From a botanical perspective the docks and quays along the River Liffey are of interest as non-native (but not invasive) plants have been introduced through shipping activities over the centuries. However, due to recent large scale development it is likely that many of these have been lost or at minimum their extent reduced.

The mouth of the two canals, in particular the Grand Canal which is more regularly used by vessels is a potential access route or corridor to both terrestrial and freshwater habitats across Ireland, mainly through boating activities. Accordingly any proposals for the canals, including the Grand Canal Basin should be given adequate considerations to the threat of introduction of invasive species.

Invasive species currently found along the canals, River Liffey and Dodder include (but not possibly limited to) Japanese Knotweed, Himalyan Balsam, Rhododendron, Nutall's pondweed, Giant hogweed and Zebra mussel. For each of these invasive species, it is considered an offence under the European Communities (Birds and Natural Habitats) Regulations (2011) for anyone who 'plants, disperses, allows or causes to disperse, spreads, or otherwise causes to grow in any place''. Adequate consideration should be given to ensure the spread of invasive species is avoided. Opposite-Leaved Pondweed, Meadow Barley and Divided Sedge are three examples of rare flora with records in the SDZ area, protected under the Irish Flora Protection Order (1999). It should be noted that there are no records for the latter two species since 1800's. However this does not rule out their existence.

3.4.7 Birds

The Quay walls along the River Liffey and within the Grand Canal Basin have been recently used by Black Guillemots as breeding sites. All works within this area must ensure that these birds are not disturbed during the breeding season and their breeding sites protected. This species of bird are also know to use tall buildings along the quays for roosting. This illustrates how, through awareness, resting locations for wildlife can be incorporated into the design of new buildings/developments. Peregrine Falcons are known to occur in Dublin with nesting sites located both east and west of the SDZ (please note for protective reasons, nesting locations are considered confidential by the NPWS). The EU Birds Directive requires 'special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution'' for bird species listed in Annex 1, including Peregrine Falcon, Common Tern and Kingfisher (all associated with the SDZ area) Common Tern were noted to attempt breeding within the locks of the Canal Basin. The SDZ covers a potential population link for Kingfisher between the Rivers Dodder and River Liffey. Potential exists for the provision of future nesting sites for all species in the design of new developments/infrastructure. It must also be ensured that community corridors and feeding areas are protected.



3.4.8 Protected Fauna

All bat species are protected under the EU Habitats Directive and the Irish Wildlife Acts. Various species are known to utilise the SDZ area for commuting, feeding with suspected roosting locations in old buildings, including those along the Grand Canal Basin. Both canals and rivers are important corridors for which lighting proposals must ensure dark corridors remain for commuting/feeding bats. Any demolitions/alterations of existing buildings must ensure no adverse impacts on bat populations.

Otter is known to occur along the Dodder and Liffey and along stretches of both canals. Records of their presence in the SDZ area is anecdotal. However, as the SDZ area covers the confluence of the two rivers and canals it must be ensured that this corridor is not impeded. Similarly, it must be ensured that there is no impediment of the channels or deterioration of water quality for aquatic fauna including fish such as Salmon, Twaite Shad, Eel and Brown Trout. Seals and larger cetaceans have been know to use the area so all future works must ensure their protection and avoid any potential hazards or obstructions to their movement. These aquatic species are protected under a range of legislation including the Irish Wildlife Acts, EI Habitats Directive, Fisheries Acts and International agreements including OSPAR. OSPAR is the mechanism by which fifteen Governments of the western coasts and catchments of Europe, together with the European Community, cooperate to protect the marine environment of the North-East Atlantic.

3.4.9 National Biodiversity Plan 2011 – 2016 & Dublin City Biodiversity Action Plan 2008 -2012

In 1996 Ireland signed up to the Convention on Biological Diversity and EU heads of state have agreed to halt the loss of biodiversity by 2010. The National Biodiversity Plan 2011 -2016 outlines actions to help reach this target. The Dublin City Biodiversity Action Plan (BAP) identifies a number of priority species and habitats to be

protected in the city such as red squirrel, otter, bats, salmonids, various insects, birds, wetlands, and semi-natural grasslands. Some of these are already protected by legislation but for those that are not, they will be given conservation priority within DCC and projects. In the BAP the major threats to global biodiversity were identified as being;

- Loss of extent – removing an area of habitat, i.e rainforest, garden or park, results in a direct loss. Buildings and bridges provide habitats for bats in particular, and their removal or replacement can also have direct impacts on the city's bats biodiversity
- Habitat Fragmentation – Breaking up of large areas into isolated smaller parts reduces the ability of animals to move from a threat and reduces food and cover for example
- Invasive species – plants and animals that arrive from elsewhere and quickly take over spaces that are usually occupied by native species poses a huge threat.

3.4.10 Evolution of Biodiversity in the Absence of the Planning Scheme

The core strategy of the Dublin City Development Plan 2011 – 2017, is to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms. A priority of the development plan's core strategy is the introduction of a strategy for green infrastructure in order to improve biodiversity and access connections with the strategic green network. The strategy is being delivered through the development management process and the Planning Scheme SDZ process.

It is at the level of the SDZ that aspirations are given real meaning. The SDZ sets out more detailed objectives for the protection and enhancement of biodiversity. Along with the policies and objectives of the city development plan the SDZ will continue to strengthen the recognition of green corridors as per the Habitats Directive. The SDZ for the Docklands reinforces and implements green infrastructure at the local level with obvious benefits for biodiversity, containing policies for the protection and enhancement of biodiversity features within the plan area and environs.

Furthermore, the SDZ is subjected to an SEA & AA, providing for a greater focus on the protection of valuable biodiversity in the area. An SEA leads to more sustainable development through the systematic appraisal of policy options.

3.4.11 Key Environmental Goals – Biodiversity Flora and Fauna

- To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors within the SDZ area.
- All Development needs to be sensitive to relevant aquatic and riparian species (protected and indicator species) both within development sites and along the water courses.
- To prevent loss of habitat extent by protecting areas, sites, and natural features of high biodiversity and along water courses.
- To recognise the importance of ecological corridors to maintain biodiversity/need to provide a spatial strategy that provides for greater connectivity between substantial amounts of green space.
- To control and monitor and spread of invasive species and to combat ways for their removal/eradication.

- To improve the water quality of the River Liffey and River Dodder, to good status by 2027.
- To protect areas of designated landscape, character (including seascape, coast-scape, urban-scape).
- To protect designated national and international conservation areas (Natural Heritage Areas and Natura 2000 sites, including candidate & proposed sites).
- Any proposals for the canals, including the Grand Canal should be given adequate consideration due to the threat of introduction of invasive species.

3.4.12 Key Environmental Sensitivities

- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the Planning Scheme. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks.
- Pressures on biodiversity potentially arise as a result of increased commercial, residential & recreational use including more activity in Dublin Bay.
- Potential risk to protected species from contaminated water.

3.5 Water (including flooding)

3.5.1 Introduction

The issues of water quality and water services (including supply, drainage and flooding) will be dealt with under the environmental receptor topic 'water'.

3.5.2 Water Framework Directive

Since 2000, Water Management in the EU has been directed by the Water Framework Directive (WFD) 2000/06/EC, which establishes a framework for the protection of all waters (inland surface waters, transitional and coastal waters and groundwater's) throughout Europe. The directive's aim is to prevent deterioration and achieve at least good status in rivers, lakes, estuaries, coastal and groundwater by 2015. Extended or lesser objectives have been granted under certain circumstances, including for the River Liffey and River Dodder which must reach good status by 2027. The directive promotes river basin management as the most efficient way to achieve its aims. In order to achieve good status under the Water Framework Directive, the limits set out in the European Communities Environmental Objectives (Surface Water) Regulations, 2009 must be complied with.

3.5.3 River Basin Districts and River Basin Management Plans.

Ireland has been divided into eight river basin districts and a River Basin Management Plan has been developed for each one. The North Lotts/Grand Canal Planning Scheme is located within the Eastern River Basin District (ERBD). The River Basin Management Plan 2009 – 2015 (RBMP) has been developed setting out the objectives of improving and protecting water quality and ecology in the waters of each river basin district are be achieved, by way of a Programme of Measures (POM). The four core objectives set out are:

(i) Prevent deterioration and in particular maintain 'High' or 'Good' status
(ii) Improve waters to achieve 'Good' status where appropriate
(iii) Progressively reduce chemical pollution

(iv) Achieve protected area objectives

3.5.4 Surface Water

The Plan area is located within the Liffey Water Management Unit (WMU) in the Eastern River Basin District. The River Basin Management Plan can be downloaded from the website www.erdb.ie. A WMU is a geographic area primarily defined by similar hydrology and topography. These groups of river and non-reportable lakes had been created so that multiple river segments or water bodies can be treated as one management unit. For coastal, transitional, groundwater and reportable lakes, a WMU represents a single water body.

The main problems identified in this WMU are high nutrients (phosphorous) oxygen demand, low ecological rating, risk of over abstraction, inferior habitats/heavily modified. The Liffey is one of the largest sub-catchments in the ERBD. The river stretches from the very rural areas, in the Wicklow Mountains, where it is good quality to poor stratus in the City Centre. The main pressure preventing achievement of Good Status is thought to be upstream diffuse agriculture and septic tank pollution, point sources and urban diffuse pollution. The objective is to achieve Good Status by 2027. The River Liffey is considered a heavily modified water body due to its Flood Defences. The River Dodder ranges in quality in the Upper Reaches from good to the Lower Dodder where it is classified as poor quality where it enters the Planning Scheme area. The main problems to address in the Rivers are Low Ecological Rating, Risk of over abstraction, and heavily modified channels. The principle pressures in Dublin City are thought to be misconnections and combined sewer overflows (wastewater discharge).

The most recent water quality monitoring data available from the EPA shows that the stretch of the River Liffey (Hydrometric Area 9) downstream at Leixlip is moderately polluted from suspected sewage and water treatment plant effluents. Biological sampling results from the nearest sampling stations upstream of the study area give the River Liffey a Q-Value of 3, indicating moderately polluted water.

A number of studies have been carried out over on the Liffey estuary in relation to sediment contamination and benthic fauna composition of the Liffey estuary, including the North Lotts section of the river. O'Higgins and Wilson (2005) investigated the physico-chemical status of a number of stations including the North Lotts stretch. The sediments in the North Lotts have a silt clay content of between 10% and 20% with levels of sediment contaminants above those defined by Jeffrey et al(1985) as baseline or indicative of unpolluted conditions. Wilson et Al (1986) reported no macro faunal life at all from sediments in the North Lotts Area and only a few cilate and nematode micro/meiofauna.

As part of the Planning Scheme, Dublin City Council Drainage Division carried out monitoring of the River Lffey over a 7 week period from October to November 2012. SIx locations were monitored,

The River Liffey is tidal in the study stretch. Fresh water lies over saline water due to their relative densities. This is why surface and depth samples were taken at 5 of the 6 locations. Compliance with transitional water quality standards in the Surface Water Regulations (SI 272 of 2009) was met at most of the sampling stations with the exception of the Grand Canal Dock, where samples at depth failed to meet good Physiochemical water quality status over the sampling period due to a slightly elevation mean ammonia concentration.

River Liffey

3.5.5 WFD Surface Water Status

The WFD defines surface water status as the general expression of the status of a body of surface water in terms of its ecological and chemical status. To achieve 'Good Surface Water Status 'both the ecological status and the chemical status of a surface water body must be at least good.

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of "good ecological status" when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedence of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. Good surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

3.5.6 Ground Water

The SDZ area is situated on the Dublin Urban Groundwater Body, which includes most of Dublin City. This is underlain by carboniferous inter-bedded limestone and shale's and there are also some sandstone present. The groundwater quality is currently characterized as being of good status on this basis, in accordance with the WFD requirement. The groundwater in the Dublin Urban Groundwater body flows in a general easterly direction and

discharges to the many rivers within the groundwater body or directly to Dublin Bay. It is important that appropriate measures are implemented to ensure the continued protection and designated good status of the Dublin groundwater source.

3.5.7 Canal Water Quality

Both the Royal and Grand Canal discharge into the Liffey Estuary. The results from the EPA 1998-2000 surveys showed that the water quality in both canals was good with low levels of conductivity and nutrients. The EPA results for Water Quality of Rivers and Canals 2007 -2009 showed that the Water Quality in the Grand Canal was generally good in 2009. Three of the Grand Canal main channel water bodies breached the criteria for the first time, i.e downstream of Rhode Bridge, downstream of Killeen Bridge and upstream of Daingean, where elevated levels of TP(phosphorus), MRP (molybbdate-reactive phosphorus) and ammonia were recorded. The suspicions are that diffuse agricultural pollution may be impacting on this water body occasionally.

Water quality in the Royal Canal was generally good during 2009. In the stretch between Lough Owel and Dublin both TP and MRP threshold limits were breached in November 2009. November 2009 was notable for high rainfall and consequent severe flooding (Walsh 2010) which account through run off of higher than normal values recorded for some canal sections.

Water quality in the Grand Canal Basin has been adversely affect over recent years by an outfall discharging foul sewerage into the southern end of the Inner Basin during periods of high rainfall. A Section 25 Certificate has issued to Dublin City Council to pipe the outfall through the Grand Canal Bain to the north to discharge into the River Liffey where its impacts will not be significant. As a result of this outfall the Grand Canal has been the most vulnerable of the water bodies to pollutants in the Docklands. The long retention time and low throughput of water makes it similar to a small lake and is susceptible to pollutions through leaching or direct discharge of both solid and liquid material.

The Grand Canal is a freshwater body and is free from heavy metal contamination as it passes through the centre of the Basin. In additional both Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) reach acceptable levels for fish survival. As the canal enters the basin solid concentration decreased due to the enhanced settlement and flocculation in the large enclosed space. BOD was previously at high levels due to contamination from the former Dublin Gas Site, this site has now been decontaminated.

As part of this SEA process information was obtained from Waterways Ireland on the water quality in the Grand Canal Basis taken on November 26th 2012. The results were taken after a period of heavy rainfall and therefore showed elevated faecal coli forms in the water; this was due to sewer overflowing into the Basin, at times of heavy rainfall. This emphasises the need for an extension of the sewer overflow through the Basin to the River Liffey. This will be essential if water recreational activities are to be promoted in the water body.

3.5.8 Quality of Estuarine and Coastal Waters

Estuaries and their adjoining coastal waters are often categorised as receiving waters due to the fact that these waters receive inputs of various substances from a wide range of human activities. The rivers that flow into estuaries can carry substantial loads of nutrients, organic matter and other materials that originate upstream sources. The impacts of nutrient enrichment and the process of eutrophication is a major concern in the marine environment.

The Liffey Estuary is contained by the North Bull Wall and the Great South Wall. The River Tolka flows into the north western end of the estuary and is separated from the Liffey by the reclaimed land of Dublin Port. The estuary channel extends from Matt Talbot Bridge past the constriction formed by the North Bull Wall and the Great South Wall at Poolbeg Lighthouse and runs close to the Great South Wall with little or no foreshore. The Liffey and Tolka estuaries cover an inter-tidal area of some 348 ha and they discharge into Dublin Bay. There is a strong tidal exchange between the estuary and the Bay, which ensures that most of the discharges to the estuary are removed after a relatively short time of residence.

The Liffey Estuary is a designated sensitive area in tidal water under National Regulations (S.I. 254 of 2001 and S.I 440 of 2004). From the report it is noted that the present assessment of the Liffey estuary would appear to confirm that water quality in the estuary continues to improve with only phosphorous levels in winter marginally exceeding the set criterion. Since the 1995 – 1999 period, the trophic status of the estuary has improved from eutrophic to intermediate in 1999 - 2003 and in period 2004 – 2006. Chlorophyll levels in the estuary remained low, dissolved oxygen levels showed little evidence of disturbance. The observed improvement in water quality in the Liffey estuary is clearly a result of the installation of significantly upgraded treatment facilities at the Ringsend WWT. Further investigation is still required to track the change in nutrient levels as the full effect of the plant is realised. BOD concentrations are generally low in both the estuary and Dublin Bay.

One potentially negative aspect of water quality trends in the Liffey Estuary and Dublin Bay have been the reoccurrence of opportunistic macro algae in the Tolka estuary and along the south Dublin seashore. The occurrence of green opportunistic algae mats in the inter tidal areas of the Tolka estuary, mainly being the southern promontory of Bull Island is of concern. This could cause smothering the underlying sediment, and could result in the Tolka estuary being classified as less than good ecological status under the WFD. Furthermore, the reoccurrence of substantial strands of brown macro algae (*Ectocarpus siliculosis*) along the south Dublin seashore during the autumn months is also of concern. The abundance and distribution of opportunistic algal species within the Dublin Bay area will be assessed as part of the national WFD monitoring programme. If the accumulation of these macro algae blooms result in a water body failing to meet its environmental objective under the Directive, then investigative monitoring will be required to determine their cause.

3.5.9 Foul and Surface Water Drainage

In dealing with the foul and surface water drainage in the North Lotts/Grand Canal Dock Strategic Development Zone, cognisance should be given to the statutory background, i.e. the Wastewater Discharge Regulations, SI No. 684 of 2007 and the Water Framework Directive. The EPA granted the Greater Dublin Area Agglomeration Waste Water Discharge Licence D0034-01 in July 2010 which conditions the Local Authorities to address spills to the rivers and the sea. The Eastern River Basin District (ERBD) programme of measures will also influence development. Dublin City Council is currently advancing contracts to comply with the current legislation which include the upgrade of the Ringsend Sewerage Treatment Plant and the Preliminary Design of the City Centre Sewerage Scheme.

3.5.10 – Flood Risk

Dublin City Council has worked closely with the Office of Public Works (the lead agency for flood risk management in Ireland) in developing solutions to minimise the risk of flooding in the city with special focus on the general docklands area.

These solutions are multi-layered and range from the strategic level, such as the Triton early warning system which detects tidal surges out in Dublin bay and sends alarms to the relevant personnel, right through to the construction of sea wall defences such as the Dodder flood walls.

Planning policies also play a major part in minimising flood risk, Dublin City Council were the first Irish local authority to require storm water management from developers in 1998 and then subsequently implemented a Sustainable Drainage Systems (Suds) Policy in 2005. In essence these planning policies require developers to reduce the stormwater run-off from newly paved areas to what it was before the development took place. This will ensure that development can take place in a sustainable manner without increasing the risk of flooding.

Almost all of the docklands area is categorised as brown field, (ie previously developed in the past). In terms of minimising flood risk at the regional level, this presents a significant case for targeting economic investment to the area as the drainage infrastructure is in place and can be readily enhanced to address particular challenges rather than such investment going to green field sites on the outskirts of the city which would result in extensive new hard paved surfaces with additional storm water run-off generated.

The methodology for managing flood risk is set out in the OPW document "The Planning Risk and Flood Risk Management, Guidelines for Planning Authorities" dated November 2009. This document identifies the main types of flooding, viz, Coastal, Pluvial, Fluvial, Groundwater and Infrastructure Failure and sets out a sequential approach to minimising flood risk while also recognising explicitly …"that many of the areas where people live and work are already subject to flood risk and that the needs for regeneration and growth can be reconciled, while taking due account of the need to minimise and mitigate such risks."

3.5.10.1 Addressing the Risk at Regional Level

Dublin City Council and its partners such as the OPW have implemented several measures and projects to address the main flood risks in the docklands area to allow for continuing development in the area. These include:

- The Triton early warning system, based on sensors in Dublin Bay providing continuous information on sea-level changes and then sending alarm messages to relevant personnel in the Council.
- The Eastern Coastal Flood Risk Assessment and Management Studies (EFRAMS) which is currently carrying out a major study on the Dodder river. This will result in recommendations for further flood protection measures along the river.
- Dodder Flood Protection Scheme Advance works, consisting of raising the flood defence walls along the tidal stretches of the Dodder.
- Both new and upgraded drainage infrastructure in north and south docklands.
- In the north docklands area, this includes a newly constructed Pumping Station at Spencer Docks (SDPS, due to be commissioned this year) with associated rising mains and a new services tunnel

under the river Liffey. This new infrastructure reduces the risk of flooding from the foul wastewater network in the area.

- New trunk sewers to serve the SDPS, thereby ensuring complete separation of foul and stormwater flows. Again, this reduces the potential for contaminated flood waters.
- New drainage infrastructure in south Docklands - As part of Phase 1 of the DDDA developments in the area an entire foul and surface water network was laid. Separation of flows reduces potential flooding and contamination of any floodwaters.
- South Campshire Flood Protection Project: this is at design stage and involves the construction of a flood wall along the south quays extending as far downstream as Sir john Rogerson Quay.
- City Centre Sewerage Scheme: this catchment study is currently being progressed and will result in recommendations for new and upgraded infrastructure in the city centre and docklands area. Again separation of storm water and foul flows will reduce the potential flooding and contamination of floodwaters.

3.5.11 Evolution of Water in the Absence of LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms, including local area plans & SDZ where appropriate (Grangegorman and Docklands).

It is at the level of an SDZ that aspirations are given real meaning through more detailed objectives for specific local areas. The SDZ for the Docklands provides for the opportunity for investment in services and infrastructure in the area and actively seeks funding and delivery of key infrastructure.

The SDZ will also assist in the overall implementation of the Eastern River Basin Management Plan and associated 'Programme of Measures'. While the River Basin Management Plans, and the Dublin City Development Plan 2011-2017 will provide for significant protection and enhancement of water quality, the Planning Scheme sets out specific policies and objectives in relation to the enhancement and protection of the water bodies.

Furthermore, the Planning Scheme SDZ sets out specific objectives for a number of key sites (city blocks) and a phasing and implementation of the Planning Scheme. The redevelopment of the SDZ area provides an opportunity to improve water quality alongside continuing control measures such as trade effluent discharge licences which require discharges to surface water to not compromise water quality. The SDZ will also promote the protection of surface water and ground water resources and their associated habitats and species. This approach ensures that wastewater and water supply infrastructure is available to accommodate the existing and future quantum of development envisaged for the area.

In terms of flood risk management a leading policy for reducing flood risk in the area will be the use of Sustainable Urban Drainage Systems(SUDS). These have been mandatory in DCC since 2005, and will reduce run-off rates from newly paved area and hence reduce flood risk resulting from these new paved areas. The policy encourages the use of green roofs, rainwater recycling, soak ways/infiltration devices and other

methodologies that reduce peak storm water run-off. Minimum floor levels for residential development in the docklands have been in place since 2005. This figure currently stands at 4.0m OD MH. Site specific flood risk assessments for individual development could result in a higher figure being used. Flood resilient construction is advised as a mitigation measure to address areas of know flood risk where floor levels cannot be changed.

In the absence of a Planning Scheme for the SDZ it is less likely that the key sites(city blocks) will be developed and therefore less likely that investment would be made in necessary infrastructure. Improvements in water quality may not be achieved in the shorter term, should the area be left undeveloped or developed in a piecemeal manner and less focused manner.

3.5.12 Key Environmental Goals – Water

They include localised as well as more strategic issues:

- To provide adequate wastewater treatment, water distribution networks and drainage networks.
- Investment will be required to enable the installation of a significant number of new water mains in the plan area and environs in order to cater for the proposed development and population increase in the area.
- The scale and phasing of new development in the Planning Scheme will need to be cognisant and in keeping with the capacity available at Ringsend Treatment Plant and be compatible with local sewer capacity constraints.
- To cater for future development, investment will be required in the foul sewer network and the completion of the sewer overflow through the Grand Canal Basin to the River Liffey. This will be essential if water recreational activities are to be promoted in the water body.
- To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area
- Protection/Improvement of Water Quality (in line with the Programme of Measures set out in the Eastern River Basin Management Plan.
- To reduce and manage the risk of flooding, and to take into account the provisions of the guidelines on the Planning System and Flood Risk Management.

3.5.13 Key Environmental Sensitivities – Water

- Water quality in the area is a result of complex interactions at both the local and regional levels. The upstream catchments of the various rivers in the Docklands SDZ contribute to the pollution load recorded in the water quality in the areas. In addition, natural vulnerability of the groundwater to contamination should be borne in mind.

3.6 Noise & Air Quality

3.6.1 Noise

Dublin City Council as part of the requirements of the EU Directive on the Management of Environmental Noise and under the Environmental Noise Regulations S.I. No. 140 of 2006, has revised and upgraded their traffic source 'Noise Maps' for the 2012 base year. These maps are to be used to assess the number of people annoyed and sleep-disturbed respectively throughout Dublin. The maps are Strategic Noise Maps, and should be used for strategic, high level planning and not for the assessment of local noise nuisances. The 'Noise Maps' show colour coded areas in Dublin based on noise levels, these bands increment in 5 decibels. The Night time band starts at 50 decibels and the 24 Hour band starts at 55 decibels. The EU Directive does not give an indication as to what level of noise is acceptable. This is left to each member state. At this point in time, Ireland does not have any statutory limit values, as is the case for air pollution. However in the current Noise Action Plan for the Agglomeration of Dublin, which is to be revised in 2013, it is indicated that it is undesirable to have areas with a night time level greater than 55 decibels and a daytime level greater than 70 decibels. It identifies areas with desirable low sound levels as those area with a with a night time level less than 50 decibels and\or a daytime level less than 55 decibels.

The LUAS Red Line extension to the O2 venue runs through the northern portion of this site. The 2007 Luas Maps have been revised for year 2012 by the RPA. An assessment of the population exposed to this sound source shows that 99% of the population in the area are being exposed to sound levels below the 55dB desirable day time level and 100% below the night time desirable level of 50 decibels. It is calculated that none of the population in the area are being exposed to undesirable sound levels from this source, either during the day or night time periods.

Figure 3.2 (Night time levels) and Figure 3.3 .(24Hr values) show the different colour coded noise bands within the SDZ Area (bounded with green parameter), from Traffic sources. Undesirable daytime sound levels are to be found along all the major roads within the area. A number of properties along these roads are multi-residential properties. From Table 3.2 it can be seen that for the SDZ Area it is estimated that only 62% of the population are exposed to sound levels below the 55dB desirable daytime values and 4% below the 50dB desirable night time levels. It is also estimated that 24% of the population in the area are exposed to the undesirable night time value greater than 55dB, with 11% being exposed to levels above a daytime value of 70dB.

Comparisons between the LUAS and Traffic sources indicate that sound from road traffic sources are the dominant sound within this area.

Figure 3.2 Night Time Sound Levels

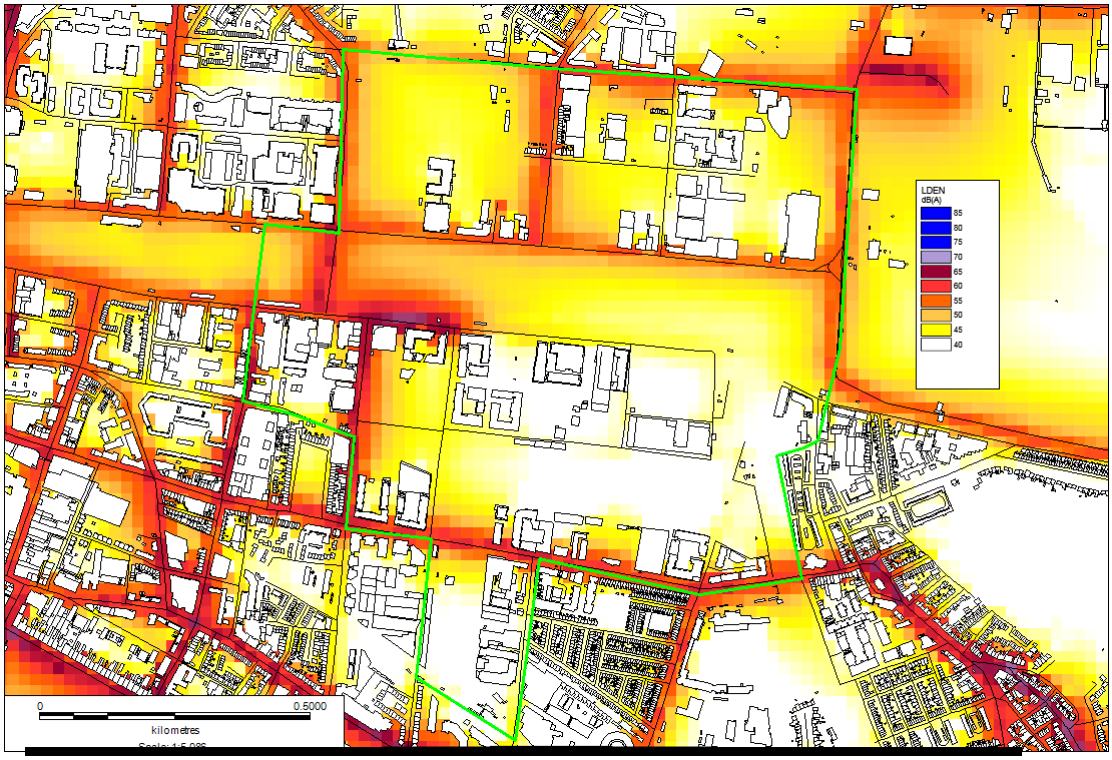


Figure 3.3 Day Time Sound Levels

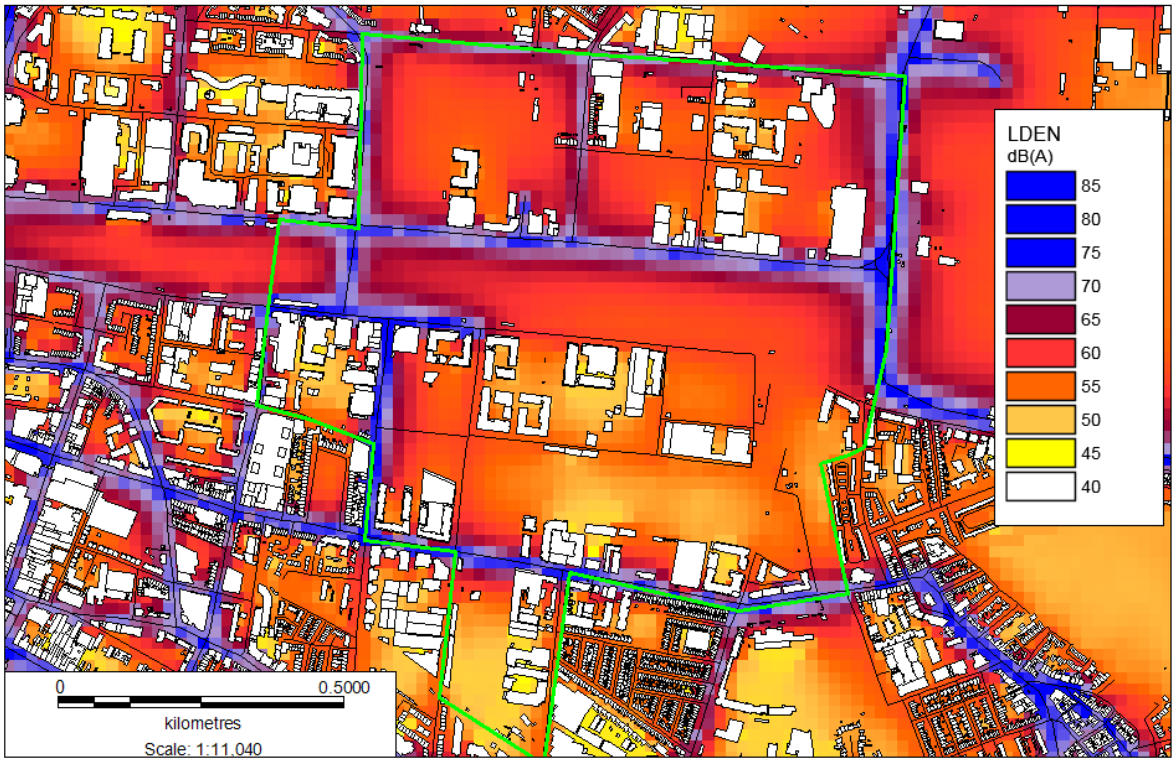


Table 3.2 - **Percentage Population Exposure (2012) to Sound Levels from Traffic**

Table 1

Percentage Population Exposure (2012) to Sound Levels from Traffic				
Decibel Band	Day	Evening	Night	24 Hours
0-44	0	0	40	0
45-49	3	4	26	0
50-54	15	22	9	17
55-59	33	28	20	31
60-64	8	5	5	8
65-69	30	30	0	28
70-74	11	11	0	15

As a consequence, it is recommended that any developments within or close to this area should not have a deleterious impact on the current acceptable acoustical quality for the current and future residents (89% day; 76% night) in the area. Actions as outlined in the Dublin Noise Action Plan should also be considered to try reduce or provide mitigation for the number of people (24%) who are being exposed to undesirable night time levels. It is also further recommended that due cognisance should be taking of the Noise Action Plan for the Agglomeration of Dublin for any development taking place within this area and not just where sound levels are undesirable.

3.6.2 Air Quality

3.5.2.1 Main Pollutants Affecting Dublin's Air Quality in Dublin

In order to protect human health, vegetation and ecosystems, the EU Directives set down air quality standards in Ireland and other member states for a wide variety of pollutants. These pollutants are generated through a number of sources including fuel combustion, in space heating, traffic, electricity generation, and industry etc. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles of this European approach are set out under the Air Quality Framework Directive 96/62/EC which was transposed into Irish law by the Air Quality Standards Regulations 2002 and the Ozone Regulations 2004. The Air Quality Standards Regulations have recently been replaced by the Clean Air for Europe (CAFÉ) Directive 2008 (2008/50/EC) which sets out the requirements for monitoring pollutants and the target values for each pollutant.

The Dublin Regional Air Quality Management Plan 2009-2012, is a plan under the Air Pollution Act 1987 where the Local Authority makes a plan for the preservation or the improvement of air quality in their functional area. In the past 20 years Dublin's air quality has shown significant improvement in the levels of black smoke, lead, sulphur dioxide (SO2) benzene and carbon monoxide (CO) This is due largely to the success of the regulatory ban on the sale of bituminous coal in the Dublin Region and the elimination/reduction of other substances in vehicle fuels.

The main sources of pollution that Dublin faces are:

- Road vehicle emission to ambient air,- emission from motor vehicle exhaust fumes are universally recognises as being damaging to human health, and can cause early deaths amongst people who are most at risk, especially those who already have heart or respiratory problems.
- Inside the Motor Vehicle – levels of nitrogen dioxide can be up to ten times higher than ambient levels on the street outside.
- Other sources include other energy sources, construction activities, and uncontrolled burning.

Results from the EPA report on Air Quality in Ireland 2011, provides an overview of air quality in Ireland for 2011 and is based on date obtained from 29 monitoring stations that form the national ambient air quality network. This includes the following pollutants, nitrogen oxides, sulphur dioxide, carbon monoxide, ozone, particulate matter (PM10, PM25, and black smoke) benzene and volatile organic compounds heavy metals and polycyclic aromatic hydrocarbons. The report noted that overall air quality in Ireland continues to be good and is among the best in Europe, due largely to the prevailing clean westerly air flow from the Atlantic and to the relative absence of large cities and heavy industry. However for the main cities levels of NOx in traffic impacted city centre areas will continue to be a problem due to the difficulty in achieving large scale reduction in road traffic numbers Emissions from residential solid fuels use contribute to high levels of particulate matter and polycyclic aromatic hydrocarbons in villages, towns and cities.

For Dublin City , Dublin City Council Air Quality Monitoring and Noise Control Unit for 2010 , generally puts Dublin's air quality at good with Levels of sulphur dioxide (SO2) black smoke and carbon monoxide (CO) have been satisfactory while levels of nitrogen dioxide (No2) improved during 2010 compared with 2009. Black smoke monitoring is now carried out as a from of background monitoring (since the significant improvement in air quality with the introduction of the coal ban) using he benchmark of the EU Directive 80/779/EEC as a guide. The results for 2010 indicate that the sites all comply with EU limit values. However the levels of NO2 remain a concern and will require particular attention in the coming years, this is primarily associated with traffic emissions. With regard to particulate matter (PM23 and PM10) there were marginal increases in 2010 for PM 10 although no exceedences were noted. For PM22 limit values were exceeded on a number of occasions.

The table below sets out the sources and associated effects of pollutants for the results from 2002 – 2010

Table 3.3 Main Pollutants affecting Dublin's Air Quality

Pollutant	Main Sources in Dublin	Effects
Sulphur Dioxide (SO2)	Space heating from residential and industrial premises	Precursor of acid rain. Health impacts - breathing problems, worsening of respiratory and cardiovascular disease
Nitrogen Dioxide (NO2)	Burning of fossil fuels in vehicles, industrial plant, power plants and other commercial and residential sources that burn fuel	Health impacts - irritates the lungs, lowers resistance to respiratory infection; precursor of acid rain, formation of ground level ozone and in the formation of photochemical 'smog'
Carbon Monoxide (CO)	Vehicular traffic	Health impacts – interferes with the distribution of oxygen in the blood
Particulate Matter (PM2.5 and PM10)	Vehicular traffic, dust from construction sites, construction equipment, crushing /grinding operations, tobacco smoke, wood burning stoves, and other home heating sources	Health impacts – particles invade the body's natural defence system

3.6.2.2 EPA Air Quality Zones

In order to comply with the directives mentioned above, the EPA measures levels of a number of atmospheric pollutants, For the purpose of monitoring in Ireland, four zones are identified in the Ait Quality Standards Regulations 2002 (SI No.271 of 2002). The main areas defined in each zone are:

- Zone A : Dublin Conurbation
- Zone B - Cork Conurbation
- Zone C – Other cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee, Dundalk, Navan, Letterkenny, Celbridge, Newbridge, Mullingar, Balbriggan, Greystones, Leixlip and Portlaoise..
- Zone D – Rural Ireland ie. The remainder of the Stats, small towns and rural areas of the country – excluding Zones A, B and C.

The Planning Scheme area falls within Zone A: Air Quality in Zone A is currently good.

The above index is calculated based on the latest available measurement of ozone, nitrogen dioxide, PM10 and sulphur dioxide in Zone A. The nearest station to the plan area would be at Ringsend, which is located close to a residential area near Sean Moore Road, about 3km from the city centre. Monitoring here was conducted from Feb 2009 to February 2012.

3.6.2.3 Evolution of Air & Noise in the absence of the Planning Scheme.

The core strategy of the Dublin City Development Plan 2011 – 2017 , to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanism, including through this SDZ.

In the absence of the SDZ for this area, noise levels and air pollutants would be likely to remain at current levels, or even increase as population trends continue to increase in the areas. The large sites undeveloped would remain impermeable with physical barriers to movement. The elements of the green infrastructure at this local level would be less likely to be implemented with negative consequences for noise and air quality.

3.6.2.4 Key Significant Environmental Goals – Air & Noise

- To continue to promote the modal shift from private car use towards more sustainable forms of transport such as cycling, walking and public transport.
- To preserve and maintain good air quality in the plan area in accordance with National and EU policy directives on air quality.
- To minimise the adverse impacts on noise and promote good health and a good quality of life for the existing and future residents f the plan area.

3.6.2.5 Key Environmental Sensitivities – Air & Noise

- Emission of air pollutants from road traffic remain the main threat to air quality, a modal shift from the private car to high quality public transport is required.
- The levels of Nitrogen Oxide (NO2) and Particulate Matter (PM2.5 and PL10) remains a particular concern and required special attention in the coming years

3.7 Climatic Factors

There is currently no data available at a local level for greenhouse gas emissions for the Planning Scheme area. However a number of strategies and initiatives have been developed as part of the National Climate Change Strategy 2007 -2012.

The National Climate Change Strategy Ireland 2007-2012 sets out a range or measures building on those already in place under the first National Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides for action to reduce Ireland's greenhouse gas emissions. The Kyoto Protocol was agreed in 1997 and commits industrialised or developed countries to reduce their combined emissions of the basket of six greenhouse gases by at least 5% compared to below 1990 levels by the first commitment period 2008 -2012.

One such initiative is the Climate Change Strategy for Dublin City 2008 -2012**.** CO2 is the greenhouse gas that has the strongest effect on climate change. CO2 emissions in the City can be divided between four major

sectors, residential (32%) services (23%) manufacturing (20%) and transport (25%) . In 2006 Dublin City which has 12% of the Irish population released approximately 5 million tonnes of CO2 which was approximately 10.5% of the total Irish emissions.

Ireland's air quality remains generally good. The 'smog' problem which existed in the 1980s /early 1990s has now been eliminated due to the ban on the marketing sale and distribution of bituminous coal in certain urban areas. However, due to the significant increase of vehicles on our roads, emissions from the transport sector represents the greatest threat to our air quality. Measures which help reduce congestion, promote fuel efficiency and the ongoing investment in public transport are of major assistance in addressing any potential threat to our air quality.

Measures introduced and proposed in the areas of:

- vehicle standards
- fuel efficiency in vehicles
- modal shift (LUAS, DART, QBCs, cycle lanes etc)
- Demand Management (large infrastructural projects such as Dublin Port Tunnel, M50 upgrade, and general other measures to help congestion)
- Restructuring of vehicles registration tax (VRT) and motor tax in favour of more fuel efficient cars
- Excise relief on bio fuels.
-

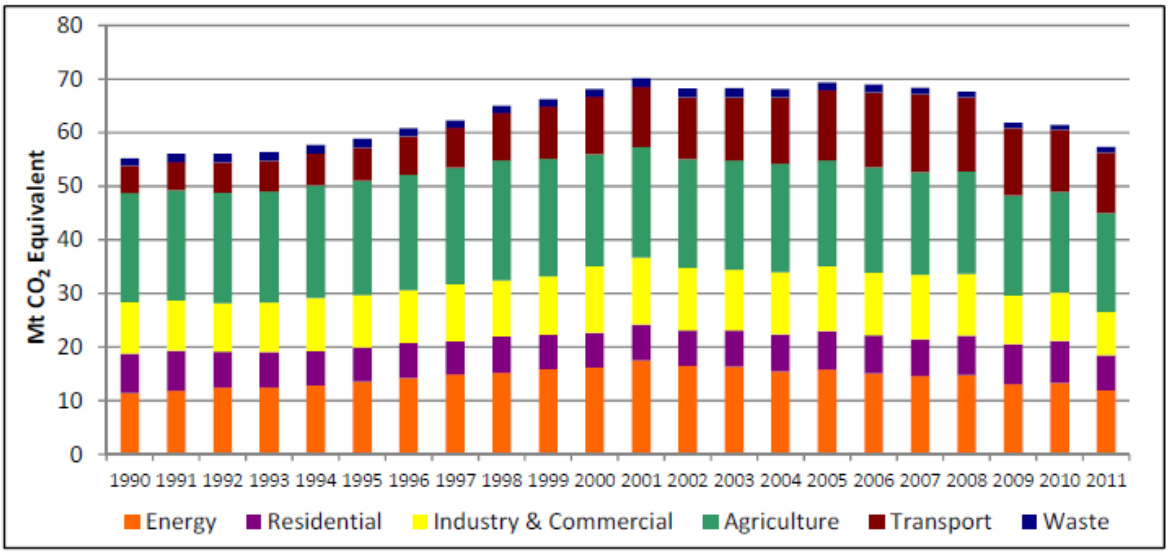
All the above measure helps to maintain our high standards of air quality

3.7.1 Environmental Protection Agency

The EPA compiles Ireland's national greenhouse gas emission inventory on an annual basis. This inventory is submitted to the European Commission and UNFCCC each year. Emission data for the following gases is reported on an annual basis, Carbon Dioxide CO2, Methane CH4, Nitrous Oxide N2O, Sulphur Hexafluoride (SF6) Perflurocarbons (PFCs) and Hydroflurocarbons (HFCs).

Emissions are classified into the six following Intergovernmental Panel on Climate Change (IPCC) sectors: Energy, Industrial Processes, Solvent and Other Product Use, Agriculture, Land-Use Land Change and Forestry and Waste;

Figure 3.4 – Trends in Greenhouse Gas Emission 1990 - 2011[9]



Specific Information on Docklands is not available; the information from the EPA covers all of Ireland. A report from the EPA on the 12th October 2012, made a number of points in relation to Greenhouse Gas emission in 2011.

Some of the key points:

- For 2011 GHG emission are estimated to be 57.34 million tonnes, which is 6.7% lower than emission in 2010
- Emissions from energy decreased by 10.5% in 2011., reflecting an increase in share of renewable in gross electricity consumption . Wind resources were significantly higher in 2011 than in 2010.
- Greenhouse gas emission from the residential sector are 15.6% lower compared to 2010 levels, reflecting milder winters in 2011
- Industry and Commercial emissions decreased by 10.7% in 2011 primarily due to a reduction of Fuel Oil and to continued decrease in CO2 emission from cement production
- Agriculture emission are 1.9% lower in 2011 compared to 2010 due to decrease in fertilise use.
- Transport Section is 2.7% lower primarily reflect the continued economic downturn in 2011, as well as the impact of policies and measures such as linking VRT and motor tax to CO2 emissions.
- Transport and Agriculture account for almost 50% of total emissions in 2011 or 71% of non EU ETS emissions
- Based on the First four years of the Kyoto Period (i.e 2008 to 2011) Ireland is on track to meet Kyoto obligations when the impact of EU Emissions Trading Scheme and approved Forest Sinks are taken into account. Compliance under the Kyoto Protocol will be assessed when greenhouse gas emissions for the full period (2008 -2012) are available.

[9] EPA Irelands Greenhouse Gas Emissions in 2011

3.7.2 Dublin City Sustainable Energy Action Plan 2010- 2020

This action plan was proposed by Codema in association with a Dublin City Council Steering Committee. Dublin City Council took the initiative to reduce Dublin's carbon footprint by 20% by 2020 and to become an energy smart and efficient city. The plan analyses the City's current energy and carbon dioxide emissions and Codema calculates that Dublin City is currently emits 5 million tonnes of CO2 each year. The action plan set out and evaluates how we can reduce energy consumption in areas such as planning, transport, residential, and commercial buildings while incorporating the use of renewable energy. A huge opportunity lies in residential and commercial buildings which currently account for 55% of the city's total greenhouse gas emissions and represents the biggest possible opportunity for CO2 abatement.

3.7.3 Flooding

Climate change brings with it the challenge of flood management due to extremes in weather and increased flood risk, and the challenge of supplying drinking water particularly during periods of drought.

Flooding is also covered under the Environmental Indicator Water.

3.7.4 Evolution of Climatic Factors in the Plan Area in the absence of the SDZ

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms, including local area plans and SDZs where appropriate (Grangegorman and Docklands)

A priority of the development plan's core strategy is the achievement of a clean, healthy city with the use of renewable energy sources, green technologies, sustainable building designs, and SuDS as integral part of the city's infrastructure. While the issue of climate change is a trans-boundary issue and largely outside the control of any one functional area or local authority, these positive policies and objectives of the city development plan core strategy assists in having an overall beneficial impact on climate change. This emphasis in the development plan on sustainable infrastructure will help to mitigate climate change. The Planning Scheme for the proposed SDZ for the Docklands provides a framework for the integrated delivery of sustainable infrastructure accompanied by a clear programme of implementation. It includes objectives which support a sustainable land use and transportation strategy, energy efficient building design, and sustainable drainage systems at the local level. Such a focused approach contributes to the reduction in greenhouse gases, assists in meeting the national climate change target as set out in the National Climate Change Strategy 2007 – 2012 and reduces the risk of flooding. In the absence of the SDZ Planning Scheme CO2 emissions would be likely to increase; flood risk

assessment measures would be less likely to be undertaken with many negative climatic impacts as a consequence.

3.7.5 Key Environmental Goals - Climatic Factors.

They include localised as well as more strategic issues:

- To continue to promote the modal shift from private car use towards more sustainable forms of transport such as cycling, walking and public transport
- The use of renewable energy sources to be promoted..
- The building Rating of the proposed buildings should be considered as part of the assessment.
- To promote the use of thermal energy and integration into a District Heating System
- To preserve and maintain good air quality in the plan area.
- To promote the use of ecological friendly building material

3.7.6 Key Environmental Sensitivities – Climatic Factors

- Potential increased flood risk from changed land use patterns and climate change
- Vehicle emissions associated with the proposed Planning Scheme for the Docklands will give rise to CO2 and N2O emissions in the region
- Emissions from energy generation and space heating in commercial and residential units, will also contribute to national emissions of greenhouse gases

3.8 Material Assets (transport and waste management)

The issues of waste water, transport infrastructure and waste management will be dealt with under the environmental receptor topic, 'material assets'.

The Docklands area is serviced by an existing water supply and wastewater infrastructure, much of which is critical not only to the city, but to the region and state. The area is served by the wastewater treatment plant at Ringsend, which caters for the Dublin Region.

3.8.1 Waste Water/ Storm water

The Planning Scheme area discharges to the Regional Waste Water Treatment Plant at Ringsend. At the time of preparing this Planning Scheme, this facility is operating at its design capacity. Dublin City Council, is currently finalising proposals to increase capacity of the plant at Ringsend from 1.7 million PE (population equivalent) to 2.1 million PE..

In 2010, the Environmental Protection Agency granted a Discharge Licence to Dublin City Council under the Waste Water Discharge (Authorisation) Regulations (2007). Dublin City Council must comply with the conditions of this discharge licence. The ultimate objective of this licence is to restrict discharges from the wastewater network into rivers and waters. Also under the River Basement Management Plan approved by Dublin City Council in 2010, all waters are to achieve "good" status , by 2015/2027. This places statutory requirements on

Dublin City Council to improve the status of the rivers within the city. The 2007 Regulations also require that the Water Service Authority satisfies itself that there is drainage capacity available in the network prior to granting a planning permission for any development. This requirement will apply to all developments within the SDZ Docklands area.

DCC and the Docklands Development Authority have been working in partnership with other organisations to improve all aspect of infrastructure in the area. Over the last number of yeas a number of projects have been completed. Of relevance is the Spencer Dock Pumping Station which is designed to pump sewerage from the Spencer Dock Development and the surrounding North Docklands areas, through the Dublin Docklands rising mains to the main lift pumping station in Ringsend. The pumping station has the design capacity to pump 700l/s through the two Dublin Docklands Rising mains and has 2000 m3 of offline storage.

The construction of the Liffey Services Tunnel was completed in 2010 which carries two new foul rising mains to the Main Lift Pumping Station in Ringsend. The service tunnel also allows fro electricity, telecommunications and possible future district heating utility requirements.

3.8.2 North Lotts

The drainage infrastructure for the North Lotts is mostly based on the single pipe combined system. Significant investment has been made in recent years in drainage infrastructure to serve this area. Although various improvements have been made to date, significant work still remains to be completed to enable development proceed throughout the entire areas. This includes the new foul wastewater pumping station at Spencer Dock, a new service tunnel under the River Liffey, a new rising main from SDPS to the Main Lift Pumping Station in Ringsend. A tender is currently being prepared to construct two major trunk sewers along Sherriff Street and Castleforbes Street, which will discharge to Spencer Dock Pumping Station. This contract is at design stage.

3.8.3 Grand Canal Dock

The drainage infrastructure for the Grand Canal Dock has been partly upgraded in recent years. A new separate system for surface water drainage and the existing foul drainage network have been upgraded through a 450mm diameter pipe into the main sewer along Macken Street. These works were carried out as part of the former gas works site redevelopment. Notwithstanding these works the remainder of the site will require the existing infrastructure to be upgraded to cater for any new development. The relocation of the Grand Canal Surface Water Outfall from the Grand Canal Dock basin to the River Liffey has commenced, with a section being constructed as part of the redevelopment of the former gas works site. The remainder of the works will connect the culvert on Hanover Quay and again on Sir John Rogerson's Quay where a new culvert and outfall structure will be constructed into the River Liffey. Environmentally, the benefit of this project will be the removal of a storm water outfall, including an overflow to the Grand Canal Tunnel Foul Sewer, which has overflowed in the past causing pollution in Grand Canal Dock. The new outfall to the River Liffey will provide much greater dilution in the case of any future overflows.

3.8.4 Drinking Water

The Dublin City Council Water Services Strategic Plan 2009 sets out the vision for water supply services in the Dublin Region. Supply and demand for high quality drinking water is finely balanced and this will remain the case in the short to medium term pending increased production, storage and delivery capacity.

Meeting the projected long terms water supply need of the Greater Dublin Area up to 2050 and beyond, is the main purpose of the Water Supply Project – Dublin Region (WSP-DR). This project is on the current Department of Environment Community and Local Government (DECLG) Water Services Investment Programme with Dublin City Council as Lead Authority. The Greater Dublin Areas includes the administrative areas of Dublin City, Dun Laoghaire-Rathdown, Fingal and South Dublin Counties, including counties Wicklow, Meath, and Kildare involving a current population of approximately 1.5 million. Following tendering/procurement/ appointment process, the new Consultants will advise Dublin City Council on the detailed programme for undertaking the Environmental Impact Assessment(EIA) and the preparation of an Environmental Impact Statement (EIS), Appropriate Assessment and Planning Application.

3.8.5 Waste

Waste Management is concerned with the generation, collection and disposal of waste. The Waste Management Act 1996 defines waste as 'Any substance or object which the holder discards or intends or is required to discard.' Delivery of the objectives of the DCC Waste Management Plan will be implemented through the development management process by accommodating recycling facilities for new residential and commercial developments.

The Greater Dublin Waste Management Plan provides a framework for minimising waste encouraging recycling and ensuring the avoidance of environmental pollution. The plan includes the policy of diversion from landfill in accordance with targets set out in the European Union Landfill Directive.

Overall the Dublin Region continues to perform well in line with the targets and objectives of the Dublin Waste Management Plan. The household recycling rate is up 3% to 44%, municipal waster recovery is up 1% to 47%, and landfill has decreased by 1% to 53%. The region remains overly reliant on landfill with 56% of household water and 49% of commercial waste sent for disposal. There remains a need to develop recovery alternatives for residual waste.(5^{th} annual progress report, 2011, waste management plan for the Dublin Region).

Commercial waste arising generated in Dublin in 2010 was 739,121 tones. This represents an estimated increase of 1% compared to 2009 data. Municipal waste arising of 1,192,466 tonnes have been reported for 2010 in the Dublin Region, representing a 3.4% decrease on municipal waste arisings recorded in 2009. The rate of disposal to landfill remains high at 56% and Dublin like the rest of the country remains overly dependant on landfills. The need to deliver treatment technologies for the long term management of residual waste remains a priority for the region and the country. The move away from a disposal reliant system towards a more sustainable recovery based approach is dependent on the key treatment infrastructure, such as the Dublin Waste-to-Energy facility, being developed in the region as planned.**Local Recycling Facilities in the SDZ Area**

Although there are no recycling facilities within the Planning Scheme area a number of facilities are in close proximity. The Ringsend Recycling Centre is located just outside the area and allows domestic users to recycle a wide range of materials. There are also a number of bottle banks in close proximity to the Planning Scheme area namely at East Wall Road and in Ballsbridge..

3.8.5 Dublin District Heating System

In 2002 Dublin City Council undertook a feasibility study on the implementation of a citywide district heating network with a preliminary feasibility study for the network and the subsequent publication of a detailed study in late 2008. Following this an assessment of the market for District Heating was undertaken by Codema in 2010

Development of the system is planned to begin in Docklands Areas initially and then expand to other parts of the city. It is envisaged that the heating system will become available in the Docklands Area before 2020. This will have a number of benefits:

- Energy efficient and flexible in its energy choices
- Less dependant on imported energy
- More competitive and environmentally clean
- A leader in managing climate change

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3.8.6 Sustainable Energy Community (SEC)

Dublin City Council has been chosen to create a Sustainable Energy Community (SEC) in a 4km zone of the City Centre; the SDZ is within this zone. The SEC will facilitate the use of sustainable energy, decentralised energy systems, and renewable energy technology through a process of SHARE – ADAPT – REPEAT. Networks of expertise and existing sustainable energy projects will be formalised into a platform to inform current and new development in the mechanisms of smart energy and green technology solutions.

3.8.7 Transport

Increasingly, there is a greater awareness of the potential negative impacts of the transport sector on the environment, both in terms of local air and noise pollution and the effects of CO2 emissions. The challenge is to encourage more people out of the car and on to more sustainable forms of transport. The vision for transport in the Dublin City Development Plan 2011-2017 is to promote the integration of land uses and transport so that as much movement as possible is accommodated by high quality public transport, by walking and by cycling. This remains the main vision for transport in the proposed Docklands Planning Scheme, the proximity of rail stations and bus routes to the docklands area provide important public transport options to people.

The preparation of an SDZ for the area presents an important opportunity to develop and promote the area as a sustainable community and city quarter. The strategic movement vision for the area is one of an environment that is pleasant, accessible and easy to move around on foot and by bicycle and where movement to, from and within the area is predominantly by sustainable means.

There have been a number of achievements to date in the Docklands area including:

Port Tunnel & HGV Strategy - The opening of the Port Tunnel and the implementation of the HGV Strategy has removed thousands of heavy goods vehicles from the City Centre and in particular the quays.

Increased Connectivity - New Bridges - The construction of the Samuel Beckett and Sean O'Casey Bridges has improved connectivity for all modes of transport. The Marlborough Street Bridge, which will carry Luas line BXD, is currently under construction and will facilitate the connection of the area to St. Stephen's Green and beyond via light rail and also play a pivotal role in bus priority in the city centre.

LUAS - Recent years have seen the extension of Luas from Connolly to the Point linking the Docklands area to Tallaght and Saggart. The Luas Red Line commenced operation in 2004 linking Connolly Station to Tallaght. This line was extended by approx 1.5km from Busáras to The Point with 4 new Luas Stops located at George's Dock, Mayor Square, Spencer Dock and the Point. Each Luas can accommodate 358 passengers. Two out of every three in-bound trams terminate at The Point with the third service terminating at Connolly Station.

Luas – Mayor Street.

Rail - Docklands Station, which is located at Sheriff Street opened in 2007 and facilitated the expansion of suburban and outer suburban rail services to Docklands. There are four other stations adjacent to the study area, Pearse Street, Connolly, Tara and Grand Canal Dock. Docklands Station was constructed as Connolly Station has reached capacity and could not cater for additional commuter services to Clonsilla on the Maynooth / Longford Line. Plans have been completed for both Connolly and Tara Street rail stations which should once implemented improve connectivity to the stations and enhance their environs.DART upgrade was completed in 2005 and allowed for the introduction of longer eight carriage trains and upgrading of stations to allow for disabled access.

Bus - Dublin Bus currently operate a number of bus services in the area. A Quality Bus Corridor has recently been completed along North Wall Quay. The Docklands area is also within walking distance to Busaras, the termination point for large numbers of daily commuters to the city from the outlying areas of the Greater Dublin Area (GDA).

Cycling - In terms of cycling the wider Docklands area currently has high levels of cycling, where the average mode share for cycling is 7.8% (2011 Census). The geography of this part of the city, together with the existing network of cycling often make cycle trips the fastest and convenient mode of transport around the area.

A major improvement in cycling infrastructure within the study area has been the introduction of the Canal Premium Cycle Route which runs from Portobello to Sheriff Street. Sections of the route through the Docklands area include both on and off road and shared facilities including sections along Grand Canal Quay, Grand Canal Square, Forbes Street, the Campshires, the Samuel Beckett Bridge, Guild Street and Sheriff Street. This route has been of huge success serving both commuter and amenity functions. The route includes a number of new specialised cycle crossing facilities at a number of junctions. The proposal has the advantage over many existing cycle tracks in the city of being on roads, which have low traffic volumes and in some areas is completely segregated from vehicular traffic. The Dublin Bike Scheme has raised the profile of cycling in the city. It is one of the most successful city bike loan schemes internationally. The closest stations to the study area are the Custom House and Pearse Street stations.

Cycle Lane – North Wall Quay

3.8.8 Deficits in Infrastructure

- The Dart Underground/Interconnector project with associated public transport interchange adjacent to the National Conference Centre would be a major addition to the area in terms of accessibility. However the timescale for the delivery of this project is presently unclear**.**
- The Luas line serving the north Docklands is an important and attractive public transport facility. However, it does not alone have the capacity to accommodate the scale of development proposed for the SDZ area and the Docklands as a whole. This is also the case for DART which skirts the study area. Direct and easy connection between the two forms of public transport is currently lacking.
- In accordance with the Government's 'Transport 21' Strategy and the National Transport Authority's draft Strategy '2030 Vision', a number of initiatives have been proposed which would significantly improve public transport provision and accessibility in the Docklands area in the longer term. In particular the delivery of the proposed Dodder Bridge (the public transport, pedestrian and cycle bridge) is a crucial connection for the South Docklands and Grand Canal area and will enable the provision of increased bus transport facilities to serve the area. Supply of additional public transport capacity is necessary to support the full build out of the area.
- Linkages to the Port both from pedestrians and cyclists need to be addressed particularly in the context of increased cruise liners docking in the port.

3.8.9 Traffic Management Issues and traffic Congestion

Dublin City Council's approach to traffic management in the city seeks to restrict through traffic and calm traffic generally within the city centre giving increased levels of priority for pedestrians, achieve modal share targets crossing the canal of 55% for public transport, 15% for cycling, 10% for walking and 20% for private car use by 2017.

The strategic road network within the Docklands is limited to a small number of major roads. Although none of the roads within the Docklands are designated as national primary roads, the major roads carry significant volumes of traffic and provide important links in the local, regional and national road network. The existing road network is running at capacity during the peak hours.

The main traffic routes on the northern side of the study area are on East Wall Road, Guild Street, North Wall Quay and Sheriff Street. The north side can link externally via the Port Tunnel and Alfie Byrne Road. The main routes on the southern side are Cardiff Lane and Pearse Street. The Samuel Beckett Bridge connects Guild Street on the northern side of the Liffey to Cardiff Lane on the southern side.

The Point Roundabout links East Wall Road, North Wall Quay and East Link Bridge. It also provides vehicular access to the Port Tunnel and the O2. At peak times the roundabout becomes congested causing traffic to build up along the East Link Bridge. Typically 16,000 vehicles cross the toll bridge per day.

There are numerous banned movements throughout the area and toll points are located on the Port Tunnel and East Link Bridge (outside of the study area). The banned turns and toll points impact on traffic movements and the operation of junctions.

A major challenge for the SDZ is managing the capacity of the street network to provide maximum accessibility between the SDZ and the GDA, and at the same time integrating internal movement across the Liffey and within the city centre.

3.8.10 Car & Cycle Parking

Another important challenge is to achieve a balance in car parking provision for the SDZ area where commuter car parking is restricted but sufficient short term commercial car parking and residents' parking is provided. Car storage for residents off street is crucial as there is insufficient space on street to meet this need. This is apparent from the existing situation which could be exacerbated by intensification of development. Another issue is the management of on street car parking particularly on private streets not yet taken in charge by Dublin City Council.

A challenge facing the area and the city as a whole is the requirement to provide sufficient good quality cycle parking, both on and off street, to accommodate the growing number of cyclists in the city. There is limited space on street to accommodate the required amount of cycle parking.

3.8.11 Provision of New Transport Infrastructure

The following infrastructure is necessary to fill in the existing gaps in infrastructure and to improve the facilities for public transport, walking and cycling. It is also crucial in providing connections that are currently lacking.

The two proposed pedestrian/cyclist bridges across the Liffey are crucial to improving connectivity within the SDZ area and the docklands area as a whole. They would also play an important role in making the best use of existing infrastructure as they would provide improved linkage to DART on the south side and Luas on north side. The provision of these bridges will impact on quayside berthage.

The Dodder Bridge is also a crucial piece of infrastructure providing linkage eastwards to Poolbeg. This bridge would enable the provision of increased bus transport to serve the entire area as well as providing an important pedestrian and cyclist link eastwards to link residents with Dublin Bay.

3.8.12 Evolution of Material Assets (Including Transport and waste Management) in the absence of the SDZ

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

A priority of the development plan's core strategy is connecting the city through an integrated landuse and transportation strategy to arrive at a situation where the city is more people-focused, less polluted, more accessible and allows for ease and safety of movement. Making Dublin accessible allows it to intensify and grow. In the creation of this more sustainable city, a modal shift from private modes of transport to public transport, cycling and walking is required along with the implementation of travel plans. It also requires a recasting of the public domain in favour of pedestrians, cyclists and mobility impaired as well as a network of strategic green routes. While transport management is a transboundary issue and largely outside the control of any one functional area or local authority, these positive objectives of the city development plan core strategy assists in having an overall beneficial impact on sustainable transport objectives.

The Planning Scheme provides a framework for the improvement of public transport services and infrastructure within the areas as well as the creation of a green infrastructure at a local level extending outwards into the city and region. The Planning Scheme promotes objectives to facilitate a modal shift from the private car to more sustainable forms of transport. This will be achieved through the creation of linkages and a street hierarchy that allows for ease of movement for pedestrians and cyclists. Barriers to movement will be removed to allow for this desired permeability. Less dependency on the private car will have positive impacts on movement in the area, particularly with for cyclists, pedestrians and those with limited mobility, help mitigate against climate change and will greatly assist in the creation of a compact, green and sustainable city. The Planning Scheme also affords the opportunity to open up and create new routes through the existing large, underutilised and impenetrable sites.

In the absence of the Planning Scheme , the area would remain impermeable with physical barriers to movement remaining. Private car usage would be unlikely to decrease. The elements of green infrastructure at this local level would be less likely to be implemented with negative consequences for sustainable travel methods and overall quality of life. Furthermore, without the Planning Scheme in place to encourage population and economic growth in the plan area the future viability or expansion of public transport services would be under threat as the density of population required would not be in place to justify the investment in future transport improvement.

3.8. 13 Key Environmental Goals - Material Assets

- To manage congestion and traffic management issues - to restrict through traffic and calm traffic in city centre, achieve modal share targets crossing the canal of 55% for public transport, 15% for cycling , 10% for walking and 20% for private car use by 2017.
- To manage the capacity of the street network to provide maximum accessibility between the SDZ and the GDA, and at the same time integrating internal movement across the Liffey and within the city centre. Improving linkages to the port , in the context of an increase in cruise liner tourism.
- To improve accessibility and maximise the use of public transport
- To place a stronger emphasis on sustainable forms of transport such as walking, cycling and public transport
- To promote the establishment of an integrated traffic management plan (and taking into consideration the recommendation of the Greater Dublin Area Draft Transport Strategy, as appropriate and relevant.
- To reduce the extent of waste through waste prevention strategies, maximising the recycling and recovery of waste and minimising the environmental impacts of the final disposal of waste, particularly through reducing the reliance on landfill
- The promotion of the use of renewable materials in future developments

3.8.14 Key Environmental Sensitivities – Material Assets

- Deficiencies exist in the capacity of the wastewater collection system in the Docklands area.
- Traffic congestion and traffic management issues - to restrict through traffic and calm traffic in city
- Deficiencies exist in the capacity of the wastewater collection system in the Docklands area
- Need to reduced the amount of waste being generated within the SDZ area, particularly in relation to reducing the reliance on landfill.

3.9 Cultural Heritage (including architectural and archaeological heritage)

Dublin also has a rich underwater cultural heritage in the SDZ area. The transport, maritime and power generation history of the docklands has left a legacy of architectural and cultural heritage in the area, providing it with a distinctive and unique character. The Docklands' unique identity incorporates the built heritage, archaeology and the natural environment. The conservation and sensitive management of these qualities, along with a vibrant approach towards a viable and sustainable future development would be central to the proposed Planning Scheme. A key factor in any successful plan for the docklands will be the conservation of heritage features, in order to maintain a sense of place and history to provide the area with a resource that can be developed to create an environment unique to the area.The SDZ area includes a number of structures listed for protection and these are shown on Figure 3.5. These buildings are to be retained as part of the design proposals for each city block.

The area also includes industrial heritage artefacts which may not be listed on the Record on Protected Structures (RPS), but identified as worthy of protection in the Dublin City Industrial Heritage Record (DCIHR). The SDZ promotes the retention of these artefacts where possible in its marine, coastal and inland waterways. The National Monuments Service is responsible for the identification and designation of monuments through the Archaeological Survey of Ireland, for the implementation of legislative provisions in relation to the protection of monuments and sites including shipwrecks. In accordance with international best practice guidance and national policy, preservation in situ of buried archaeological remains is the preferred option and new development should, where practical, be designed in such a manner to facilitate in situ preservation.

Former Goods Depot – North Wall Quay –(The O2)

Zones of Archaeological Interest are marked on the Record of Monuments and Places (RMP) maps and new sites are marked on the archaeological survey database hosted on www.archaeology.ie. The RMP also documents known individual archaeological monuments and their original locations in the case of destroyed monuments. RMP sites are protected under the National Monuments Acts 1930-1994. Zones of Archaeological Interest in urban areas must be addressed in relation to development and regeneration and development led archaeology provides opportunities for understanding the City's past. The SDZ area is partly in the archaeological zone for Dublin City DU018-020. This archaeological zone extends eastwards from the city centre along North Wall Quay as far as the east link bridge on the northern campshires and along Sir John Rogerson's Quay on the south campshires with a spur south down Macken Street. The zone extends south from the River at York Street taking in a trapezoidal shaped area along the Dodder's east bank.

The Dublin City Development Plan maps include a number of discrete archaeological sites and a zone of archaeological potential for the city centre, both of which reflect the RMP mapping. Dublin City Council employs a City Archaeologist whose role is to ensure the appropriate archaeological assessment and site specific mitigation for developments, in accordance with the Planning and Development Acts and National Monuments Acts, in consultation with the National Monuments Service. The City Archaeologist offers a dedicated advisory service to DCC Planning Department as well as to developers and their representatives from pre-planning through to compliance and acts as a liaison between the planning authority and the National Monuments Service. Industrial Heritage sites not marked as protected structures on the Development Plan or as sites on the RMP may nevertheless be considered of archaeological interest and subject to archaeological planning conditions and requirements.

The Underwater Archaeology Unit (UAU) was established within the National Monuments Service to manage and protect Ireland's underwater cultural heritage, including the quantification of the underwater resource and assessing development impacts in order to manage and protect this aspect of Ireland's heritage. The Shipwreck Inventory is principally a desktop survey with information gathered from a broad range of cartographic, archaeological and historical sources, both documentary and pictorial. An inventory of wrecks covering the coastal waters off County Dublin was published in 2008. Wrecks over 100 years old and archaeological objects found underwater are protected under the National Monuments (Amendment) Acts 1987 and 1994. Significant wrecks less than 100 years old can be designated by Underwater Heritage Order (UHO) on account of their historical, archaeological or artistic importance. UHOs can also be used to designate areas of seabed or land covered by water to more clearly define and protect wreck sites and archaeological objects. Under the legislation all diving on known protected wreck sites or with the intention of searching for underwater cultural heritage is subject to licensing requirements.

3.9. 1 Industrial Heritage

The SDZ area is physically defined by a number of historic waterways and associated spaces principally the rivers Liffey and Dodder, the Grand Canal and the Royal Canal, the canal docks, and locks etc. for which the preservation of character, setting and amenity, are important. Retention of historic street pattern, plot width, use of appropriate materials and maritime/industrial character are major considerations in maintaining the character and identity unique to the Docklands. Historic sites and character areas present excellent opportunities for tourism and leisure facilities for international and national visitors to the capital, as well as for the inhabitants of wider Dublin.

The Docklands SDZ area has a strong character deriving from its industrial archaeology (maritime, rail and canal transport, and power generation) and this is reflected in the Record of Protected Structures, the Dublin Docklands Development Authority Inventory of Architectural and Industrial Archaeological Heritage and the Dublin City Industrial Heritage Record (DCIHR). The DCIHR is a map and site based survey of the city's industrial heritage. There are 61 DCIHR sites in the SDZ area with 1 significant site of National interest and importance just outside the boundary (the Custom House designed by Gandon). The DCIHR survey team rated the extant remains according to the NIAH method. The Custom House is given a National rating, while 30 sites are given a regional rating and 3 are considered to be of local importance. Few DCIHR sites are currently listed on the RPS and it is a policy of the current Dublin City Development Plan 2011-17 to review the DCIHR in relation to the RPS. The range of industrial sites noted from the map based DCIHR research reflects the trade, transport and manufacturing heritage of the Docklands. The SDZ area is also intrinsically linked physically and historically to the Poolbeg peninsula, in particular, the Pigeon House Road, the Great South Wall military fort and hotel, and the 20th century power generating station

Maritime Character – Granite Quay Walls – Mooring Rings

In terms of archaeology, best practice for archaeological excavation and the dissemination of the findings of archaeological investigations through the publication of excavation reports will be promoted, thereby creating public awareness and appreciation of the value of archaeological and industrial heritage resources. Underwater or intertidal archaeology is of particular relevance to the SDZ and the potential implications, including disturbance to the riverbed will have to be assessed as part of any archaeological assessment. It will also be a goal to develop a long term management plan for the conservation, enhancement, management and interpretation of archaeological sites and monuments and to identify areas for strategic research during the regeneration of the SDZ Area.

The SDZ approach will have regard to the suite of statutory provisions and guidelines in relation to the built heritage, including the City Council's Record of Protected Structures (RPS) and Zones of Archaeological Interest.

It will also ensure that any works to protected structures is in accordance with internationally established principles, national standards and best-practice. For the avoidance of doubt, it will also have regard to the policies and objectives of Chapter 7.2 Built Heritage of the Dublin City Development Plan 2011-2017.

3.9.2 SDZ Conservation Strategy

The SDZ Planning Scheme contains a number of Protected Structures (see Appendix F).

The SDZ urban design strategy sets out clear guidance on the conservation of the individual heritage buildings within area to reduce unanticipated delays minimise potential conflict between conservation and regeneration objectives and achieve the optimum design response.

The strategic and site-specific objectives for each city block include conservation guidelines, which combined with the SDZ high level themes and key structuring principles will ensure safeguarding of the built heritage. This approach helps define the special character of the area and requires that any proposals for new buildings or the demolition of non-listed buildings must comply with over-arching environmental objectives.

Within each of five hubs, there are a significant number of protected structures, generally clustered adjacent to the river or docks. For example, at Britain Quay and Boland's Mills, the buildings and associated industrial engineering are considered to be of sufficient interest to warrant a conservation-led approach to regeneration. Equally, the former hotel and woolstore at Station Square, Spencer Dock, justifies a similar approach.

The SDZ includes conservation areas as designated under the City Development Plan. These relate primarily to the water bodies and include the inner and outer docks of the Grand Canal, Spencer Dock, the Liffey and the Dodder. They also include the quay walls and the immediate areas fronting the rivers and docks.

New buildings, as well as alterations and extensions to existing buildings bordering these conservation areas must be of a high design standard and make a positive contribution to the architectural character of the area. Design proposals need not necessarily be pastiche, on the contrary the interest and vitality which modern architecture can contribute is often a welcome addition. There are many examples where new buildings successfully fill gaps in street frontages, complete the enclosure of urban spaces and help eradicate dereliction. The SDZ will actively promote the use of contemporary architecture in this way and will seek to maintain the high quality of infill building that has been achieved to date in the area, so as to enhance the historic features and quality of life of residents and workers.

Having regard to the above, it will be necessary to ensure that the settings of historic buildings are considered in all proposals and that sympathetic materials, styles and techniques are used in all conservation projects in the SDZ Area. In addition, all significant alterations to the fabric of historic buildings must be supported with an appropriate level of recording. Furthermore, the City Council will monitor the area's built heritage resource to ensure that buildings at risk are identified and conserved.

3.9.3 Area-Based Conservation Guidelines

Campshires and Quays

All surviving components of architectural and historic interest bordering the water bodies should be conserved and integrated into future programs of investment so as to contribute to the sustainable regeneration of the area and to provide a continuing link between the past and the future. This would include historic paving materials and street furniture.

Spencer Dock

The Spencer Dock hub exhibits distinctive qualities of a railway building complex, which along with an historic building stock along parts of the North Wall Quay, references the area's original docking function.

The complex of buildings including the former Railway Hotel, Station Building and Woolstore lend a distinctive character to the area which sets it apart from other international dockland redevelopment and create a focal point of interest on approach to the city from Dublin Bay. Features such as the drawbridge and quay walls to the river and canal, also contribute to this unique character.

In the surrounding areas, there is still some remaining evidence of the former residential pattern of small-scale workers cottage which would have been an integral part of the working docklands.

Proposals should respect the setting and visual qualities of the railway complex protected structures and provide for publicly accessible uses, active frontages and public spaces. The location of these buildings at the proposed DART Underground Station and Station Square, present an opportunity to create an attractive civic space with special qualities.

Point Village

The north boundary of the Point Village hub is defined by a now defunct rail depot and its railway lines, some of which still punctuate the hub area, for example at the Gibson Hotel. Traces of the former railway lines have also been successfully retained and crisscross the campshires. The associated historic warehouse and commercial buildings which are mostly protected structures, lend further distinctive identity to the area.

Castleforbes Road with its stone setts retains the largest quantity of original street-surfacing in the entire Docklands Area. Meanwhile, the reconstructed campshires surfaces demonstrate the value of utilising historic fabric to create a contemporary public space. Similarly, the modern gas installation on the campshires not far from the historic red brick pump house on Castleforbes Road continues the practice of locating utilitarian buildings in this area.

There are also groupings of small-scale one and two storey cottages and sections of rubble stone boundary walls which echo the livestock yards that once lined the North Wall Quay. Equally, saw-tooth roofs with northern lights resonates the former typical roof line of the building stock in the area.

The Luas line acts as an infrastructural spine through the Spencer Dock and Point Village hubs, mirroring the historic transport lines which ran along the quays and to the north with a feeder line criss-crossing the area. Proposals for new development should equally seek to reflect the area's industrial heritage, retaining historic street paving and street furniture and having regard to the robust mid-18th century street grid pattern of North Lotts. Proposals should also seek to reflect the area's historic function where possible, through innovative design elements and / or public art.

Grand Canal Dock

The development of the railways fundamentally changed the dynamics of the city's industrial landscape, destroying the economic future of the canals. The industrial legacy from the nineteenth and twentieth century included belching chimneys and the pneumatic gas storage tanks, features that later came to define the area.

Nestling between the railway line and the Liffey, the Grand Canal Dock as an urban landscape includes unique architecture, ordered planning, dock complexes and transport systems providing coherent evidence of the ports historic character and significance. It has already undergone a critical mass of regeneration and incisive repositioning is in place. Hanover Quay with qualities such as a south-facing aspect, attractive low warehouses and sheds, represent key historical sites in the context of the defining character for the hub at Grand Canal Dock.

Proposals should seek to conserve the character and physical integrity of the Grand Canal Dock. Proposals should also seek to minimise interference in original maritime, river and transport heritage, protecting quays, canal walls, docks, graving docks industrial fabric and allowing space around these features for amenity purposes.

Britain Quay

This hub is defined by the historic maritime and commercial functions of the area. Grand Canal Dock opened in 1796 attracting warehouses and manufacturing sites in the vicinity. The existing warehouses on Green Street and the uniform gabled warehouses fronting onto Hanover Quay are remnants of the formative 18th century period of the docklands and its contribution to establishing Dublin as a major commercial hub.

The quays walls, lock-keepers cottage, lockgates and graving docks are the key features that attract our attention from the expanse of the River Liffey through a narrow canal into the impressive space of Grand Canal Dock, which is an important engineering feat. The scale of the historic buildings, the quality materials and design and even the historic street pattern with its traces of original surfaces will need to be conserved and feature as part of any future development.

Boland's Mills

The Boland's Mills site contains an array of landmark buildings which represent a key historical place in the context of defining both the existing and future character of this hub. The stone warehouses with their pitched roofs, their sheer facades to the water and their imposing scale create an excellent opportunity to conserve and adapt the protected structures for new uses, complemented by contemporary buildings and civic spaces fronting the dock.

3.9.4 Visual Context & Landscape Setting

The SDZ promotes the docklands distinctive historic environment as a key driver in the sustainable regeneration of the area. In this regard, it seeks to protect the visual amenity of known heritage sites and features, as well as historic views and vistas from within and without the SDZ in order to conserve its integrity. New developments should consider and recognise the landscape qualities of the Docklands, Poolbeg Peninsula, the Liffey and Dublin Bay.

For its part, the City Council will continue to provide the high quality public realm works that have subtly embodied the essence of maritime and industrial heritage which identify this area. It will also seek to safeguard historic open spaces.

Efforts will also be made to establish a linear connection shadowing the Great South Wall in celebration of its significant engineering achievement to reinforce the identity of the area and improve connectivity.

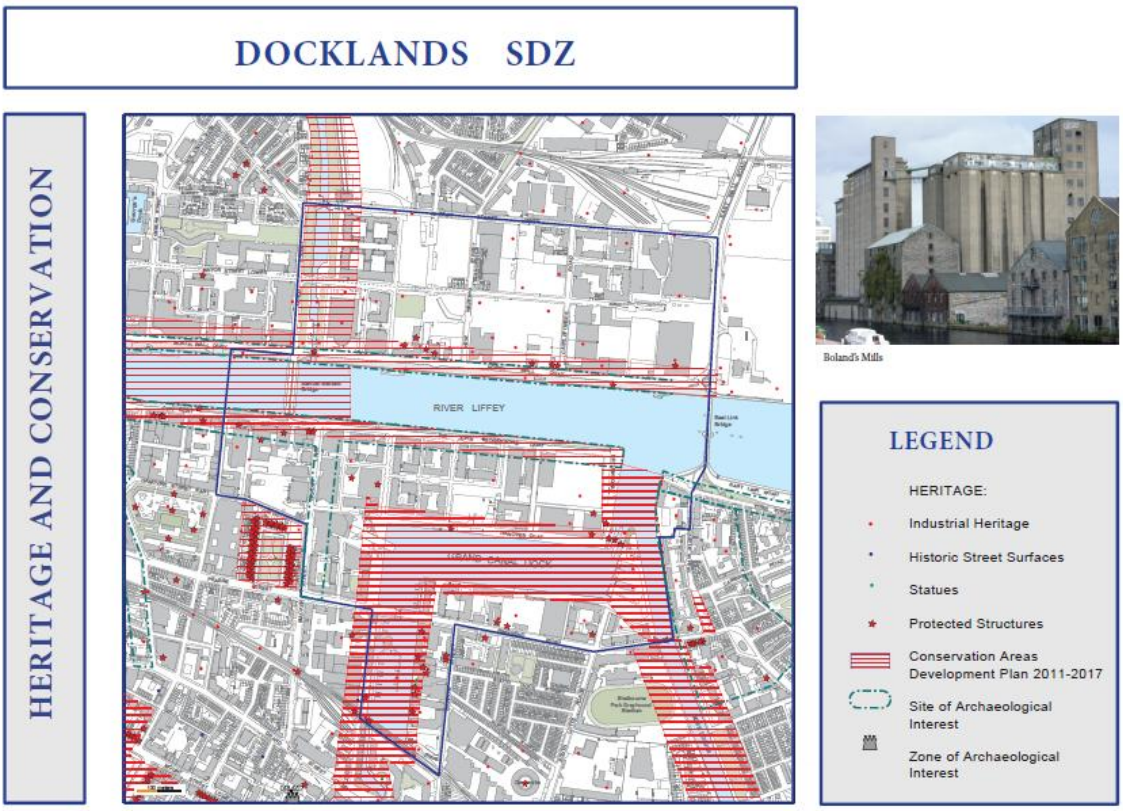
3. 9.5 Views and Prospects (check this information)

As part of the Planning Scheme A Views and Prospects Analysis of the SDZ and surrounding area was undertaken as part of the preparation of the SDZ. The aim of this study was to ascertain which views would be desirable to keep and opportunities for the creation of new views when determining the layout of the area. The study identified 13 existing and potential landmark features in and around the SDZ that are considered significant by reason of their history and / or character of the area, or that are so physically conspicuous , by reason of their siting, design and/or height , as to contribute to the legibility of the area / city as a whole. The analysis identified 16 key views of the landmark features that could be affected by potential development within the SDZ. Of the 16 views identified in the Views and Prospects Analysis , 12 have been integrated into the proposed urban structure of the SDZ, 1 partially integrated, and 3 excluded or altered. In place of the 3 excluded/altered, 3 additional views have been opened up.

3.9.6 Heritage and Cultural Tourism

The SDZ strategy protects and embraces the area's built heritage as a finite resource which can lend a richness, diversity and special character to the area, supporting it as an attractive destination for tourism. The rich mix historic buildings, contemporary architecture and civic spaces designed as set pieces of public art, along with the river and coastal setting on the day, make for a rewarding visitor experience. The Council will seek to interpret and promote the built, industrial and archaeological heritage of area and its environs to the local community and visitors. To this end, it will explore the potential of a 'Museum of Dublin' or other exhibition of cultural heritage information in the SDZ Area, in conjunction with national cultural institutions and key stakeholders.

Figure 3.5 Archaeological and Architectural Heritage



3.9.7 Evolution of Cultural Heritage in the absence of the Planning Scheme

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

The Planning Scheme affords an opportunity to utilise heritage assets in line with Development Plan policy, to develop an identity and a sense of place. Heritage assets can be used to frame future development and can become memorable focal point, thereby giving legibility to the area. Structures of architectural and/or historical importance can also have potential for integration into the emerging urban fabric in a manner which safeguards their long-term survival. The Planning Scheme seeks to ensure that the local architectural, archaeological, and industrial heritage is, recorded, conserved and enhanced for the benefit of future generations.

3.9.8 Key Environmental Goals - Cultural Heritage

- To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets.
- To ensure that the architectural and historic significance of the docklands area is protected, conserved and enhanced.
- To ensure that redundant dock water-spaces are managed and re-used in a way that respects their significance and utilises their potential.

- To ensure that new development respects the significance of the site and is appropriate to its historic, spatial context.
- To conserve the character and physical integrity of the Grand Canal Dock and its sea locks, the graving docks, historic marine artefacts, street furniture, views and vistas to preserve its identity.
- To actively promote the conservation and adaptive re-use of protected structures and heritage buildings.
- To minimise interference in original maritime and river, and transport heritage, thereby protecting quays, canal walls, docks, graving docks & industrial fabric.

3.10 Landscape & Soil

For the purposes of this Planning Scheme, landscape encompasses landscape and soil.

3.10.1 Landscape

With regards to landscape, the landscape of the SDZ Planning Scheme area starts at the doorstep of the building and consists of streetscapes, neighbourhood parks, area parks, coastal stretches and waterfronts. This diverse landscape resource offers the opportunity to create an inspiring public space.

The completion of Grand Canal Square has achieved a high standard of public realm in the docklands and shown that contemporary landscape architecture can be innovative in design, attractive, suitable for multiple uses and users and also revitalise and contribute to the profile of the area.

A key issue in strengthening of the public realm in the Docklands is to create a network that will consist of the pedestrian and cycle structure, including neighbourhood parks, urban parks and other amenity spaces. The purpose of this network is to create a layer of animated and dynamic spaces where both children and adults can move within a safe and pleasant environment, reducing the impact of vehicular environments, pollution and noise. The network of green areas, natural heritage and recreational amenities play a key role in creating and sustaining places, making an area attractive to live, benefiting health and well-being and making sure that the essential components of environmental sustainability are safeguarded.

Key objectives of the plan will be the implementation of the city's strategic Green network as it applies to this area through the creation of a coherent urban landscape and the opening up of existing spaces by way of increased connectivity.

3.10.2 Soil

Soil is defined as the top layer of the earth's crust. It is comprised of mineral particles, organic matter, water, air and living organisms. It is an extremely complex, variable and living medium which acts as the *interface* between the earth, air and water. It performs many vital functions including: food and other transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. To date, there

is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

3.10. 3 Soil functions

The proposed Soil Framework Directive (COM[2006] 232) identifies seven main environmental, economic, social and cultural functions performed by soil that need to be preserved. These functions are:

- Biomass production, including in agriculture and forestry
- Storing, filtering and transforming nutrients, substances and water
- Biodiversity pool, such as habitats, species and genes
- Physical and cultural environment for humans and human activities
- Source of raw materials
- Acting as carbon pool
- Archive of geological and archaeological heritage[10].

The function of soils in abating climate change is particularly important in a regional context for cities such as Dublin experiencing rapid growth beyond city boundaries. The conversion of greenfield sites and sealing of soils can release CO_2 into the atmosphere and further reduce areas of 'carbon sinks'. Soils contain about three times the amount of carbon globally as vegetation, and about twice that in the atmosphere. Land use planning must target the use of Brownfield sites.

The existing baseline of data on soils in Dublin City has been developed by the Geological Survey of Ireland (GSI) in cooperation with Dublin City Council. This work has been in progress since 2009 under the SURGE Project and was completed in 2011. The project aims to create a baseline of persistent organic pollutants (POPs) and heavy metals in Dublin's topsoil's for the first time and provides information on soil chemistry in the urban environment relevant to the protection of human health, compliance with environmental legislation, land use planning and urban regeneration. This involved sampling of 368 points within public parks and open spaces has been completed - see map for locations of these sampling points.

[10] SEA Practical Guidance for Practitioners on How to Take Account of Soil (2009), Scotland & Northern Ireland Forum for Environmental Research

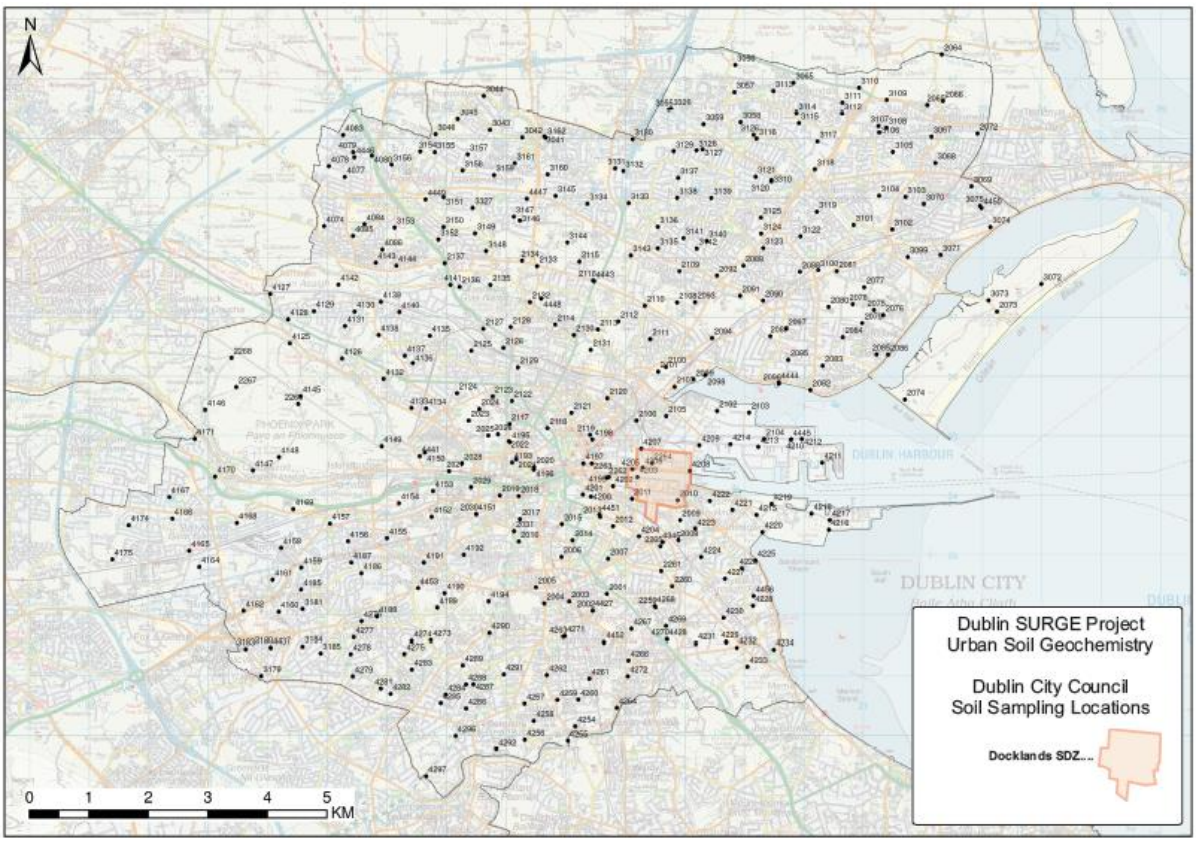


Figure 3.3 Soil Sampling Locations in Dublin City Council

DCC Parks and Landscape Services Division has provided access to sites and is preparing reports on site history for each sampling location. Detailed soils analysis and mapping of results is progressing and will inform the SEA once this information is made available to the Planning and Economic Development Department.

3.10.4 Soil in the Docklands

Dublin's soil is derived from glacial till of Irish Sea origin, with limestone and shale and is largely Grey Brown Podzolic. Grey Brown Podzolic soils are usually formed from a calcareous parent material (limestone). The lighter-textured Grey Brown Podzolics are good all-purpose soils, while the heavier-textured members are highly suited to pasture production. However, the estuary and coast of Dublin has a layer of alluvium overlying the topsoil, which is a result of the low-lying status of the city and the proximity of a major river. The above sequence of soils only remains in undisturbed areas of the coast. As Dublin is a very built-up city, much of the topsoil and alluvium have long since been removed and replaced by made ground.

A significant portion of Dublin City is built on reclaimed or in filled land. This reclamation began back in the 18th Century. The North Docklands, was reclaimed between 1717 and 1729. A 1 km stretch of land between the city centre and the River Dodder, on which the current site is located, was reclaimed by Sir John Rogerson between 1917 and 1927 3. 12.3.20 North Lotts, and East Wall were reclaimed by the end of the 1750s. A bank was constructed along the present South Lotts Road by 1760. The area between these banks was gradually

reclaimed together with adjoining areas of the Dodder Estuary. The dry dock between the Grand Canal Dock and the Dodder was filled in 1918. Reclamation continued progressively in an easterly direction from
the beginning of the 19th Century.traditionally the material used for reclamation in Dublin included construction and demolition waste, waste topsoil and municipal and industrial waste . Previous EIS reports indicate that there was elevated concentrations of arsenic, copper, lead and zinc, PAH (Polycyclic Aromatic Hydrocarbons) and mineral oils in the 'made ground'.

3.10.5.1 Contamination

It is evident from the former Section 25 Planning Schemes in the Docklands and from the Docklands Mater Plan 2003 and 2008 that a desktop study of former land uses within the Docklands are suggests that some contamination of the groundwater may have occurred in the past. The extent of contamination will only become evident on the carrying out of site specific surveys. Testing is highly recommended in all sites for each stage of development . These should be undertaken in accordance with BS5930:1999 Code of Practice Investigations and BS10175: 2001 Investigations of Potentially Contaminated Sites – Code of Practice. Any unearthed contaminants will require some form of remediation measures. Remediation measures may require a licence from the EPA under the Waste Management Act 1996 for treatment and or removal or disposal sites under strict internationally accepted standards. In recent years a number of site investigations were undertaken in the Docklands, as part of EIS's, which showed certain sites had concentrations of contaminants at elevated levels reflecting the filling activities and industrial history of the area.

A desktop study and qualitative risk assessment which was commissioned by Dublin City Council to inform the SDZ was carried out by Flannery Nagel Environmental Consultants, indicated that some of the sites is the SDZ area have been contaminated by former industrial uses.

For the purposes of the preliminary risk assessment the sites were divided up in to 12 plots of land, delineated by the road networks. The report included a risk ranking of the 12 plots. As part of this study 51 reports and studies relating to the Dublin Docklands were reviewed.

In summary the following findings were made:

- None of the 12 plots identified in the Docklands indicate a high or very high risk of contamination
- Two plots were ranked at low-medium risk, seven at medium risk, and three as medium-high risk.
- If site specific investigations are carried out, the risk scoring of the sites may reduce, as this qualitative risk assessment requires a cautious approach until the absence of risk is substantiated.

Their report concluded that all of the brown-field sites remaining in the proposed SDZ lands can be fully developed on the basis on remediation measures recommended in their report. (www.dublincity.ie) They further recommend that a pre-development site investigation should be completed on all sites, in order to furnish site specific information.

The removal of decontaminated soil from the Docklands is on-going.

3.10.6 Evolution of Landscape in the absence of the Planning Scheme

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

The Planning Scheme affords an opportunity to create a high quality public realm with integration of SuDS. The plan also have objectives to deal with the issue of contaminated soils in the various city blocks, requiring soil remediation measures. In the absence of the Planning Scheme the improvements to soil quality are unlikely to take place in a co-ordinated manner, and also many of the public open spaces would be less likely to be delivered. This would have negative impacts on the quality of the urban spaces provided and also impact on population and human health.

3.10.7 Key Environmental Goals –Landscape & Soils

- To ensure that the natural environment and open space amenities are connected and integrated as main features of the area's identity and character and to align with the City Council's wider Strategic Green Network(SGN).
- To diversify the existing landscape character through the creation of new green spaces, parks etc
- To protect and promote new areas of biodiversity and to protect existing habitats, in the Planning Scheme as these provide visible tangible indicators of the health of the soil.

3.10.8 Key Environmental Sensitivities – Landscape & Soils

- Increased volumes of surface water run-off due to conversion of permeable landscapes to impermeable causes increased flooding, erosion and alteration of soils and their associated habitat.
- Some sites within the SDZ Planning Scheme have been found to have contaminated soils. (refer to Flannery Nagel Study, www.dublincity.ie). The redevelopment of these sites will impact on soil conditions as the existing ground will be removed and remediation of contaminated soils on the former industrial Brownfield lands will be necessary

SECTION 4

Section 4 Environmental Protection Objectives, Target and Indicators

4.1 Introduction

SEA Environmental Protection Objectives are measures used to show whether the objectives of a plan are beneficial to the environment, to compare the environmental effects of plan alternatives, or to suggest improvements.

The SEA Directive requires the identification of environmental objectives relevant to the plan only, so a process of selection was necessary. The objectives have been adapted to the local circumstances and environmental issues of the Docklands SDZ area and in some cases Dublin city (more strategic issues). These environmental objectives for the SEA have been derived from environmental protection objectives which have been established in law at international, European Union, national and local level, from a review of baseline information and the environmental problems identified by the SEA team. Identifying environmental problems is an opportunity to define key issues and Environmental Protection Objectives for each of the environmental receptors.

It is necessary to devise accompanying targets for the set of objectives. Targets set aims and thresholds which should be taken into consideration to effectively assess the impact of the SDZ on the environment. These targets once breached would require remedial action.

Along with the targets, indicators have also been devised. Indicators are those measures used to track the achievements of the Environmental Protection Objectives towards the particular targets set and to monitor the impact of the SDZ on the environment.

Table 4.1 details the Environmental Protection Objectives set for the protection of each of the environmental receptors. As outlined in Chapter 3 of this Environmental Report, the study of the baseline data identified a number of key environmental issues under each of the environmental receptors:

Population & Human Health
Biodiversity, Flora & Fauna
Water
Air Quality & Noise
Climatic Factors
Material Assets
Landscape & Soils
Cultural Heritage

The indicators for each of the Environmental objectives, (Table 4.2) listed have also been developed through collaboration between the members of the SEA Team. These indicators act as representative examples of environmental data and will facilitate the monitoring of the impacts of the Planning Scheme for the North Lotts/Grand Canal SDZ. Targets have been established for each of the objectives which set thresholds and limits for each environmental receptor.

Table 4.1 Environmental Receptors and Associated Environmental Protection Objectives.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PH1** To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Biodiversity/Flora & Fauna	**BFF1** To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.
Water	**W1:** To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area.
	W2 To reduce and manage the risk of flooding.
	W3 To provide adequate wastewater treatment, water distribution networks and drainage networks.
Air Quality & Noise	**AN1:** To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})
	AN2: To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area.
Climatic Factors	**CF1**: To minimise emissions of greenhouse gases.
	CF2: To limit adverse impacts on climate though the use of sustainable energy sources.
Material Assets	**MA1** To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling.
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management.
	MA3 To promote sustainable water use and promote sustainable drainage systems.
Landscape & Soils	**LS1** To conserve and enhance valued natural and historic landscapes and features within them.
	LS2 To protect, improve and maintain the quality of soils in the SDZ area.
Cultural Heritage	**CH1** To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets

Table 4.2 Population and Human Health – Indicators & Targets

Environmental Receptor	Indicator	Target
PH1 To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns	Status of drinking water and drinking water sources Average density of new residential development Numbers employed on site at construction and operations stage	All Drinking water and drinking water sources to comply with European Communities (Drinking Water) (No. 2) regulations , 2007 and European Communities (Quality of Surface Water Intended fro the Abstraction of Drinking Water) Regulations 1989 Sustainable densities achieved in new residential/mixed use schemes Provide improved employment opportunities in the area both at construction and operational phases of development

Table 4.3 Biodiversity, Flora and Fauna – Indicators & Targets

Environmental Receptor	Indicator	Target
BFF1 To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors	Total area of designated sites (Natura 2000 and pNHA's) Identification through planning applications on the presence of invasive species on sites (i.e Japanese Knotweed, Himalayan Balsam, Rhododendron, Nutall's pondweed, Giant hogweed and Zebra mussel, and to eradicate , monitor and control their spread and to avoid introduction of other invasive species. Identification of habitats of	No adverse impacts on designated Natura areas/ species / habitats. Removal of all alien species from the site and planting of only native species suitable to the Planning Scheme area. Minimise interference with these habitats.

	protected species and in particular bats in the Planning Scheme area. For key buildings that are particularly suitable for bat roosting, applications for works to these buildings shall include a recent bat survey. The results of which will be included in the annual monitoring report as part of the implementation of the SEA. Identification of habitats of protected bird species and in minimise interference with these habitats. Nesting locations for wildlife to be incorporated into design of new buildings/developments. Permeability index for new sites for development	 Identification and up to date information on the location of all bat species within the Planning Scheme area. Where roosting sites are impacted on, alternative appropriate roosting sites such as bat boxes to be provides All breeding sites for birds to be protected especially Black Guillemots, Peregrine Falcons for example Increase provision of soft landscaping in existing and new developments.

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Table 4.4 Water – Indicators & Targets

Environmental Objectives	Indicator	Target
W1: To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area	Ecological status of surface water bodies in the plan area.	All water bodies to meet targets set out in the ERDB plan
W2 To reduce and manage the risk of flooding	Number of planning permissions incorporating flood risk assessment and conditions requiring appropriate flood resilient measures for new developments.	Compliance with the Floods Directive and with the OPW/ DoEHLG's Flood Risk Management Guidelines in the planning process. Flood Risk Assessments to be carried out for all new

		developments. Identify Sustainable Drainage Systems (and features which are identified as having flood defence function) in all new developments.
W3 To provide adequate wastewater treatment, water distribution networks and drainage networks.	Provision of new infrastructure in area and planning applications granted with capacity available in the system Complete the relocation of the Grand Canal Surface Water Outfall from the Grand Canal Dock Basin to the River Liffey.	Provision of adequate wastewater treatment, water distribution networks and drainage networks to serve the proposed level of development Establishment of appropriate surface water drainage systems for separate foul and surface water drainage.

Table 4.5 Air Quality and Noise – Indicator & Target

Environmental Receptor	Indicator	Target
AN1: To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})	Values of monitored pollutants in the air, including the levels of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})	Meet value targets for named pollutants in line with Air Quality Framework Directives/
AN2: To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area	% of residential properties exposed to high sound levels.	Minimise noise pollution for the residents in the Planning Scheme area.

Table 4.6 Climatic Factors – Indicators and Targets

Environmental Receptor	Indicator	Target
CF1 To minimise emissions of greenhouse gases.	Average energy consumption of new residential hosing stock, Tonnes of C02/Capita/Year. Tree canopy cover and new green areas in the area to contribute to carbon sequestration	Decrease in greenhouse emissions
CF2 To limit adverse impacts on climate though the use of sustainable energy sources	All proposed developments be district heating enabled in order to provide an environmentally sustainable source of heating & cooling.	Optimum building energy ratings to be achieved for residential and non residential units.

Table 4.7 Material Assets (transport and waste management) - Indicators & Targets

Environmental Receptor	Indicator	Target
MA1 To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling	% change in modal split Length of new cycling paths/lanes and walking routes developed.	Extension and improvement of the cycling and walking network in the plan area
MA2 To reduce the generation of waste and adopt a sustainable approach to waste management	% of waste recycled Tonnes of waste per capita per year	Increased recycling in line with average Regional Figure of 59% by 2013- Regional Figure
MA3 To promote sustainable water use and promote sustainable drainage systems	Compliance with SUDS objectives detailed in Section 4.5 and 4.11 of the Planning Scheme.	Provision for the reuse, recycling and conservation of water & implementation of SuDS (sustainable urban drainage systems). Provision of green roofs, rainwater harvesting, permeable surfacing, soakways and rain gardens, and rilles in all new developments.

Table 4.8 Cultural Heritage - Indicators & Targets

Environmental Receptor	Indicator	Target
CH1 To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets	Number of planning applications with input from or screened by the City Archaeologist and Conservation officer Number of archaeological sites identified, preserved and or recorded	Ensure that the cultural heritage of the Planning Scheme area is maintained and protected from damage or deterioration

Table 4.9 Landscape and Soil – Indicators & Targets

Environmental Receptor	Indicator	Target
LS1 To conserve and enhance valued natural and historic landscapes and features within them	The protection and enhancement of all views and panoramas to key local vantage points and civic buildings in the surrounding area, and within the Planning Scheme itself as identified in Section 4.6.7 of the Planning Scheme Number of applications relating to Protected Structures. Number of protected structures retained on site	The protection and enhancement of all key views and prospects (see section 4.6.7 of Planning Scheme) Preservation and integration of the Protected Structures, and ensuring they are reused, and contribute to the generation of spacer in terms of the physical layout and character No adverse impacts on protected structures
LS2 To protect, improve and maintain the quality of sols in the SDZ area.	All planning applications shall be accompanied by a report from a qualified expert consultant detailing	Protection enhancement and improvement in the quality of soils in the area. Remediation of

	compliance with the remediation measures specified in the Planning Scheme.(see appendix Flannery Nagel	contaminated soil on former industrial Brownfield lands within the SDZ area.

SECTION 5

5. Identification of Alternative Scenarios

5.1 Introduction

Article 5 of the SEA Directive requires the plan–making authority to identify, describe and evaluate alternative ways of realising the objectives of the plan. As stated in the Directive 'an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified , described and evaluated.

SEA involves a systematic and explicit appraisal of alternatives. It is standard practice when devising a plan that various ways of fulfilling its objectives are considered. Dublin City Council, as the plan-making authority, has considered alternative ways of achieving the objectives of the Strategic Development Zone for the Docklands area. The alternatives considered are reasonable, realistic, capable of implementation and also set at the appropriate level at which the plan will be implemented, operating within the planning hierarchy, i.e the higher the level of the plan the more strategic the option are likely to be available.

In the case of the alternatives, the guidelines for planning authorities on SEA Directive, (2001/42/EC) state that where the particular circumstance of the plan suggest that strategic options are limited, (i.e because of the need to comply with strategic policy established in a higher level plan) a possible approach is to consider the likely significant impacts of different scenarios around the preferred strategic option, for example what would be the likely environmental consequences if growth were to be significantly higher or lower than forecast.

Three plan alternatives were examined by the SDZ team in the course of the preparation of the Planning Scheme, reflecting the need to realise the overall vision for the area and the high level themes.

5. 2 Vision and High Level Themes

The vision is that the Docklands SDZ will become a world class maritime quarter with a distinctive Dublin character. It will be a model of sustainable inner city regeneration incorporating socially inclusive urban neighbourhoods, a diverse, green innovation based economy contributing to the prosperity of the locality, the city and the country, all supported by exemplary social and physical infrastructure and a quality public realm integrated with the wider city.'

High Level Themes

1) Sustainability – Sustainability as a theme imbues both the City Development Plan 2011 – 2017 and the Docklands Master Plan 2008 – 2013 and is a key overriding principle for the SDZ. The sustainability concept for the SDZ area can be encapsulated in the concepts of livelihood (jobs) and liveability (quality of life for all ages and future generations).
2) Economic Renewal and Employment - The Docklands SDZ area is of national economic and social importance to the state and ideally placed to build on the economic synergies which have happened to date in order to contribute a real competitive edge to the Dublin region.
3) Quality of Living - It is a strong theme of the SDZ that it must be a model of contemporary living, providing a quality lifestyle for both existing and future residents with good access to employment. In

order to build sustainable communities and neighbourhoods, the Docklands SDZ will provide for a variety of housing typologies to cater for residents at all stages of their life cycle.

4) Identity - The fourth major theme is to create a distinctive Dublin maritime quarter. It is this unique character which will distinguish Dublin Docklands on the global stage.
5) Infrastructure - The provision of good infrastructure, both physical and social, is a theme which includes and supports the delivery of the first four themes.
6) Movement and Connectivity - This key theme is also necessary to enable the first four key themes to be delivered successfully. It is a key theme to improve extended connectivity not only eastwards into the city centre, but also north and south. It is also part of this key principle to improve connectivity within the SDZ area, by making a safe and efficient public realm which caters for walking, cycling, public transport and the car. Increased connectivity across and along the water bodies is also a component of this key theme.

The three alternatives assessed were:

a) High Density Development
b) Medium Density Development – Planning Scheme Option
c) Low Density Development

5.3 Do Nothing Scenario

The SDZ designation came about following the Government's decision in May 2012 to wind up the Dublin Docklands Development Authority. The SDZ designation provides for a continued fast-track planning mechanism so as to maintain the focus on the social and economic regeneration of the area. The SDZ, as a holistic plan-led approach with fast-track planning procedures, is an appropriate mechanism to sustain the good work and significant of the DDDA in terms of regeneration a city quarter, successful urban-place-making, employment creation, community engagement and marketing of Docklands internationally.

The SDZ,as a holistic plan led approach with fast track planning procedures is an appropriate mechanism to sustain the good work and significant achievements of the DDDA, in terms of generating a city quarter, successful urban-place-making, employment, community engagement and marketing the Docklands internationally. The SDZ offers a coherent spatial and urban planning approach and is considered the most appropriate and effective mechanism to deliver the remaining parts of this area of economic and social importance to the city and state

In the absence of the Planning Scheme for the area, as stated above the area would revert to the zonings under the current Dublin City Development Plan. There would be no fast track planning mechanism and there would be less specific guidance in relation to the overall urban structure of the city blocks. The Planning Scheme translates the identified themes, principles and objectives into a development code which will guide the nature and extent of the proposed development. It is not intended to priced a design solution , its primary function is to define public realm, to create a strong city streetscape based on 18th century orthogonal street pattern of the are, and to define a volume and scale providing the context for a quality urban form.

The Do Northing Scenario is not considered to be a reasonable alternative for the SDZ area, and therefore will not be considered.

5.4 High Density Scenario

This scenario is based broadly on 2008 'Draft Docklands North Lotts, Amended Planning Scheme'. This scheme was not adopted; however some of the principles will be used as an example of a higher density scheme. Although this scheme related to North Lotts Area, all the principles could equally apply to the Grand Canal Dock scheme.

The Draft North Lotts Amendment Scheme 2008 comprised an area of 18.07 hectares, bounded by River Liffey, Point Village, Sherriff Street Upper and area immediately east of Spencer Dock. The purpose of the 2008 amendment scheme was to provide for a robust and detailed framework for the planning and sustainable development of the North Lotts area, within the context of the Dublin Docklands Master Plan, 2008. A key objective was to proactively manage and set out the essential infrastructure and amenities required to support the development. The amendments to the North Lotts scheme were underpinned by six sustainable development themes:

- Social, community, employment and amenity
- Energy Conservation use and generation
- Water conservation, use recovery and generation
- Water and materials use, production and management
- Biodiversity and ecology and
- Traffic and transportation.

This scheme provided a comprehensive framework, within which development would be phased. New character areas included the 'Liffey Wharf & Island', was to be created by projecting a wharf beyond the quay walls and into the River Liffey. This scenario promotes and facilitates a comprehensive and sustainable multi modal transportation network that facilitates the movement requirement of those who live work and visit the area. The plan would provide community gain on private lands to create some community facilities. The scenario proposed an improved urban structure allowing for a high quality, high density and mixed use area, facilitated by the provision of the rail interconnector.

Key Elements of Scheme – High Density Scenario

- Residential Density: Residential densities above 247 in Mayor Street and approx 325 units per hectare in Station Square. Point Environs and Liffey Wharf and Island.
- Building Heights : Ranging from 4 storey up to 15 – 18 Storey , and up to 25 storey for commercial in places.
- Plot Ratio: 3.0 – 3.5 throughout the area.
- Land uses mix: Overall Mix 40% commercial 60% Residential
- Commercial - total number of employees that could be accommodated in the areas would be approximately 32, 628 persons (for North Lotts only)

- Public Realm: New water feature provided in the form of a new River Park through the centre of the North Lotts area from the River Liffey to the East Wall Area. There would also be a new U shape water channel running alongside Mayor Street along Station Square and the Point Village Environs.
- Infrastructure: This scenario would roll out enhanced infrastructural services ensuring that development occurs concurrently with adequate infrastructure provision.

5.5 Medium Density Scenario (Planning Scheme Preferred Option)

The scenario as proposed would strengthen the City Region as the engine of the national economy with a network of spatial and sectoral clusters, with the development of a number of hubs. Five Hubs have been identified:

- Station Square/Spencer
- Point Village
- Grand Canal Square
- Britain Quay
- Barrow Street/Bolands Mill.

The Planning Scheme sets out the high level themes (including the Framework for a Sustainable Dublin), the key structuring principles and the key building blocks, together with a suite of objectives all of which are necessary to achieve a successful city quarter of social and economic importance to the state.

In terms of overall quantum in the SDZ lands, of the c.60 ha of land area in the SDZ, approximately 22.8ha remains undeveloped (13.2ha on North Lotts & 9.6ha in Grand Canal Dock). It is calculated based on the Urban Block Structure Map that circa 2600 number additional residential units can be accommodated in the area and 305,000m^2 of commercial floorspace, which equates to a residential population of circa 5,800 and circa 23,000 workers.

The City Blocks are the major parcels of land and are defined by the orthogonal grid street pattern, typically measuring 150m X 150 m approx. They provide a clear and defined outer crust of buildings which define and shape the primary streets and civic spaces. The City Blocks also provides a framework for managing the mix of uses at a local level and provides for transitions between types and scales. Local streets and spaces within the blocks will bring permeability to the large blocks. The City Block structure will also provide for four or more robust perimeter blocks of approx 60m X 60M. The public realm including the streets, civic spaces and water bodies represents a strong unifying part of the urban structure. The public realm is a fixed element of the overall urban structures.

In terms of overall use ratio for the Planning Scheme, the SDZ objective is to provide a 50/50 residential commercial ratio over the area, with a flexibility to provide a ratio of 30/70 (residential: commercial) in the commercial hubs, counterbalanced by a ratio of 70/30 (commercial: residential) in the more residential neighbourhoods.

Generally in the Planning Scheme the height ranges proposed range from 5 storey residential to 8/10 storey commercial in the main. This range will provide for a sustainable quality of development and create strong urban

streetscapes, with a carried typology of both commercial and residential streetscapes. Higher buildings will be permitted in certain locations in the hubs, if the building is of significant merit. Generally in this scenario the SDZ Docklands area would remain a predominately medium rise area in the city.

In terms of heritage and Protected Structures, the retention and adaptive re-use of the Protected Structures in the SDZ is an important element of the scheme.

Density and plot ratio are not stand along objectives they are tools to help achieve a high quality urban environment. In the Planning Scheme as a general indicator and in accordance with the Development Plan, an indicative plot ratio of 3.0 is provided for over each city block. In terms of densities, the overall frameworks plan and development code provides for a range of typologies which will provide for sustainable residential densities in the range of 100 – 247 uph.

Key Elements of Scheme – Medium Density Scenario

- Quantum of Development: Approximate Figures Only:
  On the basis of the development capacities set out in this scheme, the 22ha of available lands could accommodate an estimated 2,600 residential units and 305,000m^2 of commercial floorspace, which equates to a residential population of circa 5,800 and circa 23,000 workers.
- Residential Density: In the range of 100 – 247 uph.
- Building Heights: The scheme provides for a height range of between 4/5 to 8 storeys which works well in integrating different uses and achieving a legible dense urban structure. There are a number of locations in the Planning Scheme where a height range above 8 storeys is considered appropriate. Spencer Dock for example should incorporate additional buildings in the range of 10 – 12 stories, and 14 stories residential.
  Opportunities for additional height in by way of quality landmarks in 3 of the hubs .
    - Station Square - Up to 12 stories commercial to provide critical mass while not compromising views from the Georgian Mile. Remaining blocks to range from 5 /6 commercial to 7 storey residential.
    - Point Village – a free standing landmark building up to 22 storeys commercial
    - Britain Quay – It is considered that the height component could best be achieved if it was integrated into the block structure, rather than stand as an isolated landmark on the Campshire. A landmark building up to 22 storeys commercial /29 storey residential.
    - Bolands Mill - Height should not extend above the line linking the top of millennium Tower (54m) to the Monte Vetro (61m) (c.15 storeys)
- Plot Ratio In terms of plot ratio the City Development Plan sets out an indicative plot ratio for Z14 regeneration lands, within a range of 1.0 to 3.0 (the Docklands Master Plan used a plot ratio of 3.0). In certain circumstances in the Planning Scheme a higher plot ratio will be permitted to facilitate suburban renewal, and to maintain existing street profile, this is likely to occur in the 5 hubs in the SDZ. However it specifies that if developments exceeding a plot ratio exceeding 3.0 must be carefully considered with regard to its impact on urban structure and amenity.
- Land Use Mix: The SDZ comprises 23 City blocks, within which the hubs and identified areas are located . The overall objective for the SDZ is to provided for a 50/50 split over the SDZ area., with 30/70

Res/Com in the commercial hubs, counter balanced by 70/30 res Com in the areas away from the hubs in residential neighbourhoods.

- Public Realm: More planned approach to green infrastructure is proposed, providing a range of open space features and incorporating SuDS features into the design of the scheme. This scenario would deliver fixed public realm features as part of the Planning Scheme.
- Infrastructure: Development in this scenario will be permitted only where adequate capacity exists in the waste water network. It is an objective to complete the relocation of the Grand Canal Surface Water Outfall from the Grand Canal Dock Basin to the River Liffey. The Planning Scheme promotes modal shift from private car to more sustainable modes of transport and to implement initiatives contained in the Governments 'Smarter Travel, A Sustainable Transport Future 2009 – 2020'

  The scenario supports and facilitates the development of an integrated public transport network with efficient interchange between transport modes.
- Heritage: In terms of heritage and Protected Structures, the retention and adaptive re-use of the Protected Structures in the SDZ is an important element of the scheme

5.6 Low Density Scenario

This scenario plans for relatively low density development across the remaining sites in the SDZ scheme. The focus of this scenario would be to provide predominately family homes, with private rear gardens. This scenario would be more of a market responsive option for housing formats and lower building costs which is a response to the current economic context and less so to the longer term proper planning and sustainable development of the area. This scenario would focus on more immediate delivery and improving the environment by encouraging a more swift build out of vacant sites.

In terms of land use mix the ratio of residential to commercial would be in the region of 70: 30 on all remaining sites. This scenario would provide for a fairly low rise form of development with heights no greater than 4- 6 stories. Heights would be in keeping with the shoulder height of the protected structures already in the area, where proximate to such buildings.

Due to the low quantum's of development envisaged it would not be feasible to provide any significant areas of public open space in this option. The limited scale of development will not sustain a high volume of planning gain, and Government support is likely to be less, due to the economic platform being weakened. As a result of the limited quantum of development proposed in this scenario, development levies will be limited, and this is unlikely to deliver the infrastructural/community/recreational projects identified, or to deliver the quantum of public open space requirements for the existing and future population, with a consequent loss in the potential for greater biodiversity and recreational amenity.

The low density option would follow a similar street structure and grid pattern but there is a greater use of space at ground level in the private domain. Investment in public open space and a high quality public realm for recreation, walking and cycling would be lowered to reflect reduced volumes of both residents and workers in the area.

Key Elements of Scenario – Low Density Scenario

- Residential Density: Circa 50 - 100 residential units per hectare. This scenario would provide own door family housing, with private rear gardens.
- Building Heights: The scheme provides for a height range of between 4 – 6 stories
- Plot Ratio : in the Range of 1.5 to 2.0
- Land Use Mix : 70% Residential 30% Commercial
- Public Realm: Some public open space provided but would be significantly less
- Infrastructure: Limited investment in drainage infrastructure , local upgrades will be made on a site by site basis
- Transport: Limited investment in transport and supporting community/social infrastructure due to low densities developed to justify investment
- Heritage: In terms of heritage and Protected Structures, the retention and adaptive re-use of the Protected Structures where feasible, however existing buildings that are currently underused or vacant would remain undeveloped or demolished, given that redevelopment at lower densities would be less viable than at higher densities.

SECTION 6

6. Evaluation of the Planning Scheme for the SDZ Alternatives

6. 1 Introduction

Article 5 of the SEA Directive requires the Environmental Report to evaluate the alternative plan scenarios identified i.e. "…..reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated."

6.2 Testing the SDZ Plan Alternatives

The three identified alternatives have been identified as per Section 5. These three alternative scenarios have been assessed against the Environmental Protection Objectives (EPOs) set for each of the eight environmental receptors.

Table 6.1 Strategic Environmental Protection Objectives

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PH1:** To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Biodiversity/Flora & Fauna	**BFF1:** To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.
Water	**W1:** To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area.
	W2: To reduce and manage the risk of flooding.
	W3: To provide adequate wastewater treatment, water distribution networks and drainage networks.
Air Quality & Noise	**AN1:** To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})
	AN2: To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area.
Climatic Factors	**CF1**: To minimise emissions of greenhouse gases.
	CF2: To limit adverse impacts on climate though the use of sustainable energy sources.
Material Assets	**MA1:** To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling.
	MA2: To reduce the generation of waste and adopt a sustainable approach to waste management.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
	MA3: To promote sustainable water use and promote sustainable drainage systems.
Landscape & Soils	**LS1:** To conserve and enhance valued natural and historic landscapes and features within them.
	LS2: To protect, improve and maintain the quality of soils in the SDZ area.
Cultural Heritage	**CH1:** To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets

The alternatives are evaluated using compatibility criteria in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternative scenarios are arrays against each other to identify which interactions – if any- would cause effects specific components of the environment.

The table and section below contains the detail of the evaluation of the alternatives as tested against each of the environmental protection objectives using the following key**.**

Table 6.2 Key

+	Potentially Significant Beneficial Impact on the status of the Environmental Protection Objective.
++	Very Significant Beneficial Impact on the status of the Environmental Protection Objective.
0	No Relationship with, or an Insignificant Impact on, the status of the Environmental Protection Objective
-	Potentially Significant Adverse Impact on the status of the Environmental Protection Objective
--	Very Significant Adverse Impact on the status of the Environmental Protection Objective
?	Unknown impact

Table 6.3 Assessment of the Alternatives on the Environmental Protection Objectives

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 2 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Population / Human Health	**PH1** To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns	**+ _ _** This scenario will contribute significantly to the future city growth and reduced urban sprawl. The scenario will allow for a range of development types and mixes to be located in the Docklands. Due to the quantum's of development proposed this will provide a funding mechanism through which significant community infrastructure can be delivered. The level of development proposed under this scenario would have the potential for both significant beneficial and potentially adverse impacts on the population and human health of the plan area.While such an intensification strategy would create significantly more employment opportunities in the area it would also result in increased amount of car traffic coming into the area at peak hours, as the public transport capacity would not be in a position to support such	**++** This scenario will contribute significantly to the future city growth and will contribute **to sustainable** living patterns and reduced urban sprawl. The quantum of land will allow for a range of development types and mixes to be located in the Docklands making it a new vibrant urban quarter. This option promotes a mix of uses throughout the plan area and the creation of a thriving residential, employment and recreational area. New development is focused on a number of City Blocks with higher densities around the Hubs (5 in total) Key elements of the plan are the implementation of the strategic green network in the area, linking into surrounding areas and a focus on achieving a new sustainable residential neighbourhood in this area of the city, supported by community infrastructure and new urban parks. Such	**_ _** This scenario would not allow the critical mass of population levels required to support the development of growth of the SDZ area. The limited development will not sustain planning gain, and Government support will be less, due to the economic platform being weakened. Development levies will be limited, and this is unlikely to deliver the community/recreational needs to meet the requirements for the existing and future population. Infrastructure Costs would be very high. Low Density Development would provide some employment for the local community. Development would be fairly low scale and therefore there would be little or insignificant impact on overshadowing etc on existing

		intense commuting in and out of the area at peak hours on a daily basis. Infrastructure costs would be very high, but due to the quantum's of development proposed, large development charges would be levied. Potential significant negative Impact associated with peoples quality of life due to the height and density of development may result in overshadowing and wind implications Greater Development pressures will be placed on open spaces, environmentally sensitive areas for maximum density development. Less opportunities to provide for a network of green open spaces in a high intensity option, uncoordinated urban environment. Open Space is absorbed by 'River Channel – Less usable space. Ultra compact development less conducive to good place making due to the limits on mixed uses, mixed tenures, few open spaces etc. High Density Development will result in a reduced % of family accommodation ,	elements will serve to have significant beneficial impact on population currently residing in the area as well as the wider Docklands area. Increase levels of density of development in a co-ordinated sequential manner would allow for potential to increase community infrastructure through planning gain. Planning Scheme provides for a hierarchy of open spaces throughout the SDZ area, which will benefit the community and wider Docklands area. This scenario will generate significant employment both during construction and operational phases for the Docklands and wider City. Heights of buildings range from 5 to 8 storey. Some opportunities for additional height in 3 Hubs. Range of heights provides for a sustainable quality of urban development. Design of building footprints, heights and layouts allow for maximum daylight penetration to buildings, minimise overshadowing of each other, existing neighbouring buildings and civic spaces, as well as to ameliorate existing wind conditions.	communities. Failure to exploit the potential of the Hubs in terms of generating magnet focus. The adoption of a low density model would send out many negative messages and undermine an evolving culture and methodology of building good urban places.

		leading to a more transient population, and less integrated community life.	Greater investment in public transport justified due to demand for integration of public transport and land uses.	

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 2 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Biodiversity Flora & Fauna	**BFF1** To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.	**- -** Increased pressure on biodiversity in environmentally sensitive and important areas from high density development and recreational needs. Increase in construction activity will lead to increased likelihood that permeable landscapes are converted to hard surfaces leading to flooding erosion, alteration and direct loss of habitat. Due to quantum's of development proposed, and increased population numbers , this will place increased pressures on the waste water infrastructure which in turn could potentially lead to deterioration in water quality and impact negatively upon biodiversity in the areas if not mitigated against. This scenario potentially conflicts with the status of habitats, species and ecological connectivity because of the footprint of development provided . This will result in	**+** _ Opportunities in moderate density development in the area to provide new networks of open spaces and green corridors. Promotion of a more compact consolidated area, and plans for increased population will place increased pressures on the waste water infrastructure which in turn could potentially lead to deterioration in water quality and impact negatively upon biodiversity in the areas if not mitigated against. Increase in construction activity will lead to increased likelihood that permeable landscapes are converted to hard surfaces leading to flooding erosion, alteration and direct loss of habitat. However opportunities will exist to increase areas of green spaces, and new green linkages throughout the plan areas as part of this approach. This option would serve to have	_ Low density of development spread across the SDZ area will result in increased potential for development to encroach into Greenfield, designated and undesignated habitats resulting in possible disturbance, habitat loss and/or habitat fragmentation. Plans for increased population will place increased pressures on the waste water infrastructure which in turn could potentially lead to deterioration in water quality and impact negatively upon biodiversity in the areas if not mitigated against. Few opportunities to identify new habitats due to dispersed footprint of low intensity low density development .

		less new green spaces, and less SuDS features and permeable surfaces. This option focuses primarily on high density mixed use development with some new areas of public open space being provided. However due to the density proposed in this scheme land values would be at a premium with a lesser focus on the provision of new open green spaces and new green networks. Public Realm is more likely to be 'hard' space due to the intensity of use , and large underground basements for parking.	significantly positive impacts on existing biodiversity in the area. It proposes new green open spaces, SuDS features & green routes running through the area both east – west and north –south, providing stepping stones for biodiversity. This would allow for expansion of the ecological network. Provides for greater connectivity between the existing green spaces, and water features in the area providing greater connectivity. Redevelopment of sites will provide an opportunity to improve the ecology of the sites and biodiversity including the removal of any invasive species.	
Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Water	**W1:** To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area. **W2** To reduce and manage the risk of flooding. **W3** To provide adequate wastewater treatment, water distribution networks and drainage networks.	**- -** Due to quantum's of development proposed, and resultant increased population, this will place increased pressures on the waste water infrastructure which is already close to capacity. This situation in turn could potentially lead to deterioration in water quality if not mitigated against. Less waste of energy due to less commuting and increased amounts of travel by public transport, bicycle and car reducing Co2 emissions. Could potentially have impacts for	**+ _** Due to quantum's of development proposed, and resultant increased population numbers , this will place increased pressures on the waste water infrastructure which is already close to capacity. This situation in turn could potentially lead to deterioration in water quality if not mitigated against. Less waste of energy due to less commuting and increased amounts of travel by public transport, bicycle and car reducing Co2 emissions. This scenario potentially conflicts with	_ Although quantum's of development would be lower than option 1 and 2, any increase in population will lead to increased pressures on the waste water infrastructure which is already close to capacity. This situation in turn could potentially lead to deterioration in water quality if not mitigated against. Lower density development will result in increase in commuting as infrastructure upgrades will not be provided, and this will result in greater CO2 emissions leading to further climate change. This scenario potentially conflicts with water

		flooding. Increased development at high densities will mean less attenuation areas for water in the area etc could lead to increased amount of surface water flooding. Without adequate mitigation there could potentially have adverse impacts on flooding. This scenario potentially conflicts with water services provision and water services infrastructure and capacity would be needed to ensure the mitigation of potential conflicts. High Density development would provide improvements in the infrastructure in the area and will facilitate the introduction of foul and surface water sewerage systems in the area, which will remove a substantial amount of surface water which is currently entering the combined systems	water services provision and water services infrastructure and capacity would be needed to ensure the mitigation of potential conflicts. A number of specific objectives have been included in the Planning Scheme to ensure that future development takes place only with supporting infrastructure in place and also objectives included to ensure compliance with the EU Water Framework Directive, implementation of Programme of Measures under the Eastern Region Drainage Basin plan, a requirement to carry out Flood Risk Assessments, implementation of SuDS throughout the SDZ. These will have potentially significant beneficial impacts on water quality. The Planning Scheme has included specific objectives to require all developments to carry out a flood Risk assessment and also that the design of new buildings be flood resilient construction. Medium Density Scheme would provide improvements in the infrastructure in the area and will facilitate the introduction of foul and surface water sewerage systems in the area, which will remove a substantial amount of surface water which is currently entering the combined systems	services provision and water services infrastructure and capacity would be needed to ensure the mitigation of potential conflicts.

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Air Quality & Noise	**AN1:** To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10}) **AN2:** To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area.	**+ _** While increasing the amount of development in the plan area will have potential for significant adverse impacts on the amount of road traffic, which would be one of the biggest threats to noise levels and also air quality, in terms of Nitrogen Oxides and Particulate Matter in the atmosphere. This option promotes high density mixed-use development throughout the plan area; and for a significant proportion of people, their place of work, leisure would be located in close proximity to their home allowing them to walk or cycle to desired destinations; public transport capacity would also be likely to meet demand. Air quality would be likely to remain good as a result of these sustainable travel patterns. Very high densities may be problematic in terms of noise pollution within and between residential schemes and also in mixed use schemes with a range of land uses in close proximity to one another in a high density format.	**+** While increasing the amount of development in the plan area will have potential for significant adverse impacts on the amount of road traffic, which would be one of the biggest threats to noise levels and also air quality, in terms of Nitrogen Oxides and Particulate Matter in the atmosphere this option promotes high density mixed-use development throughout the plan area; for a significant proportion of people, their place of work, leisure would be located in close proximity to their home allowing them to walk or cycle to desired destinations; public transport capacity would also be likely to meet demand. Air quality would be likely to remain good as a result of these sustainable travel patterns. Further improvements and efficiencies in public transport also achievable due to increasing demands, resulting in an even greater modal shift from private car to public transport. Increased densities across the area allowing for greater investment in public transport and less need to travel by car, and therefore less noise emissions from cars.	_ Low Density Development spread across the remaining sites, will not make efficient use of the public transport network, investment in public transport will be undermined. This could lead to increased community by car in and out of the area resulting in increased air pollution. Low density development will result in greater amount of commuting by private car as a result of less investment in public transport improvements, which will mean a greater number of properties being affected by traffic noise.

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Climatic Factors	**CF1**: To minimise emissions of greenhouse gases. **CF2:** To limit adverse impacts on climate though the use of sustainable energy sources..	**+ _** Emissions of greenhouse gases may also increase in the short term as a result of increase building activity there would be opportunities to offset this with the construction of buildings with greater energy efficiency and through the use of renewable Materials. Having a co-ordinated approach to the development of the area would lead to improvements and efficiencies in public transport and sustainable modes of transport resulting in modal shift from the private car. However due to the quantum's of development proposed this may place increased pressure on the available transport network which would still lead to high levels of community which would result in increased CO2 emissions. Greater number of higher buildings – 15 stories plus, will result in adverse microclimates, eg. Wind downdrafts and excessive overshadowing.	**+** Emissions of greenhouse gases may also increase in the short term as a result of increase building activity there would be opportunities to offset this with the construction of buildings with greater energy efficiency and through the use of renewable materials Objectives included in the plan to require construction of buildings with greater energy efficiency and through the use of renewable materials. Objectives included in the plan to accurately metre the imported gas and electricity in order to facilitate move to a smarter city and also to ensure that all new developments be district heating enabled in order to provide an environmentally sustainable source of heating and cooling. Having a co-ordinated approach to the development of the area would lead to improvements and efficiencies in public transport and sustainable modes of transport resulting in modal shift from the private car. Furthermore the Planning Scheme proposes new cycle routes, pedestrian links and bridges, green corridors which would further reduce the need for motorised travel, thus reducing	**-** Lower density development will lead to greater amounts of commuting in and out of the area, resulting in greater air pollutants . The % of residents in the SDZ likely to commute by sustainable means are likely to remain high, as is similarly in the existing development, but the lack of space for commercial uses will result in displacement of economic activity to areas less well served by high quality public transport or, or by a proximate residential area, resulting in longer commutes also increased car Bourne journeys. This will have overall negative impacts on climatic factors as it will increase CO2 remissions.

			CO2 emissions, and providing grater carbon absorption.	

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Material Assets	**MA1** To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling. **MA2** To reduce the generation of waste and adopt a sustainable approach to waste management. **MA3** To promote sustainable water use and promote sustainable drainage systems.	**+ _** Scenario contributes towards maximising the uptake in smarter, more sustainable modes of transport by providing higher density development adjacent to the LUAS and other public transport routes and by providing social infrastructure. Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against. This option plans for the reuse of buildings. Option is reliant on waste water treatment being upgraded as well as new waste water treatment being developed at a regional level.	**+ +** This scenario promotes medium density development throughout the entire plan area, this would contribute towards maximising the uptake in smarter, more sustainable modes of transport by providing for development adjacent to the LUAS and other public transport routes and by providing for social infrastructure. Option is reliant on waste water treatment being upgraded as well as new waste water treatment being developed at a regional level. Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against. Mitigation is in place in the Planning Scheme. This option plans for the reuse of buildings.	_ Due to potentially fragmented piecemeal developments and low quantums proposed , this could lead to isolated development which has inadequate connectivity and legibility and lack of planned social aspects, and therefore would conflict with efforts to achieve sustainable mobility patterns. Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against. Option is reliant on waste water treatment being upgraded as well as new waste water treatment being developed at a regional level.

Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Landscape & Soils	**LS1** To conserve and enhance valued natural and historic landscapes and features within them **LS2** To protect, improve and maintain the quality of soils in the SDZ area. .	**+ _** High Density Development throughout the plan area could potentially have some beneficial impacts and also some significant adverse impacts on the landscape. Providing higher plot ratios on sties in excess of 3, will require a different urban form, e.g. the use of multiple towers as in the high density "canal version' combined with a dense lower level 4/5/6 storey street block approach. Pressure on built fabric due to quantum's of development proposed, and less opportunities to create green landscaped linkages and corridors. Driving higher density approaches on the sites remaining, will stress the capacity of urban design to create visual cohesiveness and legibility. Improved soil quality due to remediation of development sites. High density development will allow for reuse of underutilised Brownfield sites Density of development will lead to greater amounts of soil erosion , due to deep level car parks etc. This will result in significant amounts of soil	**+** While development in the area could have the potential to have significantly adverse impacts on the landscape of the area, a medium level of development coupled with identification of key sites for the higher level of development allows for development to be located away from sensitive cultural heritage of the area . This option could add significantly to the built environment. The scale and massing of development offers an opportunity to showcase sustainable development and design methodologies in this area, and with innovative design solutions promote this as a new maritime quarter in the Docklands. Opportunities to incorporate open space and green corridors in the areas. Medium density sustainable development will allow for sustainable reuse of underutilised Brownfield sites whilst avoiding Greenfield sites	**-** Development would be more spread out throughout the area, and would not be sustainable. Decontamination costs will be very high in comparison to the quantum of development.

		being taken from the sites.	Improved Soil quality due to soil remediation of development sites.	
Environmental Receptor	Environmental Protection Objective	Alternative 1 – High Density Development (mixed use Commercial/Residential	Alternative 1 – Medium Density Development (mixed use Commercial/Residential. – Planning Scheme Option	Alternative3 – Low Density Development (mixed use Commercial/Residential.
Cultural Heritage	**CH1** To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets .	_ High Density Development could potentially have significant adverse impacts on the natural and historic landscapes located within the SDZ area. In terms of the historic environment a high density development is unlikely to be accommodate or promote the existing historic environment with limited impact or contribution to their potential, which could impact negatively on the historic environment The high density option makes it much more difficult to integrate protected buildings into the urban structure.	**+** Greater investment and initiatives for the enhancement and appropriate reuse of the City's built heritage balanced with a need to protect its cultural heritage. While development in the area could have the potential to have significant adverse impacts on the natural and historic landscapes located in the area, a medium level of development coupled with identification of a number of key sites for higher level of development/landmark buildings allows for development to be located away from sensitive cultural heritage areas. This option includes a height strategy, which has been informed by the sunlight daylight analysis and also a views study. Protected Structure designations have been identified across the site. These will contribute towards the protection of architectural heritage	**-** Low Density development and urban sprawl resulting in vacancy and underuse of the city's built heritage. Low density scenario would result in a poor urban structure, and poor integration with existing more dense developments in the area.

Table 6.4 Summary Table Assessment of Alternatives

Strategic Environmental Objective	Alternative 1 High Density Development	Alternative 2 Medium Density (Planning Scheme)	Alternative 3 Low Density Development
PH1 To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns.	+ / – –	++	– –
BFF1 To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.	– –	+ / –	–
W1: To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters. **W2** To reduce and manage the risk of flooding. **W3 -** To provide adequate wastewater treatment, water distribution networks and drainage networks.	– –	+ / –	–
AN1: To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})	+ / –	+	–

Positive	Very Positive	Insignificant/No Impact	Negative	Very Negative	Uncertain
+	++	0	-	- -	?

trategic Environmental Objective	*Alternative 1* *High Density Development*	*Alternative 2* *Medium Density (Planning Scheme)*	*Alternative 3* *Low Density Development*
CF1 To minimise emissions of greenhouse gases. **CF2** To limit adverse impacts on climate through the use of sustainable energy sources.	+ –	**+**	**-**
MA1 To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling	+	+	-
MA2 To reduce the generation of waste and adopt a sustainable approach to waste management.	+	+	-
MA3 – To promote sustainable water use and promote sustainable drainage systems	–	++	-
LS1 To conserve and enhance valued natural and historic landscapes and features within them	–	+	-
LS2 To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites.	+		
CH1 To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets.	–	+	-

Positive	Very Positive	Insignificant/No Impact	Negative	Very Negative	Uncertain
+	**++**	**0**	**-**	**- -**	**?**

6.5 Selected Alternative Development Scenario

All three options proposed, although the quantum's of development will vary, will place increased pressure on the waste water infrastructure, which in turn could lead to a deterioration in water quality of receiving waters in the SDZ area with potentially significant adverse impacts upon water based habitats and species. Such impacts require mitigation. All three alternatives are all reliant on the waste water treatment infrastructure being upgraded as well as a new waste water treatment plant being proposed at regional level. The deficiency of adequate water supply is also an issue for all three alternatives. All three alternatives could also have potentially negative impacts in terms of noise, and climate factors largely due to construction related impacts, associated traffic movements, energy required for buildings to operate, increase in the numbers living working and recreating in the areas, increase in waste output etc.

The high density approach would have some positive impacts on population and human health of the plan area in terms of increase employment opportunities, and also on landscape in terms of reuse of brownfield sites, and soil decontamination. This approach would also provide high levels of development levies which would provide the necessary infrastructure needed for the area. The existing urban structure in the area is based on the platform of the city blocks, and this in turn supports densities of 2.5 to 3.0. This works within the densities generally established by the European city tradition. Moving beyond this, as is the case in the high density option will require a different urban form, e.g. the use of multiple towers as in the high density "Liffey Wharf & Island' version' combined with a dense lower level 4/5/6 storey street block approach. Driving higher density approaches on the sites remaining, will stress the capacity of urban design to create visual cohesiveness and legibility. The high density option make it much more difficult to integrate protected buildings and heritage clusters into the urban structure

The low density scenario overall would have significant negative impacts on the environmental receptors. This approach would not be sustainable and would impact on the quality of life as commuting times would be increased, higher levels of congestion, increase noise, increased CO2 emissions, which will have negative impacts on air quality and noise. The critical mass required for the economic functioning of the SDZ area would not be possible, which would leave the area without the supporting retail, amenities and infrastructure. The less concentrated the population, the less benefits are reaped from investments in public transport and social infrastructure. It is also noted that low density development is more likely to encroach upon valuable habitats, leading to disturbance and fragmentation of habitats, and fewer opportunities would present themselves to allow for the identification of new habitats, or new green corridors etc. The preservation and enhancement of the overall landscape carbon sink through photosynthesis would be less likely to occur due to a more sprawling form of development which utilises a greater amount of the natural landscape than a more compact form of urban development.

All three options have some positive and negative impacts on the environmental indicators. However It is clear from the above table that Alternative 2 - Medium density option (the preferred Planning Scheme) has an overall positive outcome in terms of the environmental receptors carried out as part of this SEA.

This option when subjected to appropriate mitigation measures has been identified as the preferred development strategy for the North Lotts – Grand Canal SDZ.

The preferred option was chosen and developed for a number of reasons. The SDZ is not starting from scratch; there is a high level of build-out, especially when IFSC 1&2 are factored in. In this context it becomes more difficult to move coherently in a radically new direction, either in terms of much higher densities or lower ones. The urban structure is based on the platform of the city block, which in turn supports sustainable densities of between 2.5 to 3.0. This works within the densities generally established by the European city tradition.

The medium density model, the one adopted in the SDZ, successfully integrates the complex set of objectives under the High Level Themes, incorporates the Key Structuring Principles effectively into the urban structure, and devises a set of layouts for the City Blocks all of which responds to the core vision. This scheme is robust in terms of implementation and would prove resilient over time. It is not seriously dependent on complex phasing and can be responsive to an emerging process of collaboration. Above all, it has a robust practicality which responds strongly to core strands of sustainability, while avoiding the risks associated with the high and low density options outlined above.

SECTION 7

7 Evaluation of the Planning Scheme for the SDZ

7.1 Introduction

The vision of the North Lotts – Grand Canal Docks Planning Scheme is to ensure that the area becomes a world class maritime quarter with a distinctive Dublin Character. To be a model for sustainable inner city regeneration that is supported by exemplary social and physical infrastructure and a quality public realm.

Layout and Format of Planning Scheme

- Chapter 1 of the plan gives a background introduction about the area
- Chapter 2 looks at the area it is today; the context, key statistics for the area and the existing environment in terms of land use, role of Docklands, movement, heritage, public realm and infrastructure. This chapter sets up high level themes for the scheme in the subsequent chapter
- Chapter 3 describes high level themes for the future of the SDZ area
- Chapter 4r lists objectives that would ensure the high level themes in the previous section are delivered.
- Chapter 5 breaks the Planning Scheme area into blocks and provides urban design solutions to achieve the objectives.
- Chapter 6 sets out the implementation and monitoring for the Planning Scheme and
- Chapter 7 provides the SEA and AA summary for the Planning Scheme.

The planning tools within the scheme to deliver its vision are contained in chapters 3, 4 & 5. These chapters have been informed by the other chapters in the plan, and the SEA, AA and Flood Risk Assessment. In relation to the screening matrices for the Planning Scheme, these three chapters were deemed necessary to screen (Chapters 3, 4 & 5).

Chapter 3 has been screened as it sets out the vision for the Docklands area which is informed by the high level themes set out below:

i. Sustainability
ii. Economic Revival & Employment
iii. Quality of Life
iv. Identity
v. Infrastructure
vi. Movement and Connectivity

Chapter 4 which is informed by the high level themes, sets out the overall objectives for the Planning Scheme, This chapter is subdivided into a number of sections:

Economic Regeneration (ER)
Residential Neighbourhoods (RN)
Community Development (CD)

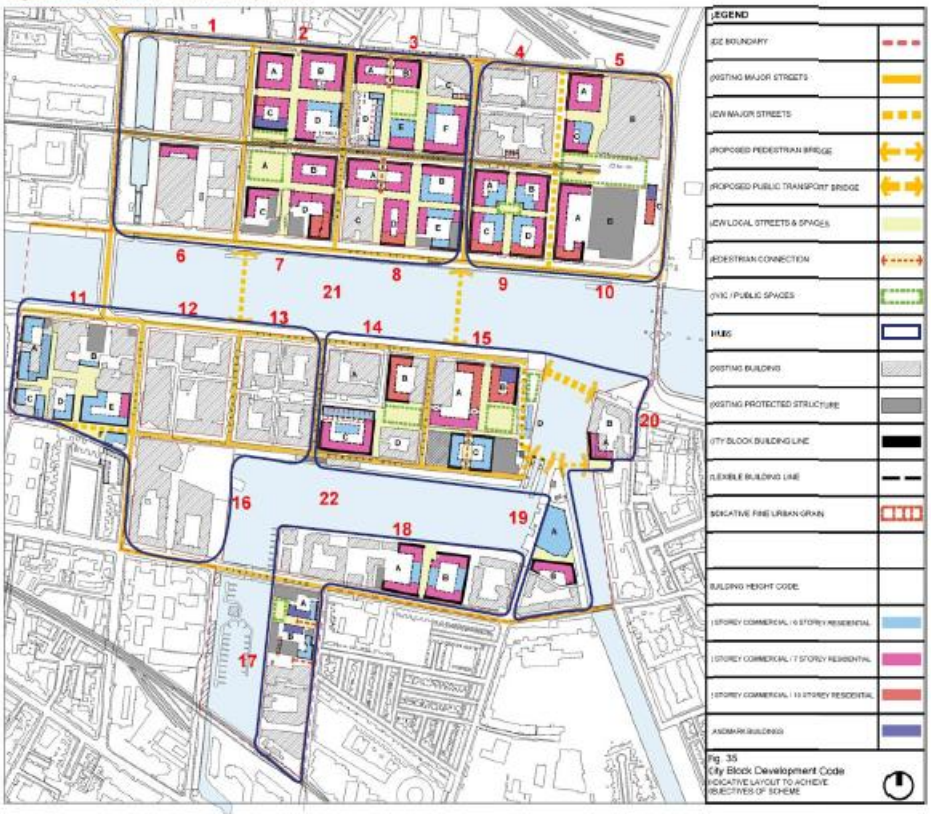
Movement (MV)
Sustainable Infrastructure (SI)
Built Heritage (BH)
Culture (CR)
Retail (RT)
Tourism & Leisure (TL)
Urban Structure/Design/Density/Height(US)
Green Infrastructure (GI)
Public Realm (PR)
Land Use & Mix (LU)
Sustainable Building Design/Quality/Design (SD)

Chapter 5 is also screened as this chapter sets out the development and requirements on a city block basis. This chapter has been informed by the previous two chapters. All 23 City Blocks were assessed**.**

This evaluation assesses the likely or potential significant effects on the environment, i.e. on biodiversity, flora and fauna, population & human health, water, air, climatic factors, material assets, cultural heritage (including architectural heritage) and soils & landscape, of implementing the Planning Scheme.

Figure 7.1 Adopted Planning Scheme –(Figure 35 of the Adopted Planning Scheme)

Fig. 35 Development Code For City Blocks



7.2 Evaluation Methodology

The assessment of the likely significant effects on the environment of implementing the Planning Scheme for the SDZ was carried out, in accordance with best practice methodology. The methodology employed was the accepted and commonly used methodology of creating a matrix, whereby the policies and objectives of the Planning Scheme are listed on one axis and the Environmental Protection Objectives on the other. The objectives of the Planning Scheme were tested against the Environmental Protection Objectives developed earlier in the SEA process.

To avoid the Environmental Report being dominated by a series of complex matrices these detailed matrices have been included as an Appendix (see Appendix 1) in this report while a summary of the significant environmental impacts are provided in Tables 7.1 – 7.8 below. Potential beneficial and adverse impacts have been identified in line with the requirements of the SEA Directive. Potential effects of plan policies have been categorised as:

Potential to have:

- *A positive Impact on Environmental Receptor (+)*
- *A very positive impact on Environmental Receptor (++)*
- *An Insignificant Impact on or No Impact on Environmental Receptor (0)*
- *A negative Impact on Environmental Receptor (-)*
- *A Very negative impact on Environmental Receptor (- -)*
- *An Uncertain Impact on Environmental Receptor (?)*

7.3 Potential Impact of the Planning Scheme (SDZ) on Population and Human Health

The objectives and high level themes contained in the Planning Scheme for the SDZ have been found to have overall significant positive/very positive long term impacts on population and human health. The plan assists in the creation of a sustainable, compact, quality, green, smart, clean and connected city as per the core strategy of the Dublin City Development Plan 2011 -2017. Regenerating these largely Brownfield sites with sustainable mixed uses connected to the city centre by way of good public transport links and green cycling and walking routes will have overwhelming positive impacts on both the existing and future inhabitants of the plan area and its environs.

The scheme emphasises the need to integrate land uses and transportation and sets out a strategy for a mixed-use, thriving economic and residential environment, underpinned by recreational and community infrastructure provided in a timely fashion, in accessible locations and connected to, or within easy reach of, good public transport networks. Creating developments that rely less on the private car, and encourage public transport use and walking and cycling has many knock-on benefits on the health and well-being of the area's population as air quality is improved, greenhouse gases are decreased, climatic change is reduced and noise levels are minimised.

The Planning Scheme also sets out strategy for the temporary use of vacant/brownfield sites which will help in creating a more positive economic environment in the area in the shorter term. In the long tern it is policy of the

Planning Scheme that the area will become a thriving employment hub in the Docklands, based on commercial, office and retail development. This will serve to have significant beneficial impacts on the population as employment levels will be significantly increased and places of work will be easily reached by public transport, cycling or walking. During construction phases of the Planning Scheme, employment will be provided for the local community and city as a whole

Other policies and objectives contained in the planning scheme that will serve to have significant beneficial impacts on population and human health are those that are proposing major improvements to public transport infrastructure and movements, those promoting green infrastructure corridors running through the area and into the surrounding areas, those creating awareness and encouraging greater awareness and enjoyment of the area's natural and built heritage and those polices and objectives requiring high quality, flood resilient construction, SUDS and energy efficient residential developments.

Overall the Planning Scheme will have beneficial impacts upon the local communities in the area both existing and proposed, in the Planning Scheme area and wider Docklands Area.

Table 7.1 Summary of potential significant impacts on Population and Human Health.

Planning Scheme	**Summary of Significant Impacts on Population and Human Health**
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have either a positive or very positive impacts on population and human health. The overall vision for the Planning Scheme including the high level themes, promoting sustainability, economic renewal, quality of living, identity, infrastructure, and movement and connectivity all have positive impacts on population and human health, providing a high quality sustainable, green, connected place to work, live and serves the recreational needs of the people that live there and surrounding communities.
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT)	

4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
Planning Scheme (Sections that were Screened)	Summary of Significant Impacts on Population and Human Health
4.1 Economic Regeneration (ER)	ER- Economic Regeneration objectives overall have a positive/very positive with two objectives having no or insignificant impact on population and human health. Objectives which promote the economic development of an area with a range of mixed uses, including a high quality working environment, and also promotes uses such as cafes, pedestrian spaces, cultural activities, have long term positive impacts on population and human health.
4.2 Residential Neighbourhoods (RN)	RN- Residential Neighbourhood objectives were found to have either a positive/ very positive, with one having no or insignificant impact on population and human health. Generally objectives which promote the expansion of the existing residential community in the Docklands, providing good quality residential units and quality public realm while fostering a sense of neighbourhood all have long term positive impacts on population and human health.
4.3 Community Development	CD – Community Development objectives were found to have either a positive or very positive on population and human health.
4.4 Movement	MV – Movement objectives were found to have either a positive, very positive with one having no or insignificant impact on population and human health. .
4.5 Sustainable Infrastructure	SI - Sustainable Infrastructure objectives were found to have generally positive impacts. Objectives which provide the necessary infrastructure to cater for future development in the area, in tandem with available water supply and waste water treatment, and require site specific flood risk assessment and flood resilient construction in the SDZ, all will have positive long term

	impacts on population and human health.
4.6 Built Heritage	BH – Built Heritage objectives were found to have a positive impact on population and human health.
4.7 Culture	CR – Culture objectives were generally found to have positive impacts on population and human health.
4.8 Retail	RT - Retail objectives were found to have generally a positive impact with one having a very positive impact on population and human health.
4.9 Tourism and Leisure	TL – Tourism objectives were found to have generally a positive impact with one having a very positive impact on population and human health.
4.10 Urban Structure & Design, Density , Height	*US - Urban Structure objectives were found to have either a positive impact with one having a very positive impact on population and human health.* *Providing taller buildings in some blocks adjacent to existing residential communities would have the potential to adversely impact on their current amenity standards.* *As part of the Planning Scheme, the design of the building footprints, heights, layouts will be developed to allow maximum daylight to enter buildings, minimise overshadowing or each other, and within neighbouring buildings, and of landscaped areas. Block Heights in the scheme relate to street widths to maximise daylight/sunlight & amenity. (see figure 31 in Planning Scheme)*
4.11 Green Infrastructure	GI- Green Infrastructure objectives were found to have either a positive or very positive impact on population and human health. Objectives which provide for a hierarchy of interconnected open spaces, walking and cycling routes, connectivity between existing green routes, SuDS features,, visual improvements to Brownfield sites, all which boost the diversity in the area were found to have long term positive impacts.
4.12 Public Realm	PR – Public Realm objectives were generally found to have a positive impact on population and human health.
4.13 Landuse and Mix	LU – Land Use objectives were generally found to have a positive impact with one having no/ insignificant impact on population and human health.

3.14 Sustainable Buidling Quality & Design	SD – Sustainable Building Quality and Design objective has positive impacts on population and human health
Chapter 5 – City Blocks (1 to 23)	Generally all City Blocks 1 – 23 were found to have either a positive or very positive impact on population and human health.

7.4 Potential Impact of the Planning Scheme (SDZ) on Biodiversity, Flora and Fauna

The Planning Scheme was found to have mostly significant beneficial impacts on the biodiversity, flora and fauna of the plan area. The Planning Scheme promotes the regeneration of this largely reclaimed former port area comprising of mainly Brownfield sites into a thriving mixed use community in the Docklands. The plan assists in the creation of a compact, quality, green, clean and connected mixed use area as per the core strategy of the Dublin City Development Plan 2011 - 2017. Objectives contained in the Sustainable Infrastructure, Green Infrastructure and public realm sections offer significant beneficial impacts on a long term basis.

The Planning Scheme promotes opportunities to create new habitats and extend existing ones through the inclusion of such initiatives as a green infrastructure strategy which aims to provide for greater connectivity providing for green routes though existing city blocks. It is a requirement of the Scheme that these routes contain selective planting in order to provide strong biodiversity value to the area on a long term basis. Providing green routes in the area also assists towards fulfilling the biodiversity objective of expanding ecological networks in the area. SuDS measures are also a fundamental element of the green infrastructure of the Planning Scheme and could have potential significant, long-term beneficial impacts on this environmental receptor. SuDS features including those that provide for the improvement of water quality in line with the ERDB, allowing adequate space for tree planting and soft landscaping schemes, provision of new open spaces such as parks and green routes, greening the Campshires and promoting the recreational uses in the water bodies, and the incorporation of green roofs and walls in future developments, will all have significant beneficial impacts on biodiversity in the area and on water quality.

While the majority of objectives will serve to have significant positive impacts on biodiversity, those objectives that encourage greater use by people of natural and man-made recreational assets and promote the development of walking and cycle routes through, or alongside them, may have the potential to have adverse impacts on biodiversity through the disturbance and/or destruction and/or fragmentation of habitats. **Mitigation is necessary in order to offset any potential adverse impacts of implementing the Planning Scheme.**

The Dublin region's wastewater treatment plant at Ringsend is currently operating beyond design capacity. Without an upgrade of infrastructure for wastewater the plan area's capacity to absorb additional population, economic growth and development without causing serious consequences for the quality of waterbodies is seriously compromised. Deterioration of water bodies could potentially result in significant adverse impacts on a

long-term basis for water-based habitats and species. **Mitigation is necessary in order to offset these potential negative impacts of development proposed under the Planning Scheme for the SDZ.**

During construction phases, development is likely to have direct negative impacts upon fauna and flora in the area. Direct impacts may arise as the result of removal of some opportunistic vegetation but will not be of any great significance. Demolition of any buildings or works affecting roofs will have the potential to impact upon bats that may be roosting there. Avoidance of impacts on bats and their roosts will be achieved by undertaking bat surveys prior to demolition of any structure, or prior to any work taking place on roofs or eaves of buildings. This should be undertaken by a qualified bat specialist at appropriate times of the year to address the various stages of the bats activity. Relocation procedures will be instigated under licence from the DOECLG should any bats be found. If roosts are found on any buildings to be demolished then bat bricks or bat boxes will be installed at lactations to be advised by the bat specialist.

Indirect impacts related to the construction phases may occur outside of the site during construction, sediment or contaminated run-off from the site may occur in the water bodies and cause a decline in water quality and effects may be potentially affect downstream in Dublin Bay, if effects are significant. In terms of the operation phases, positive impacts will be achieved by effective landscape proposals and implementation of SuDS techniques, and new green routes/spaces which will increase the overall diversity of vegetation in the area. The construction of new drainage infrastructure will also provide significant indirect impacts upon the Liffey and other bodies which are prone to adverse effects of contamination form old surface water drains.

Short term construction works may have a negative impact on biodiversity. However it is considered that these potential impacts as a result of construction taking place are more appropriately dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment (AA).

Table 7.2 Summary of potential significant impacts on *Biodiversity, Flora and Fauna*

Planning Scheme	Summary of Significant Impacts on Biodiversity, Flora and Fauna
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have generally positive impacts on biodiversity flora and fauna. One promoting movement may have potential negative impacts on biodiversity as could lead to fragmentation of habitat. , loss, disturbance or reduction of habitats and/or species.
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV)	ER, RN,CD,MV - Genially most objectives were found to have no or insignificant impacts with some indicating a potential negative impact on the SEO. Objectives that would promote the intensification of landuses/people in the area may have potential for long term significant adverse impacts on biodiversity flora and fauna as a result of current limitation in wastewater treatment capacity with consequent deterioration in surface water quality.) Adverse impacts would be mainly n

	water based habitats, species and ecological networks – Mitigation is required. While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or Environmental Impact Assessment and/or Appropriate Assessment. In terms of movement similarly some objectives could potentially result in Significant Adverse Impacts on existing biodiversity in the area as a result of policies and objectives to provide new cycle and pedestrian routes running through areas of open space. These developments may be constructed in, or close to, more environmentally sensitive areas in terms of biodiversity and may result in fragmentation, loss, disturbance or reduction of habitats and/or species. The construction activity associated with the provision of these pedestrian and cycle routes in the short term may also have impacts on biodiversity it is appropriate that these potential impacts are dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment
4.5 Sustainable Infrastructure (SI)	SI - Sustainable Infrastructure objectives were generally found to have either a positive or insignificant impact on biodiversity flora and fauna. Objectives which promote delivery of infrastructure could possibly have significant adverse impacts on the quality of water. The construction activity associated with the provision of infrastructure in the short term may also have impacts on biodiversity it is appropriate that these potential impacts are dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment
Planning Scheme	Summary of Significant Impacts on Biodiversity, Flora and Fauna
4.6 Built Heritage (BH)	BH – Built Heritage objectives were found to have no or insignificant impacts on biodiversity flora and fauna. One

	objective was found to have a positive impact on the SEO.
4.7 Culture (CR)	CR – Culture objectives were found to have either no or insignificant impacts on biodiversity flora and fauna,
4.8 Retail (RT)	RT - Retail objectives were either found to have either no or insignificant impacts with one having a potential negative impact on biodiversity flora and fauna. Objectives that would promote the intensification of landuses/people in the area may have potential for long term significant adverse impacts on biodiversity flora and fauna as a result of current limitation in wastewater treatment capacity with consequent deterioration in surface water quality.) Adverse impacts would be mainly n water based habitats, species and ecological networks – Mitigation is required. While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment.
Planning Scheme	Summary of Significant Impacts on Biodiversity, Flora and Fauna
4.9 Tourism& Leisure (TL)	TL – Tourism and Leisure objectives were either found to have either insignificant impacts or negative impact on biodiversity flora and fauna Objectives that encourage more population into the area and especially for tourism, cultural events could have potential for long term significant adverse impacts on biodiversity flora and fauna, as a result of current limitation in wastewater treatment capacity (with consequent deterioration in surface water quality). The movement of people in the area could also have possible impacts for spread of invasive species in the area. While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment.

4.10 Urban Structure/Design/Density/Height(US)	US **-** Urban Structure objectives were generally found to have either no or insignificant impacts on biodiversity flora and fauna. Some objectives had positive impacts and one indicated a negative impact. Objectives that would promote the intensification of landuses/people and that encourage more use of the water bodies and thereby encouraging more people to use them could have potential for long term significant adverse impacts on biodiversity flora and fauna, as a result of current limitation in wastewater treatment capacity (with consequent deterioration in surface water quality). The movement of people in the area could also have possible impacts for spread of invasive species in the area While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment.

Planning Scheme	Summary of Significant Impacts on Biodiversity, Flora and Fauna
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives were found to have either positive or very positive impacts on biodiversity flora and fauna. Some objectives however were found to have a split positive/negative impact. The majority of Green Infrastructure objectives will have significant beneficial long terms impacts on biodiversity in particular those objectives that promote the implementation of SUDS measures by improving water quality and removing pollutants from urban run-off at source and reducing the risk of flooding, those that promote tree planting, provision of new open spaces, soft landscaping, removal of invasive species, and overall greening of the area, enhancement of publicly owned open spaces in the area will serve to increase the range and diversity of habitats and species and will assist towards the expansion of the ecological network.

	Generally objectives that would promote the intensification of land uses/people and or cycle walkways through existing green areas could have potential for long term significant adverse impacts on biodiversity flora and fauna, as a result of current limitation in wastewater treatment capacity (with consequent deterioration in surface water quality), and also construction related impacts. The movement of people in the area could also have possible impacts for spread of invasive species in the area.
4.12 Public Realm (PR)	PR – Public Realm objectives were generally found to have no or insignificant impact on Biodiversity flora and fauna. One showed a negative impact which promoted water based recreation and events while one promoting development of attractive uses of the waterways showed a positive impact.
4.13 Land Use & Mix (LU)	LU- Land Use objectives generally were found to have no or insignificant impacts on biodiversity flora and fauna. Three objectives were found to have a negative impact.
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has no or insignificant impact on biodiversity flora and fauna

Planning Scheme	**Summary of Significant Impacts on Biodiversity, Flora and Fauna**
Chapter 5 – City Blocks (1 to 23)	Genially all City Blocks 1 – 23 were found to have either a positive impact on biodiversity flora and fauna. Generally the City Blocks were found to have potential for significant beneficial impacts on biodiversity, flora and fauna as they encourage an enriched biodiversity in the blocks, greening of main roads, green routes, flood resilient construction, Sustainable building design, implementation of SUDS and water quality measures. Two of the City Blocks were found to have potentially significant adverse impacts on biodiversity flora and fauna as a result of increasing population along water sensitive areas, construction of main infrastructure such as pedestrian bridges, promoting cruise tourism etc, fauna as result of current limitations in wastewater treatment capacity (with consequent deterioration in surface water

	quality). Adverse impacts would be mainly on water-based habitats, species and ecological networks - Mitigation is required While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment.

7.5 Potential Impacts on Water of Implementing the Planning Scheme for the SDZ

'Water' as an environmental receptor for the purposes of this SEA, refers to surface water bodies and the quality of same, and also includes flooding issues. The Planning Scheme places emphasis on high quality and sustainable densities to consolidate the area, population growth, economic growth and increase in development over the lifetime of the plan and beyond. The environmental assessment of the Planning Scheme has found that the scheme has the potential to have significant adverse impacts, as well as significantly beneficial impacts on water quality. Potential adverse impacts could come about particularly as a result of those objectives in the Planning Scheme advocating significant quantities of new mixed use development in the absence of adequate capacity in the wastewater infrastructure serving the Dublin region currently. Without the provision of upgraded and new wastewater infrastructure, the city's ability to absorb additional population, economic growth and development is seriously restricted. Objectives contained in the Planning Scheme that could have potential significant, long-term beneficial impacts on this environmental receptor include those that provide for the improvement of water quality in line with the ERDB, the implementation of tree planting and soft landscaping schemes, provision of new open spaces and pocket parks, the incorporation of green roofs in future developments, a green infrastructure and requirements for incorporation of SuDS measures in developments. While construction, demolition and operational phases may also have potential for negative impacts on water it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment

New surface water pipes will need to be constructed on site so that surface water drainage from the site will be diverted from existing combined sewer systems to a separate surface water discharge outfall to the River Liffey, via a non return value to prevent tidal ingress.

Water contamination is likely to occur as a result of contaminants leaving affected sites either overland or subsurface flow into the existing drainage system Removal of contaminated soils from sites and remediation of the site will lead to a long term positive impact on the groundwater and surface water bodies in the area.

In terms of flood risk management a leading policy for reducing flood risk in the area will be the use of Sustainable Urban Drainage Systems(SUDS). These have been mandatory in DCC since 2005, and will reduce run-off rates from newly paved area and hence reduce flood risk resulting from these new paved areas. The policy encourages the use of green roofs, rainwater recycling, soak ways/infiltration devices and other

methodologies that reduce peak storm water run-off. Minimum floor levels for residential development in the docklands have been in place since 2005. This figure currently stands at 4.om OD MH. Site specific flood risk assessments for individual development could result in a higher figure being used. Flood resilient construction is advised as a mitigation measure to address areas of know flood risk where floor levels cannot be changed.

Table 7.3 Summary of potential significant impacts on *Water*.

Planning Scheme	**Summary of Significant Impacts on Water**
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have some positive, some negative, and some insignificant impacts on water.
Planning Scheme	Summary of Significant Impacts on Water
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV)	ER, RN, CD, MV- Generally most objectives were found to have no or insignificant impacts on water, with some objectives having a negative impact. Objectives promoting intensification of landuses/people in this area have potential for long term significant adverse impacts on water quality as result of current limitations in

	wastewater treatment capacity (with consequent deterioration in surface water quality), Adverse impacts would be mainly on the quality of the surface water and on those water-based habitats, species and ecological networks supported and provided for by the surface water in the plan area. Mitigation is required.
4.5 Sustainable Infrastructure (SI)	SI - Generally most objectives were found to have either a positive, very positive or insignificant impacts on water. Sustainable Infrastructure objectives seeking the delivery of key water, waste water infrastructure in the area have the potential to have significant beneficial (long term) impacts on water quality. Positive impacts will be long term and will come about as a result of the upgrade in the capacity of wastewater infrastructure with consequent improvement in surface water quality. Significant and long term positive beneficial impacts on water quality have been identified as a result of objectives seeking to improve water quality in line with the ERDB Management Plan, policy ensuring that development is only permitted in tandem with available water supply, wastewater treatment and network capacity and objectives to ensure that all proposed developments carrying out a specific flood risk assessment and are required to submit a surface water drainage plan for the management of surface water, protecting water quality and retrofitting SUDS measures on sites in the area.
4.6 Built Heritage (BH)	BH - Built Heritage objectives have been found to have no or insignificant impacts on water quality.
4.7 Culture (CR)	CR - Culture objectives have been found to have no or insignificant impacts on water quality.
Planning Scheme (Sections that were Screened)	Summary of Significant Impacts on Water
4.8 Retail (RT)	RT - Retail objectives were found to have no or insignificant impacts on water quality. Certain objectives were found to have potentially negative impacts.

	Objectives promoting intensification of landuses/people in this area have Potential for long term significant adverse impacts on water quality as result of current limitations in wastewater treatment capacity (with consequent deterioration in surface water quality), Adverse impacts would be mainly on the quality of the surface water and on those water-based habitats, species and ecological networks supported and provided for by the surface water in the plan area Mitigation is required
4.9 Tourism& Leisure (TL)	TL – Tourism and Leisure objectives were found to have either no or insignificant impact with certain objectives showing a potentially negative impact. Objectives that promote recreational use of the water bodied could potentially have negative impacts on the water quality.
4.10 Urban Structure/Design/Density/Height(US)	US - Urban Structure and Public realm objectives have been found to have no or insignificant impacts on water quality. Some objectives showed negative impacts, in relation to promoting intensification in area. Objectives promoting green infrastructure would have a positive impact on water quality. Objectives promoting intensification of landuses/people in this area have potential for long term significant adverse impacts on water quality as result of current limitations in wastewater treatment capacity (with consequent deterioration in surface water quality), Adverse impacts would be mainly on the quality of the surface water and on those water-based habitats, species and ecological networks supported and provided for by the surface water in the plan area .
Planning Scheme	Summary of Significant Impacts on Water
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives were found to have a positive/very positive impacts on water with some having no or insignificant impacts on water. Majority of Green Infrastructure objectives will serve to

	have significant beneficial long terms impacts on water quality in particular those objectives that promote the implementation of SUDS measures by improving water quality and removing pollutants from urban run-off at source and reducing the risk of flooding, those that promote tree planting, provision of new open spaces, courtyards and overall greening of the area, enhancement of publicly owned open spaces in the area will serve to protect and in the longer term improve the quality of water in line with the objective of the European Water Framework Directive.
4.12 Public Realm (PR)	PR – Public Realm objectives were generally found to have no or insignificant impact on Water.
4.13 Land Use & Mix (LU)	LU – Landuse objectives were generally found to have no or insignificant impact on Water.
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has no or insignificant impacts on water.
Chapter 5 – City Blocks (1 to 23)	Genially all City Blocks 1 – 23 were found to have either a positive or insignificant impact on water.

7.6 Potential Impacts of Implementing the Planning Scheme SDZ on Air & Noise

The Planning Scheme for the SDZ was found to have potential for both significant beneficial and adverse effects on air quality and noise levels. It was found that there was potential for significant adverse effects from some objectives promoting significant amounts of new development in the plan area as in the Land-Use Strategy, the Economic Regeneration, Retail, Residential Neighbourhoods, and Community Development and also some of the City Blocks.

At a strategic level, the environmental assessment of the Planning Scheme for the SDZ area has been found to have potential for significant beneficial impacts on the SDZ area overall and into the long term. There is significant potential, by pursuing the strategy of the Planning Scheme to reduce air emissions by encouraging a modal change from travel using the private car to more sustainable forms of transport such as public transport, walking and cycling, by encouraging more green routes and by requiring sustainable and energy efficient housing. Promoting such a strategy is in keeping with the policy at national, regional and city planning policy,

The Planning Scheme promotes more compact sustainable neighbourhoods and communities based around a number of development hubs providing quality, green connected city. Objectives optimising existing assets such as public transport and social infrastructure, through continuation and consolidation and increasing densities. Although the screening matrix tables show some potential for significant adverse impacts in terms of noise and air, these negative impacts are offset by the overarching theme of the Planning Scheme which promotes the regeneration of this largely reclaimed former port lands comprised of many Brownfield sites into a mixed-use urban area, forming part of the wider Docklands area. The scheme assists in the creation of a compact, quality, green, clean and connected mixed use area as per national and regional planning policy and the core strategy of the Dublin City Development Plan 2011 - 2017.

It is recognised that by increasing the amount of development in an area at a local level that this will have impacts on the amount of road traffic, which would be one of the biggest threats to air quality, in terms of Nitrogen Oxides and Particulate Matter in the atmosphere, and noise levels. While construction, demolition and operational phases may also have potential for negative impacts on both air quality and noise levels experienced it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment(AA).

Some objectives have been found to have an insignificant impact or no impact on Air Quality and Noise, on the basis that a previous overarching objective advocates the actual quantum of development proposed in the Planning Scheme. Mitigation measures have been put in place for those overarching /objectives that have been found to have potentially significant adverse impacts on air and noise and therefore there is no need for duplication.

While construction, demolition and operational phases may also have potential for negative impacts it is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA)and/or an Appropriate Assessment.

Table 7.4 Summary of potential significant impacts on *Air Quality and Noise*.

Planning Scheme (Sections that were Screened)	**Summary of Significant Impacts on Air Quality & Noise**
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have either a positive or insignificant Impact on Air Quality & Noise.
Planning Scheme	Summary of Significant Impacts on Air Quality & Noise
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN)	

4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
.1 Economic Regeneration (ER)	ER- Economic regeneration objectives were found to have either no or insignificant impacts
4.2 Residential Neighbourhoods (RN)	RN- Genially most objectives were found to have either an insignificant impact on air quality and noise.
4.3 Community Development (CD)	CD – Community Development objectives were found to have either no or insignificant impact on air quality and noise.

Planning Scheme	Summary of Significant Impacts on Air Quality & Noise
4.4 Movement (MV)	MV – Movement objectives which generally promote a high quality pedestrian and cycle network, linking into the existing public transport are found to have a generally potential beneficial impacts on air quality and noise levels in terms of reducing the need to travel by car and encouraging modal split from car to more sustainable modes of transport, walking and cycling.
4.5 Sustainable Infrastructure (SI)	SI - Strategic Infrastructure objectives were generally found to have no or insignificant impacts on air quality & Noise. Two objectives promoting good air quality and minimising adverse effects of noise showed very positive impacts on air quality and noise
4.6 Built Heritage (BH)	BH – Built Heritage oobjectives were found to have no or insignificant impacts on air quality and noise
4.7 Culture (CR)	CR - Culture objectives were generally found to have either no or insignificant impact impacts on air quality and noise. .
4.8 Retail (RT)	RT - Retail objectives were found to have no or insignificant impacts on air quality and noise
4.9 Tourism& Leisure (TL)	TL – Tourism and leisure oobjectives were found to have no or insignificant impacts on air quality and noise
4.10 Urban Structure/Design/Density/Height(US)	US **–** Urban Structure objectives were found to have no or insignificant impact or no impacts on air quality and noise.
Planning Scheme	Summary of Significant Impacts on Air Quality & Noise
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives in general were found to have no or insignificant impacts on air quality and nose. Some objectives had a positive and or very positive impact. Objectives promoting greening of the area, and also promoting good air and water quality would have long term beneficial gain to the area.
4.12 Public Realm (PR)	PR – Public Realm Retail objectives were found to have no or insignificant impacts on air quality and noise
4.13 Land Use & Mix (LU)	LU- Land use objectives found to have no or insignificant impacts on air quality and noise
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has no or insignificant impact on Air quality and noise

Planning Scheme	Summary of Significant Impacts on Air Quality & Noise
Chapter 5 – City Blocks (1 to 23)	City Blocks 1 – 23 were found to have either a positive or no/ insignificant impact on air quality and noise. However some of the blocks showed a potential impact in relation to noise in particular this would be in relation to Short term construction work in the blocks could lead to potential adverse affects in terms of noise. While increasing the amount of development in the plan area will have potential for significant adverse impacts on the amount of road traffic, which would be one of the biggest threats to noise levels and also air quality, in terms of Nitrogen Oxides and Particulate Matter in the atmosphere, the plan overall promotes a compact, mixed use area where residential, employment and retail will be provided alongside one another and in an area with good public transport Links. Further public transport improvements are proposed. This will reduce the need for travel by private car, and encourage a modal change to more sustainable forms of transport such as public transport, walking And cycling.

7. 7 Potential Impacts of Implementing the Planning Scheme on Climatic Factors (To minimise emissions of greenhouse gases)

The Planning Scheme was found to have mostly significant beneficial impacts on the emission of greenhouse gases within the SDZ area. Overall the Planning Scheme promotes the regeneration of this largely industrial former port area comprised of many Brownfield sites into a high quality sustainable mixed-use urban area. The scheme assists in the creation of a compact, quality, green, clean and connected mixed use area as per the core strategy of the Dublin City Development Plan 2011 - 2017. Objectives contained in the Economic regeneration, Residential Neighbourhoods, Community Development , Movement, Sustainable Infrastructure, tourism, Urban Structure, Green Infrastructure, Public Realm, Sustainable Boiling Quality sections of the plan offer significant beneficial impacts on a long term basis.

Long term, the concentration of development in the area with a mix of uses and choice of public transport options, allied to attractive pedestrian and cycle options will reduce the potential greenhouse gas omissions. While construction, demolition and operational phases may also have potential for negative impacts in the short

term as construction is undertaken of the various phases of the Development of the city blocks. It is more appropriate that these potential impacts be dealt with at project stage, either by way of a planning application and/or an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment(AA).

Table 7.5 Summary of potential significant impacts on *Climatic Factors (to minimise the emissions of greenhouse gases)*

Planning Scheme	Summary of Significant Impacts on Climatic Factors
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have either a positive / very positive or insignificant impacts on Climatic Factors.
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
4.1 Economic Regeneration (ER)	ER- Economic Regeneration objectives were found to have insignificant or no impact on climatic factors . Some objectives however had potential for Significant Beneficial impacts on a long term basis as a number of policies promoting higher densities of development consisting of mix uses including residential which will reduce the need for travel for employment, retail or leisure purposes. There will also be utilisation building techniques that will reduce carbon output over an extended period.
4.2 Residential Neighbourhoods (RN)	RN- Residential Neighbourhood objectives were found to have no or insignificant impacts on climatic factors ..
4.3 Community Development (CD)	CD – Community Development objectives were found to have no or insignificant impacts on climatic factors .

	Some objectives however had potential for Significant Beneficial impacts on a long term basis as a number of policies promoting higher densities of development consisting of mix uses including residential which will reduce the need for travel for employment, retail or leisure purposes. There will also be utilisation building techniques that will reduce carbon output over an extended period.
4.4 Movement (MV)	MV – Movement objectives had potential for Significant Beneficial impacts on greenhouse gases emissions as there will be an emphasis on creating the physical environment that will encourage pedestrian and cycle trips allied with the provision of a high class public transport system serving the SDZ area.
Planning Scheme	Summary of Significant Impacts on Climatic Factors
4.5 Sustainable Infrastructure (SI)	SI - Sustainable Infrastructure objectives generally seeking the delivery of key infrastructure in the area will have mainly no or insignificant impact on greenhouse gas emissions. Certain objectives relating to the possibility of the Docklands connecting to a District Heating System and also a move to a smart city would have positive impacts on greenhouse gas emissions and also a move to more sustainable energy resources.
4.6 Built Heritage (BH)	BH – Built Heritage objectives were found to have no or insignificant impacts on climatic factors
4.7 Culture (CR)	CR – Culture objectives have been found to have no or insignificant impact on climatic factors.
4.8 Retail (RT)	RT - Retail objectives were generally found to have no or insignificant impacts on greenhouse gas emissions and a move to more sustenance energy resources. Some objectives however had potential for significant beneficial impacts on a long term basis as a number of policies promoting retail facilities in the area will reduce the need for travel for employment, retail or leisure purposes. There will also be utilisation building techniques that will reduce carbon output over an extended period.
4.9 Tourism& Leisure (TL)	TL – Tourism and Leisure objectives' were generally found to have no or insignificant impacts on greenhouse gas emissions and a move to more sustenance energy resources.
4.10 Urban Structure/Design/Density/Height(US)	US –Urban Structure Objectives promoting the greening of the public realm planting of trees, SuDS features, , water

	and sewerage and infrastructure, sustainable design & building technologies will have significant beneficial impacts for reducing greenhouse Gases
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives generally were found to have a positive impact on greenhouse gas emissions and some showed no or insignificant impact on sustainable energy sources.
4.12 Public Realm (PR)	PR- Public Realm objectives were generally found to have no or insignificant impact on Climatic Factors
Planning Scheme	Summary of Significant Impacts on Climatic Factors
4.13 Land Use & Mix (LU)	LU – Land use objectives were generally found to have no or insignificant impacts on climatic factors . Some objectives however had potential for significant beneficial impacts on a long term basis as a number of policies promoting higher densities of development consisting of mix uses including residential which will reduce the need for travel for employment, retail or leisure purposes. There will also be utilisation building techniques that will reduce carbon output over an extended period
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has positive impacts on climatic factors
Chapter 5 – City Blocks (1 to 23)	City Blocks 1 – 23 were generally found to have significantly positive impacts on climatic factors on long term basis as a result of the blocks promoting higher densities, located close to good public transport links, providing a mix of uses, with reduced need for travel, proving new and extended areas of public space, Suds Features, new cycle and walking facilities, new bridges, better connectivity, and more sustainable building techniques and flood management measures, along with the possibility of all blocks being able to connect to a District Heating System in the future. Overall long term positive impacts on all blocks would be seen, There would also be the utilisation of building technologies that will reduce the carbon output over an extended period. All movement objectives related to all the blocks will have significant beneficial impacts on greenhouse gas emission as there will be an emphasis on creating the physical environment that will encourage modal split and to encourage pedestrian and cycle trips allied with the

	provision of a high quality public transport system.

7.8 Potential impacts of implementing the Planning Scheme SDZ on Material Assets.

The Planning Scheme was found to have generally significant beneficial impacts on material assets, with no objectives found to have any significant adverse impacts on material assets, i.e transport and waste management.

In general more beneficial impacts were found in relation to encouraging modal change from the car than for the environmental protection objective of reducing waste generation and adopting a sustainable approach to waste management.

Significant beneficial impacts were identified in the Planning Scheme relating to the creation of a mix of uses, higher densities, which benefit from good public transport in association with proposed new walking/cycling, new connections, new pedestrian bridges, that will ultimately improve connectivity throughout the area. This is also reflected in the positive impacts identified with the development of City Blocks and the creations of new permeable routes through these blocks with new green routes. Because the area is already well serviced by a high quality public transport route connecting the city centre, the proposed new connections through the city blocks and the new pedestrian/public transport bridges would improve access to public transport and encourage walking and cycling in the area. This would have significant beneficial impacts for residents and workers in terms of their quality of life, and also benefits the wider Docklands areas as a whole, by improving connectivity. The opportunities available to switch to more sustainable modes of transport would be enhanced.

Significant beneficial impacts were noted from a number of objectives promoting sustainable waste management, in particular objectives which encourage the use of sustainable technology and building materials, and also encourage recycling facilities which reduce waste.

Table 7.6 Summary of Potential Significant impacts on Material Assets

Planning Scheme	Summary of Significant Impacts on Material Assets
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have significantly positive or very positive impacts on Material Assets.
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT)	

4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
4.1 Economic Regeneration (ER)	ER- Economic Regeneration objectives generally were found to have either no or insignificant impacts on material assets. Some objectives would have significant long term benefits, I,e objectives which promote more Sustainable Energy ,supporting greening initiatives, and also ones promoting a consolidation of the emerging spatial clusters which would encourage modal change from car to more sustainable modes of transport.
4.2 Residential Neighbourhoods (RN)	RN- Residential Neighbourhood objectives were found to have no or insignificant impacts on Material Assets.
4.3 Community Development (CD)	CD – Community Development objectives were found to have no or insignificant impacts on material assets. One had a positive impact which promoted walking and cycling routes.
4.4 Movement (MV)	MV - Movement objectives were found to have significant beneficial impacts on encouraging a change from the car to more sustainable modes of transport. All movement objectives were fond to have no or insignificant impact on the environmental protection objectives relating to reducing the generation of waste, waste management and also promoting more sustainable drainage systems.
Planning Scheme	Summary of Significant Impacts on Material Assets
4.5 Sustainable Infrastructure (SI)	SI - Sustainable Infrastructure objectives were generally found to have no or insignificant impacts on encouraging a modal split from car to more sustainable modes of transport and also in promoting a sustainable approach to waste management. In relation to promoting more sustainable drainage systems the SI objectives have a mainly significantly beneficial long term impact on the SEO.
4.6 Built Heritage (BH)	BH – Built Heritage Objectives were found to have no or insignificant impacts on material assets.
4.7 Culture (CR)	CR – Culture Objectives were found to have no/

	insignificant impacts on material assets.
4.8 Retail (RT)	RT **-** Retail objectives generally were found to have no or insignificant impacts on material assets. Some objectives promoting sufficient retail uses and a mix of uses including leisure and cultural uses ,and a vibrant urban quarter would have significant beneficial impacts on Material assets as it would encourage modal change from car to more sustainable modes of transport such as walking and cycling. Retail uses would also provide recycling facilities which would reduce the generation of waste**.**
4.9 Tourism& Leisure (TL)	TL – Tourism and Leisure Objectives were generally found to have no or insignificant impacts on material assets
4.10 Urban Structure/Design/Density/Height(US)	US – Urban Structure objectives were generally found to have some beneficial impacts on material assets in relation to encouraging a modal change from car to more sustainable modes of transport. All objectives were mainly found to have no or insignificant impacts on reducing generation of water and a more sustainable approach to waste management , and also promoting more sustainable drainage systems. Objectives promoting green infrastructure in the public realm would have beneficial impacts on promoting sustainable drawing systems.
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives were mainly found to have no or insignificant impacts on modal change from car use and reducing generation of water and a more sustainable approach to waste management. Some of the GI objectives were found to have significant long term benefits to promoting sustainable drainage systems.
4.12 Public Realm (PR)	Public Realm objectives were generally found to have no or insignificant impact s on Material Assets.
Planning Scheme	Summary of Significant Impacts on Material Assets
4.13 Land Use & Mix (LU)	LU- Land Use objectives were generally found to have no or insignificant impact s on Material Assets
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has no or insignificant impact on Material assets

Chapter 5 – City Blocks (1 to 23)	City Blocks 1 – 23 were found to have long term significant or very significant beneficial impacts on material assets.

7.9 Potential impacts of implementing the Planning Scheme SDZ on Landscape & Soils.

The environmental assessment found that the Planning Scheme overall will have significant beneficial impacts on landscape and soils. The redevelopment of these former Dublin Port Industrial lands, which would have a number of contaminated sites, into a mixed use area in the Docklands reinforces the principles of sustainable planning through the reuse of Brownfield sites, rather than developing Greenfield sites. The Planning Scheme includes many objectives which seek to use the existing landscape assets including the built heritage features and industrial heritage, the protected structures, maritime heritage to give character and a new identity to the area as a thriving maritime quarter. The objectives set out in the Planning Scheme promoting high quality sustainable urban design, with distinctive city blocks with key buildings and urban squares marking certain routes, this marked with a high quality built finish, and diversity of buildings, reuse and retention of Protected Structures, creates a visually interesting environment that will inherently improve the quality of this former industrialised port lands. This together with the new green streets, parks plazas , tree planting and SuDS features will provide an attractive landscape to cater for the existing and future needs of the residents and workers in the community.

Soil contamination in the Planning Scheme area needs to be addressed. Any identified contamination will require different levels of intervention. Any remediation measures may require a licence granted by the EPA under the Waste Management Act 1996 for treatment and or removal to disposal sites under strict international accepted standards. The Flannery Nagel Report gives an indication of the levels of remediation required (see www.dublincity.ie)

Table 7.7 Summary of Potential Significant Impacts on Landscape and Soils

Planning Scheme	Summary of Significant Impacts on Landscape & Soils
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have significantly positive or insignificant impacts on landscape and Soils.
Chapter 4 – 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR)	

4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	
4.1 Economic Regeneration (ER)	ER- Economic Regeneration objectives generally were found to have no or insignificant impacts on Landscape and Soils. Some objectives promoting reuse of the historic warehouses in the area would have potentially significant impact on enhancing the historic landscapes in the area and features within them.
4.2 Residential Neighbourhoods (RN)	RN- Residential Neighbourhood objectives were found to have no or insignificant impacts on landscape and soils.
4.3 Community Development (CD)	**CD –** Community Development objectives were generally found to have no or insignificant impacts on landscape and soils. Objectives promoting the heritage value of the sites would potentially have significant benefits to enhancing the valued natural historic and features within them.
4.4 Movement (MV)	MV – Movement objectives in general were found to have no or insignificant impacts on landscape and soils.
4.5 Sustainable Infrastructure (SI)	SI - Sustainable Infrastructure objectives were generally found to have no or insignificant impacts on the valued natural and historic landscapes. Some objectives promoting SuDS, surface water management, and specific objectives relating to remediation of the soil quality in the area will have significant beneficial long term impacts on the quality of soil in the area.
4.6 Built Heritage (BH)	BH – Built Heritage Objectives were found to have significant positive or very positive impacts on enhancing the valued natural heritage and historic landscapes within them, as they advocate the safeguarding, and enhancement of the built heritage and associated historic landscapes. With regard to improvement of soil quality objectives were found to have no significant impact on soils.

Planning Scheme	Summary of Significant Impacts on Landscape & Soils
4.7 Culture (CR)	CR – Culture Objectives were found to have no or insignificant impacts on Landscape and Soils
4.8 Retail (RT)	RT - Retail objectives generally were found to have no or insignificant impacts on Landscape and Soils.
4.9 Tourism& Leisure (TL)	TL –Tourism and Leisure **o**bjectives generally were found to have no or insignificant impacts soils. Some objectives would have significantly positive long term impacts on the natural landscape and historic features within them with regard to objectives promoting the use of Dublin Port thus enhancing its Maritime connections and features such as the Campshires, and objectives actively promoting the area for outdoor events and festivals, which will encourage people into the area and to appreciate the significance of the landscape and features of maritime interest.
4.10 Urban Structure/Design/Density/Height(US)	US – Urban Structure objectives were generally found to have no or insignificant impact on soils and the historic landscape. Some objectives promoting green infrastructure, water animation, and enhancing the character and importance of the Campshires will significantly enhance the historic landscape and features within them.
4.11 Green Infrastructure (GI)	GI- Green Infrastructure objectives were generally found to have no or insignificant impact on landscape and soils. Some of the GI objectives were found to have significant long term benefits by enhancing the natural landscape and providing additional Green spaces. Objectives promoting the biodiversity value of local area by protecting habitats etc would also have beneficial impacts.
4.12 Public Realm (PR)	PR – Public realm objectives were generally found to have no or insignificant impact on Landscape and soils. Some objectives had positive impacts which promoted high quality public realm, and promoting a maritime character.
4.13 Land Use & Mix (LU)	LU- Land Use objectives were found to have no or insignificant impacts on Landscape and soils.
4.14 Sustainable Building Design/Quality/Design (BQ)	SD – Sustainable Building Quality and Design objective has no or insignificant impact on landscape and soils
	City Blocks 1 – 23 were found to have generally long term

Chapter 5 – City Blocks (1 to 23)	beneficial impacts on Landscape and soils, with some objective showing no or insignificant impact.

7.10 Potential impacts of implementing the Planning Scheme SDZ on Cultural Heritage.

The Planning Scheme was found to have either beneficial or else no/or insignificant impact on the cultural heritage of the SDZ area. Overall the Planning Scheme promotes cultural heritage in the plan area. The Planning Scheme promotes the regeneration of this largely former industrial port lands comprising many brownfield sites into a mixed use urban quarter of the Docklands, and it frames the form of development around the existing and proposed new cultural assets so that they become the 'place making' elements of the newly developing and existing communities. The green infrastructure strategy feeds into each of the city blocks, and links the Key heritage assets within the SDZ area from the Campshires, linking the Royal Canal to the River Liffey to the Grand Canal Dock and River Dodder, with its related industrial heritage and Protected structures.

Table 7.8 Summary of Potential Significant impacts on Cultural Heritage

Planning Scheme	Summary of Significant Impacts on Cultural Heritage
Chapter 3	This chapter sets out the high level themes which set out the overall vision for the Planning Scheme for the SDZ. Overall the high level themes were found to have generally positive, or no/ insignificant impacts on Cultural Heritage.
Chapter 4 4.1 Economic Regeneration (ER) 4.2 Residential Neighbourhoods (RN) 4.3 Community Development (CD) 4.4 Movement (MV) 4.5 Sustainable Infrastructure (SI) 4.6 Built Heritage (BH) 4.7 Culture (CR) 4.8 Retail (RT) 4.9 Tourism& Leisure (TL) 4.10 Urban Structure/Design/Density/Height(US) 4.11 Green Infrastructure (GI) 4.12 Public Realm (PR) 4.13 Land Use & Mix (LU) 4.14 Sustainable Building Design/Quality/Design (BQ)	

4.1 Economic Regeneration (ER)	ER – Economic Regeneration objectives were mostly found to have no or insignificant impacts on Cultural Heritage. One had a positive impact which promoted reuse of historic warehouses.
4.2 Residential Neighbourhoods (RN)	RN- Residential Neighbourhood objectives were mostly found to have no or insignificant impacts on Cultural Heritage.
4.3 Community Development (CD)	CD – Community Development objectives were found to have no or insignificant impactson Cultural Heritage.
4.4 Movement (MV)	MV – Movement objectives were mainly found to have no or insignificant impacts on Cultural Heritage.
4.5 Sustainable Infrastructure (SI)	SI – Sustainable Infrastructure objectives were found to have no or insignificant impact on Cultural Heritage.
4.6 Built Heritage (BH)	BH – Built Heritage objectives were all found to have positive impacts on the built heritage in the area as they seek to safeguard the heritage sites of the SDZ area, enhance their setting and ensure that future uses respect protected structures.
4.7 Culture (CR)	CR – Culture objectives were all found to have no or insignificant impacts on Cultural Heritage
4.8 Retail (RT)	RT – Retail objectives were all found to have were all found to have no or insignificant impact on Cultural Heritage
4.9 Tourism& Leisure (TL)	TR – Tourism and leisure objectives were mostly found to have either positive impacts or no or insignificant impacts on Cultural Heritage. Some objectives have positive impacts.
Planning Scheme	Summary of Significant Impacts on Cultural Heritage
4.10 Urban Structure/Design/Density/Height(US)	US Urban Structure objectives were found to mostly insignificant impacts with some having positive impacts on cultural heritage.
4.11 Green Infrastructure (GI)	GI – Green Infrastructure Objectives were generally found to have no or insignificant impacts on Cultural Heritage. Some had positing impacts.
4.12 Public Realm (PR)	PR – Public Realm Objectives were generally found to have no or insignificant impact on Cultural Heritage. Some objectives had positive impacts.
4.13 Land Use & Mix (LU) (BQ)	LU – Land Use & Mix objectives were generally were all found to have no or insignificant impacts on Cultural Heritage. One objective showed a positive impact on cultural heritage where is advocated were a development provides for restoration of the built heritage.

4.14 Sustainable Building Design/Quality/Design	SD – Sustainable Building Quality and Design objective has no or insignificant impact on cultural heritage.
Chapter 5 – City Blocks (1 to 23)	Generally all City Blocks 1 – 23 were found to have either a positive or no or insignificant impact on Cultural Heritage. There are beneficial impacts on cultural heritage on each city block as each city block safeguards the heritage sites of the SDZ area, and ensures that developments respect the character and setting of protected structures.

7.11 Possible Cumulative Effects with Other Plans and Projects

The relevant plans and projects that have been reviewed with potential to result in in-combination effects with the DDPS are as follows:

- Eastern River Basin District Management Plan 2010
- Dublin City Development Plan 2011-2017
- Dublin Port Master Plan 2012-2040
- Dublin Docklands Masterplan 2008
- George's Quay Local Area Plan 2012-2018
- Draft Poolbeg Planning Scheme
- Dublin Port National Development Plan study 2009
- The Dublin Port 6 year Dredge Plan
- North Bull Island Management Plan
- Dublin City Biodiversity Action Plan 2008-2012
- The Dublin Waste to Energy facility
- S2S Dollymount promenade and flood protection project
- S2S – Cycleway and Footway Interim works 2013
- North City Arterial Watermain and Clontarf Flood defences
- Dublin Eastern Bypass project

Screening below indicated that seven plans or projects were assessed as having possible significant in-combination impacts, while eight projects or plans were assessed as having no in-combination impact. Apart from the Dublin Port National Development Study 2009, all of the plans and planning related reports below have gone through an Appropriate Assessment (AA) process. Plans and planning related reports that have the potential to impact on Natura 2000 sites have provided mitigation measures to avoid impacts. In many cases projects either identified no impacts on Natura 2000 sites or proposed mitigation to ensure that no impacts would take place.

One project was assessed as potentially having a significant in-combination impact, the Dublin Eastern Bypass. A feasibility study for the Eastern Bypass was published in 2007 and recommended a number of route and construction options. Potential impacts on Natura 2000 sites were envisaged but the impacts depended on the final design of the bypass. This project is still at feasibility stage and as such, not enough information available at this time to determine any likely in-combination effects.

Elements of the plan that are likely to have impacts on Natura 2000 sites are the Waste Water Treatment Plant in Ringsend, construction activities and the increased recreational activities. Having regard to elements of the Planning Scheme that are likely to result in impacts, it is considered that, with mitigation in place, significant in-combination effects on Natura 2000 sites are considered unlikely, in relation to the Docklands Planning Scheme.

Table 7.9 below shows the risk of significant in-combination impacts of the DDPS with other plans or projects on European designated sites.

Plan or project	Status	Overview	Possible significant impacts from plan or project	Possible significant impacts in combinati on effects	Is there a risk of significant "in combination" effects with the DDPS
Eastern River Basin District(ERBD) Management Plan 2010	Published	The ERBD Management Plan describes the actions that are proposed to ensure the necessary protection of our waters over the coming years.	No Appropriate Assessment carried out	No Screening for potential impacts under Habitats Directive Article 6 process is put in place once details of the implementa tion of the programme of Measures (POMs) under the ERBD are known	The actions and objectives in relation to the Water Framework Directive and the ERBD Management plan are to protect and restore Protected Areas.
Dublin City Development Plan 2011 - 2017	Published	The Dublin City Development Plan sets out policies and objectives for Dublin City. This plan guides how and where development will take place in the city over the next 6 years.	Yes Appropriate Assessment carried out. Strategic Environmental Assessment carried out.	No Potential impacts are to be avoided through mitigatory policies in the Plan	Major projects within the Dublin City Development plan will be subject to an Environmental Impact Assessment and all statutory requirements, including a public consultation process, by the relevant authorities. An Appropriate Assessment of the proposed project is also required in accordance with the Habitats Directive
Dublin Port Master Plan 2012-2040	Published	The Master Plan is prepared for future sustainable growth and changes in facilitating seaborne trade in goods and passenger movements to and from Ireland and the Dublin Region.	Yes Appropriate Assessment carried out SEA Impact Assessment Carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	Section 7.3 of the Dublin Port Master plan NIS "Mitigation Principles and Strategies" will address any significant impacts on European sites

Dublin Docklands Masterplan 2008	Published	The Masterplan sets out policies and objectives for the sustainable development of Dublin Docklands Region.	Yes Appropriate Assessment carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	Impacts in relation to Natura 2000 sites are related to adverse effects on water quality. A monitoring programme will be implemented to ensure that there will be no negative impacts on the integrity conservation objectives of functioning of any Natura 2000 sites as a result of the Masterplan.
George's Quay Local Area Plan 2012-2018	Published	The Local Area Plan sets out policies and objectives for George's Quay area. This plan guides how and where development will take place in the area over the next 6 years.	No Stage 1 screening The LAP will have no adverse effect on the integrity of either of the Natura 2000 sites listed and as such stage 2 AA not required SEA not required.	No	The LAP includes policy and standards to ensure that no negative significant environmental effect will arise, singularly or in a cumulative manner.
Draft Poolbeg Planning Scheme 2008	Published	The Planning Scheme provides a framework to deliver long-term social, economic, planning and environmental benefits for Dublin.	Yes	No	The likely impacts of the scheme were reviewed in the context of the Dublin Docklands Master Plan 2008. Mitigation measures were compliant with those already incorporated into the Master Plan and would be implemented to ensure that integrity of the designated sites is protected.
Dublin Port National Development Plan study 2009	Published	The report concerns an assessment of the role and future development of Dublin Port within the context of the National Development Plan.	No	No	the plan is an economic document and does not involve any physical development works
The Dublin Port 6 year Dredge Plan	Approved	This document supports an application for a Dumping at Sea Permit for a 6-year maintenance dredging plan for the period from 2009-2014.	Yes	No	Any dredging and dumping at sea requirements for Dublin Port will be subject to licence by the EPA
North Bull Island Management Plan	Published	The North Bull Island Management Plan aimed to summarize and update the key data, particularly about the current status of habitats and species of conservation status, to discuss the current	No	No	The purpose of this plan was to identify issues that could potentially affect North Bull Island and propose recommendations to address them.The plan will not have any adverse impact on the

		management issues affecting natural heritage importance of the island and to outline specific recommendations to manage these issues.			Natura site.
Dublin City Biodiversity Action Plan 2008-2012	Published	The Biodiversity Action Plan is in place to aid with the objectives of the Dublin City Development Plan relating to quality of life, greenspace and amenity provision, planning development, and the protection of natural heritage in the city.	No	No	The purpose of this plan is to aid objectives of the Dublin City Development Plan relating to the protection of natural heritage in the city. The plan will not have any adverse impact on the Natura 2000 sites.
The Dublin Waste to Energy Facility project	Approved	The Environmental Protection Agency have issued a licence to DCC to operate a non hazardous waste to energy facility. The proposed Dublin Waste to Energy (DWtE) facility will be located on the Poolbeg Peninsula in Dublin.	No	No	There are no significant impacts envisaged on any of the Natura 2000 sites as a result of the DWtE facility. Any impacts on water quality have the potential to interfere with the key relationships and structure of the SPA as the majority of qualifying features are aquatic ecosystem based. However, during construction any discharge will be in accordance with DCC requirements and during operation the cooling water will be discharged into Dublin Bay in accordance with the EPA Waste Licence (0232-01) for the facility. There is the potential for disturbance to the Arctic and common terns nesting on the CDL and ESB Dolphins during the breeding season (May to August) during the construction phase, however mitigation will be put in place to reduce this impact.
S2S – Dollymount promenade and flood protection project	Approved	The Dollymount Promenade and Flood Protection Project (DPFPP) is a dual purpose scheme: 1. Provide promenade and cycleway connecting existing sections to complete 8km promenade and cycleway in North Dublin Bay and contribute to the overall aim of providing 22km in Dublin Bay. 2. Provide flood defence	Yes Appropriate Assessment carried out	No Mitigation policies put in place to minimise impacts	The proposed project has identified a number of potential impacts to the North Bull Island SPA and the South Dublin Bay & River Tolka Estuary SPA. The Appropriate Assessment report has proposed a number of mitigation measure in relation to the proposed scheme and has concluded on the basis of these that there will be no impact on the integrity of the Natura 2000 sites.

		between the Wooden Bridge and Causeway Road for residences along Clontarf Road and James Larkin Road.			
S2S – Cycleway and Footway Interim works 2013 project	Awaiting approval	The proposed Works is approximately 2km in length, extending from Bull Road (Wooden Bridge) to Causeway Road linking existing cycle and walking routes at either end	No Stage 1 screening. There is no potential for significant effects on the Natura 2000 sites. As such the project is screened out under the Habitats Directive as not requiring a Stage 2 Appropriate Assessment	No	The AA carried out for the project concludes that the proposed development, with the implementation of the measures detailed in Section 8.0, will have no adverse effect on the integrity of any of the Natura 2000 sites
North City Arterial Watermain and Clontarf Flood defences project	Approved	The New Water Pipeline from Fairview Park to Sutton and construction of flood defences along Clontarf Promenade, Dublin 3 was approved with conditions in 2008. Flood defence works will be carried out affecting the entire area of Clontarf Promenade, an area of public open space with path and cycleways, amenity grassland and ornamental tree and shrub planting. The existing sea wall and the rock-armoured shoreline to the west near Alfie Byrne Road are the boundaries with the area	No Stage 1 screening. The Report concluded "that the project will have no adverse effect on the integrity of either of the Natura 2000 sites listed and as such this report returns a conclusion that there is no potential for significant effects on the Natura 2000 sites."	No	Some potential impacts have been identified in relation to construction activities. However mitigation measures for wintering waterfowl are proposed and principally comprise of seasonal restriction on construction activity on the pipeline in the section adjoining the South Bull Lagoon. The work on this section of the pipeline will be carried out between mid-April and mid-August. This would ensure that work is completed during the summer months when waterfowl numbers are low, and will minimise disturbance to birds.
Dublin Eastern Bypass project	Feasibility	The Dublin Eastern Bypass will complete a full ring motorway for the city by closing the 11km gap that exists on the south-eastern side between the Dublin Port Tunnel and the M50. A 2007 feasibility study recommended three options that included a viaduct or bored tunnel across the Port, a viaduct or tunnel across Sandymount Strand, and	Yes	Yes	The feasibility study concluded that a viaduct would have some limited impacts on the ecology of the South Dublin Bay but also that this would require more detailed examination. Bored tunnels were recommended, but the detailed construction techniques would depend on the geology of the area. Temporary construction shafts may be required in the bay. In addition, surface

		tunnels and cuttings from there to the N11 and Sandyford. Whilst there is a commitment to this project, a detailed timetable is not available. However, the proposed development may be implemented by 2030.			facilities, such as tunnel ventilation points, could have small ecological impacts. A viaduct across the Strand would result in some loss of intertidal habitat, possible interference with local tidal flows, disturbance of seabirds and impacts on Annex I habitats. Additional information is required to finalise route options and thereby determine potential ecological impacts. Possible Natura 2000 sites affected would be the South Dublin Bay SAC and the South Dublin Bay & River Tolka Estuary SPA.

SECTION 8

8. Mitigation

8.1 Introduction

This section describes measures to prevent, reduce and as fully as possible offset any potential significant adverse environmental effects of implementing the Planning Scheme for the Strategic Development Zone Docklands.

As described and detailed in Section 7 and Appendix A, potential significant adverse impacts of implementing the Planning Scheme could potentially arise as a result of objectives to facilitate additional population and economic growth and development, increasing densities and generally facilitating intensification of the area, promoting increased access to recreational areas, opening up private recreational areas and promoting taller buildings in some locations of the city. While these policies are fully in line with national, regional and Dublin City Council policy as set out in the city development plan to consolidate the city overall and ensure a more compact urban form with greater intensity of uses and to ensure that the city's role as the economic engine of the state is strengthened there is potential for significant adverse impacts on the receiving environment unless mitigated against. Mitigation measures are the measures to prevent, reduce and as fully as possible offset any significant adverse environmental effects as a result of implementing a plan.

8.2 Mitigation through consideration of alternatives

A number of alternatives were considered at an early stage in the process and evaluated for their likely significant environmental effects (see section 6). Three options were considered varying the density of development ie. Low density development, medium density (Planning Scheme) and high density throughout the Planning Scheme area.

The environmental baseline data and the Strategic Environmental Objectives were used in order to predict and evaluate the environmental effects of implementing the alternatives and communication of the findings were made to the planning team who made an informed decision as to what option was to emerge as the Planning Scheme.

8.3 Mitigation through integration of Environmental Considerations into the Planning Scheme and the City Block Layouts

Environmental considerations were communicated to the planning team throughout the process of preparing the Planning Scheme. This allowed the team to integrate these considerations into the city block layouts

- The uses, densities, access and movement throughout the city blocks have been informed by sustainable mobility considerations and will contribute towards the achievement of sustainable mobility patterns.
- Green Infrastructure has been incorporated in some form or another in the city blocks with larger squares /parks being provided in the Hubs. SUDS features have been incorporated into all new green infrastructures to mitigate against flooding and to improve water quality in the area.
- Building heights and frontages have been informed by visual considerations and sunlight/daylight analysis studies and will contribute towards the mitigation of visual effects.

- Protected Structures have been identified in the Planning Scheme; these will contribute towards the protection of architectural heritage.

- Residential uses have as far as possible been located away from main street frontages along the Quays to reduce the impacts of noise.

- The Planning Scheme has been informed by the AA, and FRA carried out for the area.

8.4 Mitigation by Inclusion of Additional Objectives

Table 8.1 links the key mitigation measures which have been integrated into the Planning Scheme to offset the likely effects of implementing the Planning Scheme if unmitigated. The integration of these measures into the Planning Scheme occurred over number of meetings and was informed by various communications and workshops through the SEA process. ***Additional objectives and text were also inserted throughout the process which took on board the various submission received, and motions from the Elected Members. Submissions from the prescribed bodies and in particular those from the EPA, OPW and the DECLG were taken on board throughout the SEA process and incorporated into the adopted Planning Scheme***.

The measures generally benefit multiple environmental components.

8.5 Mitigation referring to the Dublin City Development Plan 2011 – 2017

In addition to the mitigation measures that have been integrated into the Planning Scheme, where the Planning Scheme does not address an aspect of a development proposal the assessment will revert to the policies and objectives of the current Development Plan'.

As set out in Section 7 and detailed in Appendix A some objectives will serve to have potential adverse impacts on some environmental receptors, particularly water, landscape and biodiversity, flora and fauna. The mitigation measures are set out for each of the affected environmental receptors below.

Table 8.1 – Mitigation Measures

Likely Significant Effect, if unmitigated	**Mitigation Measures reference from Planning Scheme and DCDP Policies , 2011 – 2017**
Ph1 –To protect and enhance people's quality of life based on high quality residential, working, and recreational environment and on sustainable travel patterns. **<u>Likely Significant Effect if Unmitigated.</u>** Objectives set out in the Planning Scheme have mostly long term beneficial impacts. Policies and objectives set out in the DCDP 2011 – 2017 and the Planning Scheme objectives provide adequate mitigation for protect and enhance people's quality of life based on high quality residential, working, and recreational environment and on sustainable travel patterns. Impacts of higher buildings in close proximity to existing residential communities, impacting adversely	***Dublin City Development Plan(DCDP) 2011 – 2017 Policies: SI53, SI54, QH1, QH3, QH4, QH5, QH8, QH9, QH10, QH15,QH16, QH17, QH18, QH25, NC1, NC2, NC4, NC6, NC7, SC3, SC1, SC4, SC5, SC13, SC14, SC17, SC18, SC19, SC20. SC28. SC29*** ***Most of the objectives in the Planning Scheme were shown to have largely beneficial impacts on the Environmental Protection Objective Population and Human Health.*** ***Specific objectives were included in the Planning Scheme to mitigate against any potential negative impacts of higher buildings on adjoining residential properties. These include:***

on their current amenity standards.	***BH1, US13, US15 & US16*** ***Adequate mitigation is in place. No further required***.
BFF1 -To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors/green corridors **<u>Likely Significant Effect if Unmitigated.</u>** - Limitations in wastewater treatment capacity. could lead to deterioration in water quality - Consequent adverse impacts on water based habitats, species and ecological habitats. - Potential adverse effects during construction and operation phases. - Some objectives which promote new roads, cycle ways etc through existing green areas, could potentially cause fragmentation and or loss or reduction of habitats and/or species. - - ***Potential spread of Invasive species***	***DCDP 2011 – 2017 Policies GC1, GC3, GC4, GC5, GC6, , GC7, GC8, GC9, GC10, GC12, GC13, GC14, GC15, GC16, GC17, GC18, GC19, GC0, GC21. GC22. GC23, GC24 GC25, GC26, GC27, GC28, GC29,GC30, GC31,*** ***Specific Objectives were included in the Planning Scheme to offset any potential negative impacts on the Environmental Protection Objective Biodiversity Flora and Fauna, including objectives for the protection of ground and surface water. These include:*** ***PS – GI1, GI2, GI4, GI5, GI8, GI9, GI10, GI11, GI2,, SI1, SI2, SI3, SI4, SI5, SI9, SI10,SI11, SI18, SI20, SI21, SI22.*** ***Adequate mitigation is in place. No further required.***
W1- To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters In the SDZ. W2- To reduce and manage the risk of Flooding W3 -To province adequate waste water treatment, water distribution networks and drainage networks. **<u>Likely Significant Effect if Unmitigated.</u>** - Objectives that promote significant quantities of new development in the absence of adequate capacity in the wastewater infrastructure could potentially have significant adverse impacts on the environmental receptor water. ***Increased risk of flood events in area due to climate change***.	***DCDP 2011– 2017 Policies: , SI35, SI36, SI37, SI39, SI40, SI41, SI42, , SI36, SI37, SI39, SI43,SI40,SI44, SI45, SI46, SI47,SI48, SI49, SI50, SI51, SI52,GC24.*** ***Specific objectives have been included in the Planning Scheme to offset any potential impact on water quality and to ensure good ecological status of all receiving waters in the SDZ. These include:*** ***SI1, SI3, SI3, SI4, SI5, SI9, SI10, SI11, SI18, SI20, SI21,SI22, GI4, GI8, GI9,GI11.*** ***Specific objectives have been included in the Planning Scheme to offset any mitigate against risks of flooding. These include*** ***GI1, GI4, GI8, GI9, SI1,SI2, SI3, SI4, SI5, SI6, SI7,SI8,SI10, SI11*** ***Specific objectives have been included in the Planning Scheme to ensure that adequate waste water treatment distribution networks and drainage networks are provided. These include:*** ***SI1, SI2, SI3, SI4.*** ***Adequate mitigation is in place. No further***

	required.
AN1. To protect good air quality status and minimise outputs of Nitrogen Oxides (NO2) and Particulate matter (PM10) AN2. To maintain, and, where possible, improve the acoustic quality for the current and future residents of the plan area. **Likely Significant Effect if Unmitigated.** Increasing the amount of development in the plan area will have potential for significant adverse impacts on the amount of road traffic, which would be one of the biggest threats to noise levels and also air quality, in terms of Nitrogen Oxides and Particulate Matter in the atmosphere. Overall however the plan l promotes a compact, mixed use area where residential, employment and retail will be provided alongside one another and in an area with good public transport links. Further public transport improvements are proposed. This will reduce the need for travel by private car, and encourage a modal change to more sustainable forms of transport such as public transport, walking and cycling. Short term impacts due to construction related impacts on noise.	DCDP 2011 – 2017 Policies: SI53, SI54 ***Specific objectives have been included in the Planning Scheme to offset any mitigate against and potential impacts on noise and air quality. These include:*** ***SI14, SI15*** ***Adequate mitigation is in place. No further required.***
F1 – To minimise emissions of greenhouse gases CF2- To limit adverse impacts of climate change through the use of sustainable energy sources **Likely Significant Effect if Unmitigated.** Overall the Planning Scheme promotes the regeneration of this largely industrial former port area comprised of many Brownfield sites into a high quality sustainable mixed-use urban area. The plan assists in the creation of a compact, quality, green, clean and connected mixed use area as per the core strategy of the Dublin City Development Plan 2011 - 2017. Objectives contained in the Economic regeneration, Residential Neighbourhoods, Community Development , Movement, Sustainable Infrastructure, tourism, Urban Structure, Green Infrastructure, Public Realm, Sustainable Boiling Quality sections of the plan offer significant beneficial impacts on a long term basis.	DCDP 2011 – 2017 Policies: SI24, SI25, SI26, SI27, SI28, SI60, SI61, Si62, SI63, SI64. ***Specific objectives have been included in the Planning Scheme to offset any mitigate against and potential impacts on climatic factors. These include:*** ***ER15, MV1, MV2, MV3, MV4, MV5, MV6,MV7,MV8, MV9, MV10, MV13, MV14, MV15, MV16, SI14, SI15,SI16, Si17.*** ***Adequate mitigation is in place. No further required.***
MA1- To encourage modal change from car to more sustainable modes of transport such as public	DCDP 2011 – 2017 Policies:SI21, SI20, SI14, SI15, SI16, SI17, SI18, SI11, SI9, SI10, SI18SWI3,SI4, SI2, SI1

transport, walking and cycling. MA2 – Too reduce the generation of waste and adopt amore sustainable approach to waste management MA3 –To promote sustainable water use and promote sustainable drainage systems. **Likely Significant Effect if Unmitigated.** Overall the Planning Scheme was found to have significant long term beneficial impacts on material assets, with no objectives found to have any significant adverse impacts. ***Increase in flood events.Contaminated water issues.Lack of funding to deliver adequate infrastructure Unsustainable approach to waste management*** ***Unsustainable modes of transport – over reliance on the car as the primary mode of transport.***	***Specific objectives have been included in the Planning Scheme to encourage modal change from car to more sustainable modes of transport. Specific objectives include:*** ***MV1, MV2, MV3, MV4, MV5, MV6, MV7, MV8, MV9,MV10, MV11,MV12, MV13, MV14, MV15, MV16*** DCDP 2011 – 2017 Policies:QH10 ***Specific objectives have been included in the Planning Scheme to reduce the generation of waste and adopt a more sustainable approach to waste management. Specific objectives include*** *SI19* ***Specific objectives have been included in the Planning Scheme to promote sustainable water use and promote sustainable drainage systems. Specific objectives include:*** ***SI5, SI10, SI11, GI4, GI8, GI9, GI11*** ***Adequate mitigation is in place. No further required.***
LS1 To conserve and enhance valued natural and historic landscapes and features within them. LS2 – To protect, improve and maintain the quality of soils in the SDZ area. **Likely Significant Effect if Unmitigated.** Negative impacts of taller buildings – uncertainty regarding interrelationship with taller buildings and adjoining residential areas. Potential Soil contamination Issues and ground and surface water contamination.	DCDP 2011 – 2017 Policies: FC26,FC27, FC28, FC20, FC30, FC31, FC32, FC33,FC34, FC35, FC36, FC37, FC38, FC40, FC48, FC46, FC58, FC68, SC7, SC8.SC17.SC18, SC19,SI41, SI42. ***Specific objectives have been included in the Planning Scheme to conserve and enhance valued natural and historic landscapes and also to mitigate against any potential impacts of taller buildings: These include:*** ***BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8, BH9, BH10, BH11, BH12. Specific objectives in relation to height include: US1, US3, US13, US15, US16, Specific objectives have been included in the Planning Scheme to protect, improve and maintain the quality of soils and protection of surface and ground water: These include:***

	SI18, SI9, SI20, SI21, SI22. ***Adequate mitigation is in place. No further required.***
CH1 – To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets. **<u>Likely Significant Effect if Unmitigated.</u>** ***Loss of Protected Structures, and erosion of cultural heritage in the area if unprotected.***	DCDP 2011 – 2017 Policies: FC63, FC64, FC66, FC67 ***Specific objectives have been included in the Planning Scheme to protect and enhance the cultural heritage of the area including the built environment: These include***: ***BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8, BH9, BH10, BH11,& BH12.*** ***Adequate mitigation is in place. No further required.***

8.6 Conclusion

In conclusion it is apparent from the above assessment that the Planning Scheme for the North Lotts/Grand Canal SDZ includes adequate mitigatory measures in the form of objectives to offset any potential impacts on the environmental receptors. No additional mitigation measures were considered necessary in relation to any of the environmental receptors. Objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the plan. Mitigation in the form of objectives serves to formalise the mitigation measures and fully integrates them into the Planning Scheme process.

SECTION 9

9.0 Monitoring

9.1 Introduction

This section sets out the proposed monitoring measures in accordance with Article 10 of the SEA Directive which requires that *"significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen effects, and to be able to undertake appropriate remedial action"*. A monitoring programme has been devised having regard to the existing monitoring systems in place and in use by Dublin City Council.

Monitoring places an important role in assessing whether the Docklands Planning Scheme is achieving its environmental objectives and targets, whether these need to be re-examined and whether the proposed mitigation measures are being implemented.

9.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures or trends and progress over time relating to Strategic Environmental Objectives indentified in Section 4, and used in the evaluation
Table 9.1 sets out the Monitoring Programme including the targets, indicators and department responsible for carrying out the monitoring. The Monitoring programmes may be updated to deal with specific environmental issues inducing unforeseen effects as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

9.3 Data Sources

Measurements for indicators generally come from existing monitoring sources, such as those maintained by the Dublin City Council and other relevant authorities, eg. The Environmental Protection Agency (EPA), the National Parks and Wildlife Service (NPWS) and the Central Statistics Office (CSO). The Development Management process in Dublin City Council will provide passive monitoring of various indicators and targets as applications come in. In the case where significant adverse effects , including positive, cumulative or indirect impacts have the potential to occur , i.e in the case of entries to the RMP, or RPS or impact on ecological networks for example, as a result of undertaking of individual projects, such instances should be indentified and recorded and should feed into the monitoring process.

9.4 Reporting

The City Council, as Development Agency, will be responsible for monitoring and reporting on feedback. The City Council will prepare an Annual Progress Report detailing planning permissions granted, development commenced and/or completed, progress on objectives and progress on sustainability indicators. The Report will be submitted to Dublin City Council, its relevant Area Committees and to any other formal consultative structure put in place to oversee regeneration in the wider Docklands Area. In addition, a formal twice-annual consultative forum will be held in the Docklands, with representatives of business, community, environmental and other stakeholders in the area to engage in two-way communication and feedback on progress on the SDZ.

9.5 Responsibility

Dublin City Council, as Development Agency will be responsible for gathering the monitored data, the preparation of the interim report and the implementation of corrective actions , if necessary.

9.6 Thresholds at which corrective action will be taken

- ***The occurrence of flood events,***
- ***Court cases taken by the DECLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places,***
- ***Complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the scheme***
- ***Boil Notices on drinking water and***
- ***Fish Kills***

See **table 9.1** below for Monitoring Programme including the detail of targets, indicators and department responsible for carrying out the monitoring.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL RECEPTOR	WHAT TO MONITOR (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
Population / Human Health	*PH1 To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns*	Status of drinking water and drinking water sources	All Drinking Water and Drinking Water Sources to comply with the European Communities (Drinking Water) (No.2) Regulations, 2007 and European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water) Regulations, 1989.	Annually	Environment and Engineering Department (Water Division)
		Average density of new residential development	Sustainable densities achieved in new residential / mixed-use schemes	Annually	Development Management Process in DCC. Planning and Economic Development Department

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL RECEPTOR	WHAT TO MONITOR (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
		Numbers employed on site at construction and operations stage	Provide improved employment opportunities in the area both at construction and operational phases of development	Annually	Planning & Economic Development Department

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL RECEPTOR	WHAT TO MONITOR (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
Biodiversity/Flora & Fauna	*BFF1 To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors*	Total area of designated sites (Natura 2000 and pNHA's)	No adverse impacts on designated nature areas / species / habitats	Annually	Culture, Recreation & Amenity Department and Planning & Economic Development Department
		Identification through planning applications on the presence of invasive species on sites (i.e Japanese Knotweed, Himalyan Balsam, Rhododendron,Nutall's pondweed, Giant hogweed and Zebra mussel, and to eradicate, monitor and control their spread and to avoid introduction of other invasive species	Removal of all alien species from the site and planting of only native species suitable to the Planning Scheme Area.	Every two years	Culture, Recreation & Amenity Department and Planning & Economic Development Department
		Identification of habitats of protected species and in particular bats and to minimise interference with these habitats.	Minimise interference with these habitats	Annually	Culture, Recreation & Amenity Department and Planning & Economic Development Department
		For Key buildings that are particularly suitable for bat roosting, applications for works to these buildings shall include a recent bat survey. The results of which will be included in the monitoring report as part of the implementation of the SEA	Identification and up to date information on all bat species within the Planning Scheme area. Where roosting sites are impacted on, alternative appropriate roosting sites such as bat boxes to be provided.	Annually	
		Identification of habitats of protected bird species and to minimise interference with these habitats. Nesting locations for wildlife to be incorporated into design of new buildings /developments. .	All breeding sites for birds to be protected especially Black Guillemots, Peregrine Falcons for example	Ongoing	

ENVIRONMENTAL RECEPTOR	*ENVIRONMENTAL RECEPTOR*	What to Monitor (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
Water	*W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the SDZ area*	Ecological status of surface water bodies in plan area	All water bodies to meet targets set in ERDB plan	On going	Data issued under the Water Framework Directive Monitoring Programme for Ireland (EPA 2006) Environment and Engineering Department (Water Division)
	W2 To reduce and manage the risk of flooding	Number of planning permissions incorporating flood risk assessment and conditions requiring appropriate flood resilient measures for new developments	Compliance with Floods Directive and with OPW/DoEHLG's Flood Risk Management Guidelines in the planning process Flood Risk Assessment be carried out for all new developments Identify Sustainable Drainage Systems (and features which are identified as having flood defence function) in all new developments	Annually	Environment and Engineering Department (Drainage Division) in association with the Planning and Economic Development Department
	W3 To provide adequate wastewater treatment , water distribution networks and drawing networks	Provision of new infrastructure in area and planning applications granted with capacity available in the system . Complete the relocation of the Grand Canal Surface Water Outfall from the Grand Canal Dock Basin to the River Liffey.	Provision of adequate wastewater treatment, water distribution networks and drainage networks to serve the proposed level of development Establishment of appropriate surface water drainage systems for separate foul and surface water drainage.	Ongoing Ongoing	Environment and Engineering Department (Drainage Division) Environment and Engineering Department (Drainage Division)

ENVIRONMENTAL RECEPTOR	*ENVIRONMENTAL RECEPTOR*	What to Monitor (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
Air & Noise	*AN 1 To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})*	Values of monitored pollutants in the air, including the levels of *Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10}* Maintain good air quality values	Meet value targets for names pollutants in line with Air Quality Framework Directives	Annually	Roads & Traffic (Noise & Air Quality Unit)
	AN2 To maintain and, where possible, improve the good acoustic quality for the current and future residents of the plan area	% of residents exposed to high sound levels	Minimise noise pollution for the residents in the Planning Scheme area	Ongoing	Roads & Traffic (Noise & Air Quality Unit)
Climatic Factors	*CF1 To minimise emissions of greenhouse gases*	Average energy consumption of new residential housing stock Tonnes of CO2/Capita/Year	Decrease in greenhouse emissions	Annuall	Environment and Engineering Department
	CF2 To limit adverse impacts of climate change through the use of sustainable energy sources	All proposed developments be district heating enabled in order to provide an environmentally sustainable source of heating & cooling	Optimum building energy ratings to be achieved for residential and non residential units.	Ongoing	Environment and Engineering Department
Material Assets	*MA1 To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling*	% change in modal split Length of new cycling paths/lanes and walking routes developed	Extension and improvement of the cycling and walking network in the area	Ongoing	Roads and Traffic Department
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management	% of waste recycled Tonnes of waste per capita per year.	Increased recycling (59% recycling target by 2013 – Regional Figure)	Annually	Environment & Engineering Department (Waste Management Division)
	MA3 TO promote sustainable water use and promote sustainable drainage systems	Compliance with SuDS Objectives detailed in Section 4.5 and 4.11 of the Planning Scheme	Provision for the reuse, recycling and conservation of water & implementation of SuDS (sustainable urban drainage systems).	Ongoing	Environment & Engineering Department (Waste Management Division)

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL RECEPTOR	What to Monitor (INDICATOR)	TARGET	FREQUENCY OF REPORTING	DEPARTMENT RESPONSIBLE
Landscape & Soils	*LS1 To conserve and enhance valued natural and historic landscapes and the features within them*	The protected of and enhancement of all views and panoramas to key local vantage points and civic buildings in the surrounding area, and within the Planning Scheme itself as identified in Section 4.6.7 of the Planning Scheme. Number of applications relating to protected structures Number of protected structures retained on site.	The protection and enhancement of all key views and prospects (see section 4.6.7 of the Planning Scheme) Preservation and integration of the Protected Structures, and ensuring they are reused , and contribute to the generation of space in terms of the physical layout and character No adverse impacts on protected structures	On Going	Planning and Economic Development Department
	LS2 To protect, improve and maintain the quality of soil in the SDZ area	All planning applications shall be accompanied by a report from a qualified expert consultant detailing compliance with the remediation measures specified in the Planning Scheme.(see appendix Flannery Nagel	Protection enhancement and improvement in the quality of soils in the area. Remediation of contaminated soil on former industrial Brownfield lands within the SDZ area.	Annually	Planning and Economic Development Department
Cultural Heritage	*CH To protect and enhance the cultural heritage of the plan area including the built environment, settings and archaeological assets*	Number of archaeological sites investigated & recorded Number of archaeological sites identified, preserved and or recorded.	Ensure that cultural heritage of the Planning Scheme area is maintained and protected from damage or deterioration.	Annually	Planning and Economic Development Department.

Appendix A

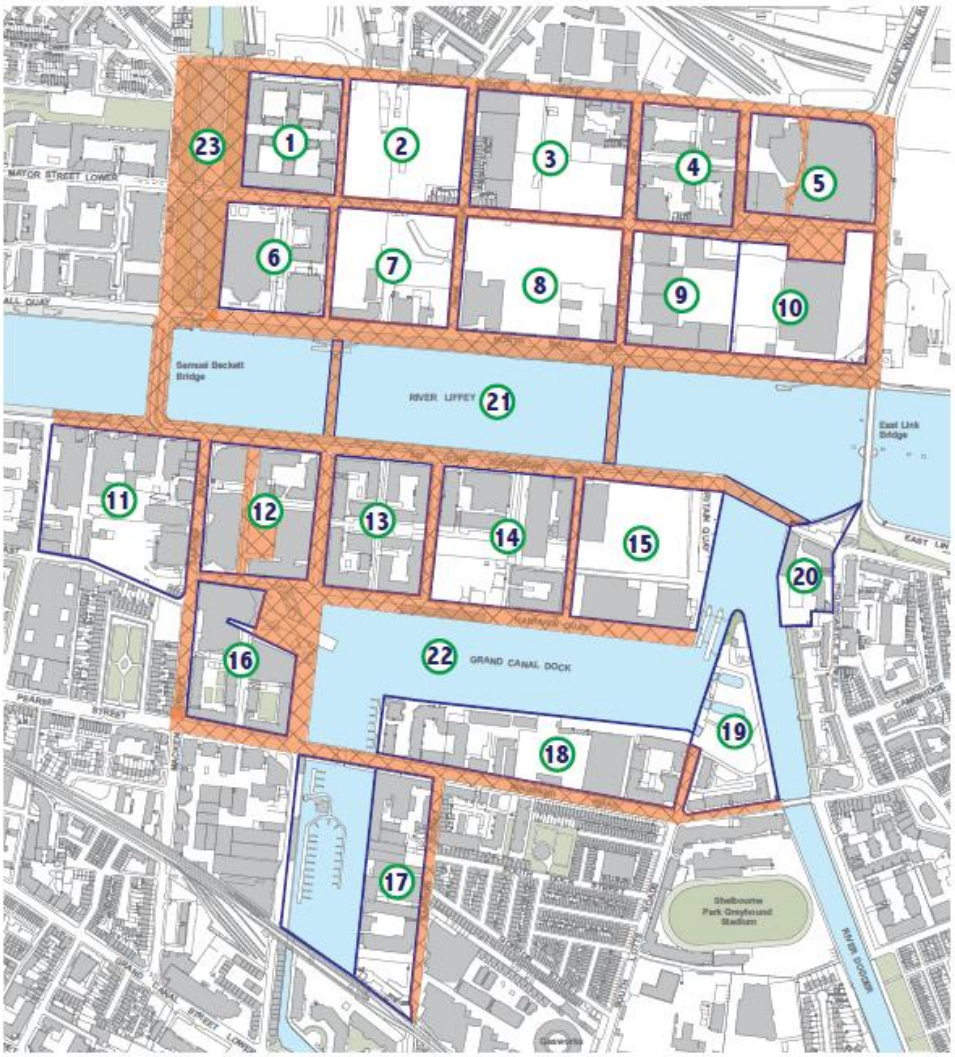
Appendix A - Table : Environmental Protection Objectives.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PH1:** To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Biodiversity/Flora & Fauna	**BFF1:** To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.
Water	**W1:** To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area.
	W2: To reduce and manage the risk of flooding.
	W3: To provide adequate wastewater treatment, water distribution networks and drainage networks.
Air Quality & Noise	**AN1:** To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})
	AN2: To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area.
Climatic Factors	**CF1**: To minimise emissions of greenhouse gases.
	CF2: To limit adverse impacts on climate though the use of sustainable energy sources.
Material Assets	**MA1:** To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling.
	MA2: To reduce the generation of waste and adopt a sustainable approach to waste management.
	MA3: To promote sustainable water use and promote sustainable drainage systems.
Landscape & Soils	**LS1:** To conserve and enhance valued natural and historic landscapes and features within them.
	LS2: To protect, improve and maintain the quality of soils in the SDZ area.
Cultural Heritage	**CH1:** To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets

+	Potentially Significant Beneficial Impact on the status of the Environmental Protection Objective.
++	Very Significant Beneficial Impact on the status of the Environmental Protection Objective.
0	No Relationship with, or an Insignificant Impact on, the status of the Environmental Protection Objective
-	Potentially Significant Adverse Impact on the status of the Environmental Protection Objective
--	Very Significant Adverse Impact on the status of the Environmental Protection Objective
?	Unknown impact

Docklands SDZ – City Block Reference Numbers (for screening matrix tables)

DOCKLANDS SDZ - BLOCK NUMBERS



North Lotts Grand Canal Dock Planning Scheme Chapter 4 (a) Economic Regeneration	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
ER1: To facilitate the growth and consolidation of the emerging spatial clusters of the legal, financial, and digital-media specialism's ***and the Global Services Sector.***	+	0	0	0	_	0	0	0	0	0	0	0	0	0	0
ER2: To actively engage the universities and industry players to help create a multi-cluster innovation hub.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER3To investigate the potential to create physical linkages between the emerging spatial clusters in the docklands and clusters in the rest of city, as well as fostering collaborative network synergies between the clusters on a city-wide basis	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0
ER4: To seek an iconic physical space to accommodate a focal point for innovation in the city.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER5: To promote and facilitate the creative digital technology sector as a pivotal part of the digital economy and as a catalyst for creative industries and inter-linkages with existing clusters in Docklands.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER6: To encourage and facilitate a range of office typologies to cater for the key growth areas and to meet business lifecycle needs from start-up to growth phase and maturity.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER7: To seek the provision of flexible floorspace and a range of office accommodation in each city block.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER8 To promote the provision of incubator space and start-up facilities as part of conventional office development to foster synergies between companies of different sizes and across different sectors.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER9: To promote the provision of start-up, incubator and collaborative space for high value digital, design or creative industries as a possible use for a number of the historic warehouse buildings in the SDZ.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
ER10 : To facilitate and harness the employment generating opportunities of the support services sector as well as enterprise activity with a range of key skilled, semi-skilled ***unskilled and volunteer workers of all ages*** as part of the overall economic regeneration for the wider Docklands area	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (a) Economic Regeneration	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
ER11: To liaise with agencies and organisations working in the docklands to maximise educational opportunities and support access to employment for local residents of the Docklands Area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ER12: To facilitate agencies and organisations, in particular those engaged in employment and training initiatives in docklands to work together in a co-ordinated manner in order to maximise employment and training opportunities for residents of all ages in the Docklands Area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ER13 : To encourage the provision of affordable workspace for start-up, enterprise and creative activity where feasible as an interim measure and/or on secondary streets n the SDZ and to support the continues provision of such space in the existing enterprise zones in the wider Docklands Area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ER14: To seek to deliver a range of outdoor cafés, pedestrian spaces, cultural activities and municipal Wi-Fi zones to create a vibrant urban location and an attractive working environment, as a response to the locational criteria or value system of the tech sector.	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ER15: To support the Green IFSC through projects and programmes such as a Greening the IFSC Initiative and Sustainable Energy Communities (SEC) and to ensure that Docklands represents the optimum in energy efficiency and sustainable design t reflect its emerging role as a hub for green finance.	**++**	**0**	**0**	**0**	**0**	**+**	**0**	**+**	**+**	**0**	**+**	**+**	**0**	**0**	**0**
ER16: : To liaise and support the government and Interested parties to develop an International ***Shipping*** Services Centre in the SDZ.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ER17: To engage with Dublin Port Company, Fáilte Ireland and the Department of Transport, Tourism and Sport to facilitate the development of a new cruise tourism terminal at Alexandra Basin.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (b) Residential Neighbourhoods	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
RN1: To promote the expansion of the residential population in the SDZ and retain the existing population base as their lifecycle requirements change by providing high quality adaptable homes and quality residential choices for a range of household types inclusive of single occupants, students, young couples, families, the elderly and those with special needs.	++	– +	0	0	–	0	0	0	0	0	0	0	0	0	0
RN2: To promote sustainable higher densities and quality innovative designs achieving generous standards of residential amenity for residents including spacious and adaptable interiors, high quality natural lighting, good storage facilities, private open space amenity and car parking storage.	+	+	0	0	– +	0	0	0	0	+	0	0	0	0	0
RN3: To seek a successful interaction between the residential scheme, streets and public realm to foster a true sense of neighbourhood and encourage interaction between residents. Opportunities for animated ground floors, homes with own door access, private landscaped terraces and a successful integration with communal and public open space shall be encouraged.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN4: The design of residential schemes, communal open space, public open space and public realm shall be integrated to maximise use by community and facilitate children's play and recreation for children across a range of age groups.	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0
RN5: All residential proposals shall comply with the policies of the Dublin City Development Plan 2011-2017 for Providing Quality Homes in a Compact City (Ch 11), Creating Good Neighbourhoods and Successful Communities (Ch 12), Residential Quality Standards (Ch 17) and provisions of the Dublin City Council Housing Strategy (Appendix 3).	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (b) Residential Neighbourhoods	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
RN6 To promote socially balanced communities through the implementation of Part V under the Dublin City Development Plan Housing Strategy which will be successfully integrated within schemes throughout the SDZ and implemented through a variety of measures, including long term social leasing and expansion of the Residential Accommodation Schemes (RAS), in accordance with national housing policy	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN7: To promote creative design solutions in tandem with a successful mix of unit types and tenures to create socially inclusive residential schemes to promote genuine integration within a scheme and support a sustainable residential community within the SDZ.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN8 To recognise the important role of approved housing bodies in the provision of social housing within the SDZ and to continue to liaise and co-ordinate with these bodies in the implementation of Dublin City Council's social housing policy	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN9: To promote successful models for multiple unit management and ensure that the design of schemes is cognisant of longer term and on-going successful management and maintenance.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN10: To seek excellence in the completion of high quality development to facilitate taking in charge and protect the long term amenity value of new homes and schemes.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN11 New housing shall be provided in tandem with physical, social and amenity infrastructure including enhanced access to the facilities and amenities of the wider neighbourhood.	+	0	0	0	+	0	0	0	0	0	0	0	0	0	0
RN12: To encourage the provision of a variety of housing throughout the area.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN13 All residential proposals shall have regard to the document 'Quality Housing for Sustainable Communities' (Department of the Environment, Heritage and Local Government 2007) and accompanying manual 'Best Practice Guide' (Department of the Environment, Heritage and Local Government 2009)	+	0	0	0	0	0	0	0	0	0	+	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (c) Community Development	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
CD1: To promote a community, cultural and recreational development on the peninsula site of the graving docks in the Grand Canal Basin including the provision of generous landscaped amenity areas and public realm, optimising the unique setting and heritage value of the site and providing a neighbourhood-wide community and recreational resource as a unique attraction in the SDZ area.	++	+	0	0	0	0	0	0	0	0	0	0	+	0	+
CD2: To support and promote the continued role of the Sean O Casey Community Centre East Wall Road and St Andrews Resource Centre Pearse Street as a significant multi use community facilities, social space and landmark buildings accessible to the wider community	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD3: To promote access to high quality social infrastructure that sustains existing and planned population growth and supports the long term quality of life the community	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD4: To recognise the multi cultural character of the growing population and promote community facilities and social infrastructure that is inclusive and accessible to all within the community.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD5: To co-ordinate with the Department of Education and Skills in supporting the important services provided by existing schools in the wider neighbourhood and in particular support their continued role in community development, coordinate the provision of enhanced connections (walking and cycling routes) and open space provision to benefit of local schools and promote the provision of enhanced educational services in the wider Docklands area to service the significant growth in population of the SDZ.	++	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD6: To conduct a special review between Dublin City Council and the Department of Education and Skills to ascertain the need to enhance and develop educational facilities in the wider neighbourhood to service the growing population of the SDZ area.	+	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (c) Community Development	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
CD7: To encourage the use of facilities in third level colleges and larger companies (opportunities for meeting rooms as an example) for community benefit and promote the development of a Corporate Social Responsibility policy within larger companies to integrate the community with the commercial sector.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD8: To co-ordinate, with other agencies, on the continued support for and enhancement of youth and senior citizen services in the local area for inclusive and integrated communities	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD9: To promote a local School Job Placement Programme.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD10: To promote a Docklands Local Employment ***steering group with relevant stakeholders to facilitate an employment strategy to promote enhanced local employment access with a specific regard for younger people and older people***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD11: To promote the development of community, health, childcare and other community and social facilities as part of the mixed land-use policy for the SDZ.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD12: To provide commercial facilities such as local supermarkets, restaurants, cafes and leisure facilities that provide opportunities for local employment and locations for the community to interact, meet and socialise to assist community development	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD13: To promote the use of vacant commercial units and appropriate vacant spaces for artistic, cultural and community uses on a temporary basis to encourage the community to meet (the concept of third spaces) for community development.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (c) Community Development	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
CD14: To promote the development of street infrastructure, walking and cycling routes and public transport routes to enhance connections between residential areas and the community facilities that exist in the wider neighbourhood.	**+**	_	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**	**0**	**0**
CD15: To provide locations that encourage interaction between residents, workers and visitors, and importantly between neighbours within the SDZ area and wider neighbourhood adjoining, as integral elements in the design and layout of schemes, in particular in the positioning and design of public open space and the design of the public realm.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD16: To facilitate the provision of sports and leisure facilities, in particular water based sports in recognition of the special waterside location context of the SDZ, to the benefit of local community and in particular the local youth.	**+**	_	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD17 The Council will seek to develop initiatives with relevant stakeholders through Corporate Social Responsibility programmes	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD18 The Council will concurrently develop a Community and Social Development Plan for the SDZ area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD19 To Facilitate and support educational initiatives undertaken by community and voluntary sector to enhance life opportunities and social cohesion	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CD20 The Council in conjunction with the HSE will facilitate the development of a Health care Service in the North Lotts area of the SDZ	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (d) Movement	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
MV1: To continue to promote the modal shift from private car use towards increased use of more sustainable forms of transport such as cycling, walking and public transport and to implement the initiatives contained in the Government's, 'Smarter Travel, A Sustainable Transport Future 2009-2020'	**+**	**0**	**0**	**0**	**0**	**+**	**+**	**+**	**0**	**++**	**0**	**0**	**0**	**0**	**0**
MV2: To support and facilitate the development of an integrated public transport network with efficient interchange between transport modes, to serve the existing and future needs ***of all ages*** in association with relevant transport providers, agencies and stakeholders and to facilitate the integration of walking and cycling with public transport.	**++**	**+** **-**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**0**	**0**	**0**	**0**	**0**
MV3: To provide additional cycle and pedestrian bridges across the city's canals and rivers in the SDZ to form part of strategic cycling and walking routes.	**++**	_	**0**	**0**	**0**	**+**	**0**	**+**	**0**	**++**	**0**	**0**	**0**	**0**	**0**
MV4: To create and support a well-designed network of pedestrian infrastructure to promote and facilitate walking and cycling; provide priority for pedestrians and cyclists along key desire lines, developing routes within the Docklands and linking with the surrounding walking and cycling networks in Dublin City.	**++**	_	**0**	**0**	**0**	**+**	**0**	**+**	**0**	**++**	**0**	**0**	**0**	**0**	**0**
MV5: To provide good quality end of trip facilities to encourage walking and cycling such as secure and weather proof bike stands, lockers, showers, changing and drying rooms.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**	**0**	**0**
MV6: To support the extension of Dublinbikes scheme throughout the area.	**+**	**0**	**0**	**0**	**0**	**+**	**0**	**+**	**0**	**++**	**0**	**0**	**0**	**0**	**0**
MV7 To discourage commuter parking and to ensure adequate but not excessive parking provision for short-term shopping, business and leisure use..	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (d) Movement	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
MV8: To provide appropriate levels of car parking to serve a range of uses in accordance with development plan car parking standards (section 17.40).	+	0	0 –	0	0	0	0	0	0	0	0	0	0	0	0
MV9: To provide for sustainable levels of car parking and car storage in residential schemes in accordance with development plan car parking standards (section 17.40) so as to promote apartment living for all age groups and family types..	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MV10: To promote best practice mobility management and travel planning to balance car use to capacity and provide for necessary mobility via sustainable transport modes.	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0
MV11: Support the function of the strategic road network through the Docklands and support the operation of primary routes for appropriate levels and types of traffic.	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0
MV12: Maximise the potential benefit of the water bodies within the Docklands for recreational and transport purposes; support and enhance the water-based transport amenities within the Docklands.	+	–	0	0	0	0	0	0	0	0	0	0	0	0	0
MV13: To encourage the use of innovative measures~~,~~ such as car clubs, to reduce the requirement for car parking.	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0
MV 14: To require Travel Plans and Transport Assessments for all relevant developments and/or extensions or alterations to existing developments as outlined in Appendices 5 & 6 of the Dublin City Development Plan.	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0
MV15: Proposals for new developments shall comply with the standards for cycle parking and associated cycling facilities as set out in section 17.41 of the Dublin City Development Plan.	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (d) Movement	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
MV16 ***To support and facilitate the reservation strip as shown in City Blocks 2 & 7 for the provision of the Dart Underground Station. All proposals within the zone of influences will demonstrate to Iarnród Éireann how the proposal relates to the Dart Underground design. In the interim period until the Dart Underground is in place, temporary uses and/or pavilion structures will be considered, on a short term basis, subject to the agreement with the Dart Underground Office***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**++**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (e) Sustainable Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
SI1: To actively seek the funding and delivery of key drainage infrastructure to enable development in the SDZ.	**+**	**+** –	**+** –	**+**	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI2: To manage development and promote the continued provision and upgrading of waste water treatment plans in the region so that new schemes are permitted only where adequate capacity exists in the waste water network.	**+**	**+**	**++**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI3: To complete, ***as a priority*** , the relocation of the Grand Canal Surface Water Outfall from the Grand Canal Dock Basin to the River Liffey.	**+**	**+**	**+**	**+**	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**
SI4: To ensure that development is permitted in tandem with available water supply and to manage development, so that new schemes are permitted only where adequate water supply resources exists or will become available within the life of a planning permission.	**+**	**+**	**++**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI5: To require all large development proposals to include water conservation and demand management measures.	**+**	**+**	**+**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (e) Sustainable Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
SI6: To require all proposed developments to carry out a site specific Flood Risk Assessment in accordance with the Departmental Guidelines on Flood Risk Management and the Strategic Flood Risk Assessment of this plan, Appendix 1. The flood risk assessment shall accompany the planning application and should be sufficiently detailed to quantify the risks and the effects of any residual mitigation/adaptation together with the measures needed to manage residual risks	+	0	0	+	0	0	0	0	0	0	0	+	0	0	0
SI7 ***To require all developments in the SDZ area to comply with Flood Risk Management Guidelines as well as in accordance with the prevailing City Development Plan and the national standards at the time of application***	+	+	+	++	0	0	0	0	0	0	0	0	0	0	0
SI8: To require that all new buildings shall be designed using Flood Resilient Construction methods. A statement shall be submitted with each FRA to show how they intend to comply with the above.	+	0	0	++	0	0	0	0	0	0	0	0	0	0	0
SI9: To promote the achievement of good ecological status, good ecological potential and good chemical status for the length of the Liffey WMU by 2027 and to implement the programme of measures set out in the River Basin Management Plan 2009 – 2015, in accordance with the Water Framework Directive (WFD) 2000/60/EC.	+	+	++	+	0	0	0	0	0	0	0	0	0	0	0
SI10: That all new developments shall be required to comply with the standards set out in the Greater Dublin Strategic Drainage Study (GDSDS).	+	+	+	++	+	0	0	0	0	0	0	+	0	0	0
SI11 : T(SI10)o achieve best practise and innovations in SUDs design as part of the Planning Scheme including the successful co-ordination of surface water management with ecology and amenity functions of open space and landscaped areas. ***All planning applications shall be accompanied by a surface water drainage plan which will include proposals for the management of surface water within sites, protecting the water quality of the existing water bodies and groundwater sources, and retrofitting best practice SUDS techniques on existing sites, where possible***	+	+	+	+	+	0	0	0	0	0	0	++	0	+	0
SI12: To require the use of ducting for information communication technology within individual new residential and commercial developments.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (e) Sustainable Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
SI13: To facilitate the development of accessible WiFi zones within the 5 hubs of the Planning Scheme area. .	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI14: To maintain good air quality in the plan area in accordance with National and EU policy directives on air quality and where appropriate promote compliance with established targets	**+**	**0**	**0**	**0**	**0**	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI15: To minimise the adverse impacts on noise and promote good health and a good quality of life for the existing and future residents of the plan area, through the effective management of noise in line with the Dublin Agglomerations Noise Action Plan.	**+**	**0**	**0**	**0**	**0**	**0**	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SI16: That all proposed developments be district heating enabled in order to provide an environmentally sustainable source of heating & cooling.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**++**	**0**	**0**	**0**	**0**	**0**	**0**
SI17: To accurately meter the imported gas and electricity to the Dublin Docklands SDZ in order to facilitate the move to a Smart City.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**++**	**0**	**0**	**0**	**0**	**0**	**0**
SI18: (SI17)That all undeveloped sites be remediated to internationally accepted standards prior to redevelopment. All applications shall be accompanied by a report from a qualified, expert consultant detailing compliance with the remediation measures as outlined in the Remediation Measures Report. The remediation shall incorporate international best practice and expertise on innovative ecological restoration techniques including specialist planting and green initiatives that create aesthetically improved sites, healthy environments and contribute to the provision of new green open spaces as integral parts of newly created areas. ***Soil Remediation measures shall require a licence from the EPA under the Waste Management Act 1996***	**+**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**++**	**0**
SI19: That all developments will comply with the waste policy as set out in the Dublin City Development Plan 2011-2017.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**	**0**
SI20 To ensure that surface water quality is protected in the construction of enhanced drainage works to meet requirements of the Water Framework Directive.	**+**	**+**	**++**	**0**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (e) Sustainable Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
SI21 To ensure the protection of surface and ground water quality in the plan area and surrounding areas, and the protection of protected habitats and species including designated national and international conservation sites in implementing the plan.	**+**	**+**	**++**	**0**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**
SI22 To require the preparation of a soil remediation plan for each city block or adjacent blocks, including associated streets, prior to the commencement of any development within the city block(s), to ensure an integrated approach to soil decontamination is taken (see also paragraph 6.1.2 , providing co-ordinated delivery, requirements for each city block)	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (f) Built Heritage	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
BH1: To ensure that the architectural and historic significance of the docklands area is protected, conserved and enhanced, ***to include areas of significant streetscape and urban landscape***	+	0	0	0	0	0	0	0	0	0	0	0	++	0	+
BH2: To ensure that redundant dock water-spaces are managed and re-used in a way that respects their significance and utilises their potential.	+	0	0	0	0	0	0	0	0	0	0	0	++	0	+
BH3: To ensure that new development respects the significance of the site and is appropriate to its historic, spatial context.	+	0	0	0	0	0	0	0	0	0	0	0	++	0	+
BH4: To conserve the character and physical integrity of the Grand Canal Dock and its sea locks, the graving docks, historic marine artefacts, street furniture, views and vistas to preserve its identity.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
BH5: To ensure the provision of high quality public realm works that embody the maritime and industrial heritage character of the area.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
BH6: To actively promote the conservation and adaptive re-use of protected structures and heritage buildings to produce high levels of sustainability.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
BH7: To interpret and promote the archaeological resource of the area to the local community and visitors.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (f) Built Heritage	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
BH8: To minimise interference in original maritime and river, and transport heritage, thereby protecting quays, canal walls, docks, graving docks industrial fabric and allowing space around these features for amenity purposes	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
BH9: To retain historic paving and street furniture, maritime features such as mooring rings and the mid 18th century street grid pattern of North Lotts.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
BH10: To retain and promote Industrial Heritage of the area by keeping rail, canal, military and maritime fabric) plant and structures in situ and adapt for reuse.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
BH11: To ensure that In circumstances not provided for in the above objectives, all proposals comply with the policies and objectives set out in the Built Heritage section of the Dublin City Development Plan.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
BH12 ***To explore the potential of exhibition or cultural heritage facilities in conjunction with national cultural institutes and key stakeholders to celebrate the unique maritime and industrial heritage of the Docklands Area.***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (g) Culture	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
CR1: To develop an inclusive strategy for culture in the wider Docklands Area **based on the findings of the cultural audit** undertaken through engagement with cultural, community and corporate stakeholders in the area **as set out in the audit report 'The Docking Station'**	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR2: To explore the synergies between the professional, community, statutory and corporate sectors to further develop Docklands as a cultural quarter with world class arts, entertainment, festivals and events.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR3: To ensure that the cultural strategy reflects social regeneration objectives by engaging with neighbourhoods and community and ensuring community access to resources or facilities as key to cultural development in Docklands.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR4 CR3A) To support the development of a vibrant youth arts scene in the SDZ and wider Docklands Area.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR5 To explore the potential for further cultural collaborations and twinning opportunities With other areas of the city ***and other dockland communities outside Dublin***.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR6 :To further develop and support sustainable relationships with established docklands-based organisations	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR7: ***To develop the docklands cultural tourism itinerary by expanding the range of high profile events such as commemoration of historical events, musical or circus showcases, water-based activities and family friendly daytime events and to promote low cost or free public events***	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR8:To support the production of artistic work by encouraging the optimum use of existing event infrastructure, civic spaces as event spaces, the use of vacant space for artists and / or a shared creative space for community groups and the provision of new infrastructure for the performing arts, where feasible	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (g) Culture	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
CR9: *To explore a variety of mechanisms to support a structured form of engagement with professional artists living and working in the wider docklands area nurturing a community of artists as part of the creativity of Docklands*	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CR10: To promote and showcase the development of new and existing community art forms including urban art, community theatre, writing and music workshops with consideration to the potential for an Annual Docklands Arts & Culture Day.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (h) Retail	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
RT1: To foster a rich mix of retail, cultural and leisure activities to support a vibrant urban quarter.	**++**	_	**0**	**0**	_	**0**	**0**	**0**	**0**	**+**	**+**	**0**	**0**	**0**	**+**
RT2: To provide for sufficient retail facilities to cater for the demands of the population working, living and visiting the SDZ and wider Docklands Area	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**+**	**0**	**0**	**0**
RT3: To support the emergence of niche retail sectors that creates a synergy with the creative and cultural activities in Docklands	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RT4: To proactively encourage the implementation of the district centre at Point Village, to include a concentration of retail, entertainment, leisure and community facilities, as well as quality and affordable supermarket shopping	**+**	**0**	**0**	**0**	_	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RT5: To cluster retail frontages in each of the five hubs along key pedestrian routes, civic spaces and in the vicinity of protected structures and to explore the potential for retail as a mechanism to support a distinct identity and character to each of the hubs **(See Figure 22)**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (h) Retail	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
RT6: T**o** enliven the campshires and waterbodies with an appropriate level of publically accessible active frontages, including retail, cultural and amenity uses.(**See Figure 22)**	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RT7: To ensure an appropriate level of active ground floor uses on all other main streets, to make a positive contribution to the street level activity.**(See figure 22)**	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RT8: To implement the strategy for active frontages as shown on Figure 22.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RTO9: To seek appropriate temporary uses as an interim solution for vacant buildings with particular support for economic and enterprise activities, cultural and creative uses, collaborative space and publicly accessible uses such as community cafés, local markets and art installations	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RT10: To support a rich mix of complementary uses, particularly in vacant spaces, to actively support new development in the area.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (i) Tourism and Leisure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
TL1 To promote the water bodies as part of Docklands' identity and ensure water based leisure, business, tourist and sporting activities are encouraged and supported ***in a sustainable manner.***	+	-	-	0	0	0	0	0	0	0	0	0	+	0	0
TL2 To promote the SDZ area as a destination for cultural tourism and encourage the use of Grand and Royal canals for leisure and recreational purposes.	+	_	_	0	0	0	0	0	0	0	0	0	0	0	+
TL3 Promote and support the National Convention Centre Dublin and encourage the location of business tourist support services in the vicinity of the Centre at Spencer Dock.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TL4 To investigate the opportunities to extend existing tourism offering and explore the development of new tourist attractions which will encourage larger numbers of tourists visiting the area such as a maritime quarter.	+	_	0	0	0	0	0	0	0	0	0	0	+	0	+
TL5 To facilitate the cruise traffic coming into Dublin and encourage the timing of planned events and festivals to coincide with cruise ship calls at Dublin Port.	+	_	0	0	0	0	0	0	0	0	0	0	+	0	+
TL6 To support retention of existing leisure and sports activities in the area and encourage new facilities for the docklands community and visitors to the area. ***and that they meet the needs of all members of the existing and future communities***.	++	0 _	0	0	0	0	0	0	0	0	0	0	0	0	0
TL7 To encourage community involvement and local integration in recreation and entertainment opportunities ,including events and festivals, using indoor and outdoor venues.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
TL8 To maintain programmes of cultural events in the SDZ Area and include new events such as a Viking Festival.	+	0 _	0	0	0	0	0	0	0	0	0	0	0	0	+
TL9 To promote the recreational use of the water including the rowing paddling and boating club activities in the area and to seek to ensure that any new infrastructure is provided in a manner which safeguards and protects these recreational resources	+	-	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (j) Urban Structure & Design, Density, Height	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
US1 To ensure that urban structure employs an orthogonal layout, consolidating and refining the legacy of the historic city grid. ***whilst allowing for variety as per 5.4.3***	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**
US2 To define a number of Hub areas[5] in order to create focus and centres of gravity in the spatial structure, incorporate a unique public square, and facilitate the clustering of economic sectors and social and cultural activities.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**	**0**	**0**	**0**	**0**	**0**
US3. To ensure that the open, civic, and formal character of the Campshires, incorporating generous proportions and scale, shall continue to define the relationship of new development to the waterbodies of the river and canals.	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
US4 To ensure the 'City Block' represents the appropriate scale at which to resolve mixed use ratios, configure development plots, achieve permeability and fix critical aspects of building line, density and height and new public space. ***(or adjacent City Blocks by Agreement as per Para 6.1.2).***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
US5 To ensure that Mayor St is developed as an internal street spine of the North Lotts incorporating the theme of 'live-work'.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
US6 To ensure that Sheriff St develops a dynamic role to connect and relate the SDZ to the communities and brownfield lands to the north, and that a public realm strategy is designed to assist this.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
US7 To ensure that new north-south and east west streets are developed to give the urban grid a finer grain, exploit light gain and connect with the river and waterbodies.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**+**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (j) Urban Structure & Design, Density, Height	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
US8: To ensure that the public realm as a whole is legible, cohesive, of high quality, and operates as a connected network. It must be seen as a crucial infrastructure, underpinning economic, social and environmental sustainability.	+	+	0	0	0	0	0	+	0	0	0	0	0	0	0
US9: To ensure that the extensive footprint of waterbodies function as a valuable part of the public realm, and that a water animation strategy is prepared to drive this.	+	+ –	0	0	0	0	0	0	0	+	0	0	+	0	0
US10: To ensure that principles of Green Infrastructure inform the design of the public realm.	+	+	+	+	0		0	+	0	0	0	0	+	+	+
US11:To ensure that the public realm network of the SDZ interfaces effectively with the strategic public realm network of the inner city.	+	+	0	0	0	0	0	+	0	0	0	0	0	0	0
US12: To promote and achieve sustainable higher densities throughout the SDZ area, with an emphasis on higher commercial densities within the identified hubs	+	0	0	0	– +	0	0	+	+	+	0	0	0	0	0
US13: To achieve higher densities, not as a stand-alone objective, but in conjunction with other safeguarding criteria, such as indicative plot ratio, together with other criteria in the City Development Plan, e.g. daylight, open space, amenity space, privacy areas and play space in order to achieve a high quality living and working environment.	+	+	0	0	0	0	0	0	0	+	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (j) Urban Structure & Design, Density, Height	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
US14: To promote a variety of residential, duplex and apartment types which will create distinctive neighbourhoods, coherent streets and open spaces, and promote whole life-cycle living.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
US15: To seek that the design of building footprints, heights and layouts allow for maximum daylight penetration to buildings, minimise overshadowing of each other, existing neighbouring buildings and civic spaces, as well as allowing for existing wind conditions to be ameliorated.	**++**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**
US16 Applications for medium and high rise buildings shall be accompanied by a design statement as part of the Assessment criteria for high buildings as set out in section 17.6.3 of the Dublin City Development Plan 2011-2017. (See also Appendix 5 – Assessment Criteria for High Buildings)	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**+**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (k) Green Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
GI1: To develop a hierarchy of inter-connected open spaces, recreation areas and green landscaped areas, via walking and cycling priority routes, through the SDZ area as green routes	+	++	+	+	0	+	0	+	0	++	0	+	+	0	0
GI2 : To promote connections between existing amenity areas in the SDZ, proposed amenity areas and the wider strategic green network of the docklands, Dublin bay and the city including connections to the S2S route and the proposed Dodder Greenway.	+	++ –	+	+	0	+	0	+	0	++	0	0	+	0	0
GI3: To require within public open spaces a wide range of facilitates to provide for both active and passive recreation for various disciplines, age groups and abilities**.**	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0
GI4: To increase the provision of green landscaping including tree planting on streets within the SDZ area and to improve amenity, increase opportunities for wildlife and contribute to improvements in air and water quality and water attenuation.	+	++	+	+	0	++	0	++	0	0	0	0	0	0	0
GI5: To create visual and environmental improvements on vacant/brownfield not likely to be completed for development or infrastructure projects over the medium and long term. Such initiatives as the removal of unsightly hoardings, temporary uses and recreational opportunities will be promoted where appropriate.	+	+	+	0	0	0	0	0	0	0	0	0	0	+	0
GI6 To require a clear delineation between public space, private space and communal space within the SDZ area.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GI7: The size and animation of open spaces shall be related to the height of the adjoining buildings, in order to achieve satisfactory levels of sunlight and daylight.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (k) Green Infrastructure	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
GI8: To pilot and test new green infrastructure installations in the public realm to boost biodiversity and improve surface water management on a number of streets within the SDZ area, including the use of permeable materials for surfaces, planted roofs, and provision of storm water tree trenches.	+	++	+	++	0	0	0	+	0	0	0	++	0	0	0
GI9: To support the development of soft landscaping in public open spaces, where feasible in accordance with the principles of Sustainable Urban Drainage Systems.	+	+	+	++	0	0	0	+	0	0	0	++	0	0	0
GI10: Prior to the redevelopment and operation of any sites, developer(s) shall ascertain the extent, if any, of invasive species, and shall set out measures for their control/removal.	0	+	0	0	0	0	0	0	0	0	0	0	0	+	0
GI11: To enhance the bio diversity value of the local area by protecting habitats, in particular along water bodies, and creating opportunities for new habitats through appropriate native species landscaping schemes to integrate the natural environment with high quality urban development	+	++	+	+	0	0	0	+	0	0	0	0	+	0	0
GI12: Any plan or project with the potential to give rise to significant direct, indirect or secondary impacts on a Natura 2000 site(s) shall be subject to an appropriate assessment in accordance with Article (3) of the Habitats Directive.	0	++	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (L) Public Realm	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
PR1: To integrate the public realm, streets and routes with the surrounding city.	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0
PR2: To promote water based recreation and events.	+	-	0	0	0	0	0	0	0	0	0	0	0	0	0
PR3: To facilitate and retain pedestrian access to waterbody frontages.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PR4: To promote maritime character with streets ,especially north-south streets leading to the waterbodies.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
PR5: To take in charge the public realm.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PR6: To promote and investigate a design brief for the public realm, based on DCC's public realm strategy, with a particular emphasis on enhancing the character of the main east-west streets, Mayor St, Sheriff St, the Campshires, Misery Hill and Ringsend Road.	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PR7: To ensure that the existing and proposed public open spaces / civic spaces form a coherent part of the public realm with at least one 'viewpoint' within the urban block through public spaces.	+	0	0	0	0	0	0	0	0	0	0	0	+	0	+
PR8: All bridges to be capable of 'opening' to facilitate sailing ships.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PR9: To seek the development of attractive uses on the waterways as set out in the Vision for the Waterways, Waterways Regeneration Strategy, 2008 , ***and the City Canals Plan 2010; review the membership of the Operational Liaison Group to include Dublin Port Authority and the OPW as appropriate; and that its remit be expanded to include the lower reaches of the Dodder and Liffey Rivers.***	+	+ –	0	0	0	0	0	0	0	0	0	0	0	0	0

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (L) Public Realm	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
PR10: To support the development of flexible and moveable publicly accessible leisure facilities on the water space and the campshires to facilitate changes in demand.	**+**	**0** –	**0** –	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PR11: To facilitate boat movement between the two canals as the canals are regenerated for leisure and tourism purposes	**+**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PR12: To support the provision of a suitable terminal for cruise liners and other passenger vessels with Dublin Port.	**+**	**-**	**0**	**0**	**0**	**-**	**-**	**-**	**+**	**0**	**0**	**0**	**0**	**0**	**0**
PR13: To encourage the provision of additional public and private moorings and associated facilities for boats of various sizes according to future requirements	**+**	**0** –	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 (m) Landuse & Mix	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
LU1: To provide land use mix ratio of 50 Residential/50 Commercial up to 30–**Residential** /70 **Commercial** in the commercial hubs and up to 70 **Residential** /30 **Commercial** in more residential neighbourhoods.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**	**0**	**0**
LU2: The land use mix requirement does not apply on sites under 0.2ha, although a ground floor active use may be required as per objective LU3.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LU3: Active and Commercial ground floor uses to be provided in the hubs and streets indicated on Figure ***22***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LU4 (LU5):Social and Affordable housing in accordance with the Councils housing strategy to be provided in all residential schemes. ***(See Appendix 3 of the City Development Plan 2011-2017)***	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LU5:To encourage “own front doors” in the SDZ, as part of the active neighbourhood objective.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LU6: To promote a variety of commercial uses, including hotels and start up units throughout the area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

North Lotts Grand Canal Dock Planning Scheme Chapter 4 Sustainable Building Quality & Design.	**PH1**	**BFF1**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF1**	**CF2**	**MA1**	**MA2**	**MA3**	**LS1**	**LS2**	**CH1**
SD1 To achieve quality building design in accordance with the criteria set out in paragraph 4.14.2.B	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**

Chapter 5 Block Details	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 1 – Key Points Existing Context: Block is largely built out City Block STUV has been built, circa 616 units approx, mainly 9 storeys and 7 commercial Specific objectives include: to improve interface with Sheriff St. Uses: Residential/ground floor retail. Existing east-west pedestrian street. Existing Royal Canal green route to west of Site. Served by LUAS. **All planning applications within the zone of influence of the proposed Dart Underground, as identified in Appendix 7 shall demonstrate to Iarnród Éireann how the proposal relates to the DART Underground. No development shall compromise the integrity of, or adversely impact on the DART Underground Line.**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**++**	**+**	**0**	**0**	**0**	**0**
Chapter 5 Block Details – City Block 2	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 2 – Key Points Block 2 & 7 form part of Spencer Dock Hub. **Context**: Largely undeveloped with a small terrace of 2 storey houses on Mayor St. frontage. New Pumping Station to serve SDZ – (currently being commissioned) Section 25 Certs. Granted in past for 191 social housing units , and residential blocks on 2B Use Mix :: Residential: Commercial 40 Res/60 Com over city block with 30/70 Res/Com on Block 2C fronting Station Square **Urban Form/Heights**: Block 2C to be 12 storey (max) commercial (min 10 storey) fronting Station Square, to achieve balance between hub quantum and view lines from Georgian mile. Landscaped plaza south of block.	**++**	**+**	**+**	**+**	**+**	**+**	– **0**	**+**	**+**	**++**	**+**	**++**	**0**	**+**	**0**

Remaining blocks to be range between **5 storey commercial/6 storey commercial and 6 storey commercial/7 storey residential**, stepping down to 3 residential immediately north and west of the Mayor Street terrace. Urban blocks to front Sheriff Street to remake and contain the street. The 7 storey residential frontage to New Wapping Street responds to the 2/3 storey terrace opposite, more favourably than the 9 storey scheme previously certified. Any temporary pavilion buildings to be up to a maximum of 4 storeys **Public Realm:** East-west street linking existing pedestrian street in STUV block to New Wapping Street approx. midway along block. North-south street midway along block linking Sheriff Street with Mayor Street and Station Square. A landscaped plaza fronting Block 2C to provide for attractive space adjacent the Luas stop. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3. **Infrastructure:** Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. Foul drainage: South of Site to drain to new 525mm pipeline and onto the Spencer Dock Pumping Station. North of Site to drain to proposed 1,200mm pipeline (currently at Tender Stage) and onto the Spencer Dock Pumping Station. Surface water drainage: Storm Water infrastructure to be put in place which will drain northwards to East Wall Storm Pumping Station. The hatched line as indicated in city block 2A & 2C, shall be retained as a reservation strip for the future provision of the DART Underground Station. No permanent structures shall be built over this until the position of the DART Underground Station has been confirmed. In the interim period temporary uses and/or pavilion structures will be considered. **(Refer to Appendix 7 for Reservation Strip and Zone of Influence).**														

Chapter 5 Block Details – City Block 3 (See Map Enclosed for Detail)	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 3 – Key Points **<u>Existing Context</u>** Largely undeveloped city block apart from a modern apartment scheme on corner of Sheriff Street **Upper** and Castleforbes **Road** (North Bank Apartments) and 2 residential terraces fronting New Wapping Street and Mayor Street **Upper** at the southwest corner (Block 2C). Northbank Scheme developed, but open space and fire tender access remain outstanding. Current proposals provide for fire tender access street south of block to Castleforbes **Road** and rectangular replacement open space on rectangle of land west of block in former ownership of DDDA. 30,000m2 commercial scheme, 7 storeys, granted certificate on Block 3F, with 31m wide public space provided for to west side. **<u>Specific Objectives</u>** **1. Use Mix** 70% residential and 30% commercial use mix over this City Block; with residential emphasis on Block 3D adjacent residential terraces and commercial more dominant on Castleforbes **Road**/Mayor Street **Upper**	**++**	**+**	**+**	**+**	**+**	**+**	– **0**	**+**	**+**	**++**	**+**	**++**	**0**	**+**	**+**

frontage (3F). Active frontages to be concentrated on Castleforbes **Road**, Mayor Street **Upper** and intermittently along the new Green Route. **<u>Urban Form/Height Range</u>** Up to 7 residential/6 commercial provides strong perimeter to city block. 5 storey **commercial/6 storey** residential on block 3D to provide transition with existing 2 storey terraces, **stepping down to 3 storey residential immediately east of the terrace on Mayor Street Upper and to the rear of the northern end of the terrace on New Wapping Street**. **<u>Public Realm</u>** 2 new north-south streets provided, due to large size of this city block. A civic space is to be provided between Blocks B & E. This space shall incorporate SUDs features (see para 4.5.4.3.3) One new east-west route from New Wapping to Castleforbes Road to be provided. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3. **<u>Infrastructure</u>** The green route to incorporate active/passive recreation, cycle route, SUDS and biodiversity features, tree-planting. Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. Foul drainage: South of Site to drain to new 525mm pipeline and onto the Spencer Dock Pumping Station. North of Site to drain to proposed 1,200mm pipeline (currently at Tender Stage) and onto the Spencer Dock Pumping Station. Surface water drainage: Drain eastwards to 930 x 970 storm water pipeline via proposed infrastructure on proposed new roadways.															

Chapter 5 Block Details – City Block 4	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 4 – Key Points **Existing Context** Castleforbes Square and the Liffey Trust Centre have been developed. There is a terrace of 5 vacant units remaining on Mayor Street. Overall the city block has **a use mix ratio of 75 residential/25 commercial**, and a height range between 6 and 8 storeys. There are a number of ground floor active units (some vacant) along east side of block fronting a proposed street which has yet to be developed. Residential apartments successful; occupied largely by private rental (key workers etc.). **Specific Objectives** **Use Mix & Height :R**edevelop derelict 2 storeys with a residential/office development up to a maximum height of 6 storeys commercial.. Opportunity for pilot scheme of fine grain in-fill residential development, as per the e.g. "Dublin House Initiative" (www.dublincity.ie). **Public Realm** Create new street / lane at interface with Block 5 to east providing link from Sheriff Street to Point Square Luas line.Upgrade Sheriff Street as part of Public Realm Strategy. **Infrastructure** Foul drainage: South of Site to drain to proposed 600mm pipeline alonCastleforbes **Road** (currently at Tender Stage). North of Site to drain to proposed 1,200mm pipeline on Sherriff Street (currently at Tender Stage).Surface water drainage: Drain westwards to 930 x 970 storm water pipeline via proposed infrastructure on proposed new roadways.	**++**	**+**	**0**	**0**	**0**	**0**	**–** **0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

Chapter 5 Block Details – City Block 5	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 5 – Key Points **<u>Existing Context</u>** City block fronting Point Square has been 60% developed for hotel, cinema and district retail (20,000m^2 remains vacant) purposes. 40% remains to be developed. Covered by Cert DD584, providing for 40/60 residential/commercial, up to 8 storeys with active uses along curved street. Layout also provides for a new east-west street, as a continuation of Castleforbes Square. A new north-south street is shown outside the boundary. Basement car park access is from Sheriff Street. **<u>Specific Objectives</u>** **1. Use Mix** **30% residential: 70% commercial with emphasis on commercial fronting the civic space due to planning constraints associated with existing commercial uses.** Emphasis on ground floor active uses to animate Point Square **2. Urban Form/Height** **Block 5A to be 6 storey commercial / 7 storeys residential fronting Sheriff Street. Block 5C to be 6 commercial/7 residential, with 6 commercial only fronting Point Square, stepping down to 5 storey commercial: 6 storey residential on remainder of Block 5C.** **3. Public Realm** 2 new north-south streets to be provided linking Sheriff Street to Point Square/Luas Terminus. Responsibility for developing new street/lane between City Block 4 and City Block 5 to be shared between the landowners. New east-west route as an extension of Castleforbes Square to be provided. Building fronting Point Square to contribute to quality of Square by design and ground floor active uses. Sheriff Street frontage to be designed to contribute to this important street. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4. Infrastructure** Each site to complete access and attendant public realm/streets/part of Point Square prior to occupation. Basement car parking access to be concentrated on non-active streets (and not from Sheriff Street or Point Square).	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**++**	**+**	**+**	**0**	**+**	**0**

Drainage/water infrastructure to be installed with access installation															

Chapter 5 Block Details City Block 6	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 6 – key Points **<u>Existing Context</u>** Large city block adjacent Samuel Beckett Bridge, occupied by Conference Centre Dublin (CCD) and 7/8 storey office buildings. The Royal Canal Park adjoins the block to west and Luas line to the north. Block is largely built out apart from site to north of Conference Centre, generally used as an open space with occasional markets. A Section 25 Certificate (DD374) relates to a 13 storey hotel at the northern end of the CCD. **<u>Specific Objectives</u>** **1. <u>Use Mix</u>** Block is 100% commercial, as part of Spencer Dock Hub. Site north of CCD should be developed for any permutation of uses, in order to create a new elevation to the existing blank north wall **<u>Urban Form/Height</u>** 6 storey commercial / 7 residential, with potential for a local landmark to a maximum of 10 storeys commercial at the north western corner of the block / north of the CCD, having regard to the criteria set out in Section 5.4.5 **<u>3. Public Realm</u>** New frontage on north side of CCD with entrance onto Mayor Street and linear park.	**++**	**+**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

Chapter 5 Block Details – City Block 7	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 7 **Existing Context** This largely vacant site contains 3 significant protected structures; (the former London and North Western Hotel, the North Wall Road Station and the Woolstore). The North West corner of the site (7A) is laid out as a grassed area, as per the Docklands Planning Scheme. Western half of the site (7A & C) forms part of the Dart Underground reservation. **b. Specific Objectives** **1. Use mix** 30/70 Residential/Office, reflecting the strategic objective to create an Economic Hub based on Dart Underground/Luas interchange. A variety of commercial uses, with an emphasis on ground floor active uses should be provided for the Protected Structures, and to enliven the public spaces adjacent these buildings. Ground floor active uses should also be promoted fronting Station Square. 6 Storey commercial**/ 7 storey residential** in blocks 7C and D to provide balanced context for the Protected Structures and central Station Square. 7 Storey commercial to block 7B fronting Station Square, reducing to 6 storeys commercial (7 residential) to east, having regard to balance between economic hub and residential amenity for terrace north of Mayor St. Any temporary pavilion buildings to be up to a maximum of 4 storeys **6 storey commercial/7 storey residential in Block 7D raising to 8 storey commercial** to North Wall Quay with appropriate transition to the Protected Structure, the former London and North Western Hotel. **3. Public Realm** Major element is a c. 60m x 55m civic and events space in north-west quadrant. Interim design needed, until Dart Underground "cut and fill" is completed. City block and civic space served by 2 new streets, one north-south and the other east-west, to form part of a secondary network with adjacent city blocks. Also provides links to new pedestrian bridge across to Forbes St. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3	++	+	+	+	+	+	+ –	+	+	++	+	+	+	+	+

4. Infrastructure Each site to complete access and attendant Public Realm prior to occupation. Drainage/water infrastructure to be installed with access installation. Interim uses / temporary / pavilion structures to be promoted on Wool Store quadrant (7c) until Dart is installed. Foul drainage: Site to drain via proposed infrastructure following proposed roads to 525mm pipeline and onto Spencer Dock pumping station. Surface water drainage: Storm Water Infrastructure to be put in place to drain southwards to the Liffey. The hatched line **as indicated in City Block 7A and 7C** (wool store quadrant), shall be retained as a reservation strip for the future provision of the DART Underground Station. No permanent structures shall be built over this until the position of the DART Underground Station has been confirmed. In the interim period temporary uses and/or pavilion structures will be considered Any future over site development must incorporate the smoke ventilation and air intake provisions into their design, and that temporary buildings should not pose a risk to the delivery of the station. All applications for buildings within the zone of influence will demonstrate to Iarnród Éireann in their planning application how the proposal relates to the DART Underground **line.** **(Refer to Appendix 7 for Reservation Strip and Zone of Influence**															

Chapter 5 Block Details – City Block 8	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context Largely undeveloped city block apart from the 8 storey skeleton of the former Anglo Irish Bank building at the south west corner, and 3 protected structures on Quays – Nos. 73, 81 and 82 North Wall Quay. The Anglo building (28,000m2) has a recent permission for conversion to the Central Bank HQ (2948/12). Section 25 Certificates have been issued for 2 office buildings to the east – Building 2 (12,000m2) and Building 2 (11,000m2) under ref DD554 and 3182/09 and DD553 respectively. Section 25 Certificate (DD 188) issued for an 8 storey office/residential block adjacent to the Protected Structures. No planning history pertaining to the northern half of Block 8. b. Specific Objectives **1. Use Mix** **30% residential:70% commercial use over the whole city block** Active uses to be concentrated on North Wall Quay, Mayor Street and Green Route. **2. Urban Form/Height** 8 storeys commercial /10 storey residential onto North Wall Quay with a context design solution adjacent to the protected structures, **reducing to 6 storey commercial/7 storey residential over block perimeter**. Blocks 8 A & B to be 6 storeys commercial / 7 storeys residential, having regard to the Mayor Street frontage. **3. Public Realm** Two new secondary streets introduced; an East West street linking New Wapping Street to Castleforbes Road and a north-south street linking Sheriff Street to the Quays. A third route is desirable, leading from Sheriff Street to the Quays along east side of proposed Central Bank. To enliven the quays and provide for variety in the streetscape, each urban block within the city block should contain at least two buildings of different architectural design. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4. Infrastructure** Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with	+	+	+	+	+	+	+ –	+	+	++	+	+	+	+	+

access installation. No basement car parking access from North Wall Quay. Foul drainage: Site to drain eastwards via new pipelines long proposed roads to 600mm diameter pipeline along Castleforbes Road (this pipeline is at Tender Stage). Surface water drainage: Drain eastwards to 930 x 970 storm water pipeline via proposed infrastructure on proposed new roadways.															

Chapter 5 Block Details – City Block 9	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1

Existing Context Largely undeveloped block in close proximity to Luas Terminus & Point Square. Section 25 Certificates granted for circa 60% of city block which provide for staggered internal streets and a public open space with heights ranging from 5 storey residential internal to the block and 6-8 storey commercial (DD280, DD290 & DD638). **b. Specific Objectives** **1. Use Mix** For City Block 9, it is an objective to secure the 50:50 residential: commercial use mix. Ground floor active uses onto Mayor Street and North Wall Quay with a particular emphasis on quality active uses including retail, cultural and amenity uses in the vicinity of the proposed bridge crossing between Castleforbes Road and Sir John Rogerson's Quay. **2. Urban Form/Height (see map)** Building heights to range from 5 storey commercial (6 storey residential) to 8 storey commercial (10 storey residential) to allow for residential amenity and appropriate transition in scale, as well as sufficient enclosure onto main streets, and appropriate scale fronting Quays. **3. Public Realm** New central civic space with SUDs features (See para 4.5.4.3.3) New north-south and east-west connections within block. New north-south street between city blocks 9 &10. View lines through city block to include central civic space. To enliven the quays and provide for variety in the streetscape, each urban block within the city block should contain at least two buildings of different architectural design. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **Infrastructure** Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access Foul drainage: Block to drain westwards via new pipelines along proposed road network to 600mm diameter pipeline along Castleforbes Road (this pipeline is at tender stage). Surface water drainage: Block to drain westwards to 930x970mm storm water pipeline	+	+	+	+	+	+	+ –	+	+	++	+	+	+	+	+

via proposed new road															

Chapter 5 Block Details - City Block 10	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context This block is substantially built out with the O2 venue, with a building height equivalent to 7 storeys commercial. Section 25 Certificate and Planning Permission granted for a commercial/office building to the west of the O2, 7 storeys with ground floor retail use onto Point Square (DD471 & 3484/07), with a five year extension of permission granted in January 2013. Section 25 Certificate granted for a mixed-use commercial/retail building to the east of the O2, 5 storeys plus set-back with café, restaurant, retail uses at ground floor level known as the 'Spine Building' (DD566). Section 25 Certificate granted for a 39 storey primarily residential building with circa 160 units, known as the 'Watch Tower', located to the north of this block at the eastern edge of Point Square, terminating the visa from Mayor Street (DD430). **Specific Objectives** **1. Use Mix** **100% commercial/cultural uses in City Block 10.** Ground floor active uses onto Mayor Street and North Wall Quay, with a particular emphasis on quality active uses including retail, cultural and amenity uses. **2. Urban Form/Height** 6 storeys commercial to the west of O2, to contain Point Square and the new street, with 8 storey commercial fronting North Wall Quay, having regard to the established height and visual context of the O2 as a Protected Structure. A free-standing landmark building up to 22 storeys commercial would be appropriate to the east side of the O2 to signify the juncture between the port and the city. The building with commercial / cultural uses should complement the eastern elevation of the O2. The building may project northwards at the eastern end of the square provided any potential extension of the Luas Line eastwards is not restricted. The eastern end of Point Square to be retained open, to allow for Luas extension to Alexandra Basin area in future. **3Public Realm** New plaza to the north of Luas terminus/Point Square.	**+** **-**	**0**	**+**	**+**	**+**	**+**	**+** _	**+**	**+**	**++**	**+**	**0**	**+**	**+**	**+**

New north-south street to be provided between city blocks 9 & 10. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4.Infrastructure** Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. To maintain an appropriate level of access and exit arrangements in the vicinity of the O2															

Chapter 5 Block Details – City Block 11	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context The majority of this block has been redeveloped including developments such as the Maldron Hotel, Telefoncia Ireland and the offices of the ESRI. The An Post Delivery Office is situated in the south eastern section of the block. The block contains a number of protected structures fronting onto Sir John Rogerson's Quay (B&I Steam Packet Company Office, Tropical fruit Company warehouses, The Ferryman). A Section 25 Certificate was granted (DD150) but has not commenced for a mixed use development of offices, residential and retail on a corner site having some frontage on Sir John Rogerson's Quay but the greater frontage on Lime Street. Overall height of office element proposed is 6 storeys. View corridor from Misery Hill, to Grand Canal Dock, as originally set out in Docklands Planning Scheme, has not been achieved. **b. <u>Specific Objectives</u>** **1. Use Mix** 50 residential/50 commercial, to provide appropriate interface between existing commercial and residential around Pearse Square. **Existing use mix is circa 30:70 residential: commercial.** Commercial uses should predominate adjacent to the Bord Gais Energy theatre to act as a noise buffer **2. Urban Form/Height** Existing Protected Structures to be retained. New buildings fronting the northern side of the realigned (East-West) Misery Hill to be 5 storey commercial /6 storey residential**;** similar scale on Lime Street. 11C to be 5 storey. **New buildings along Sir John Rogerson's Quay (11A) may be up to 8 storeys commercial / 10 storeys residential subject to design criteria to safeguard the character of the adjoining protected structure.** Opportunity to remake North-East corner of Pearse Square with 2/3 storey town houses, rising to 4 storey residential on Cardiff Lane. Cardiff Lane, north of realigned Misery Hill to be 6 storey commercial. (Note: This is outside the	**+**	**0**	**+**	**+**	**+**	**+**	**+** **-**	**+**	**+**	**+**	**+**	**+**	**0**	**+**	**+**

SDZ Area) The proposed east-west street provides an opportunity for frontage development compatible in scale to Martin Terrace (which is proposed for retention), and provides an opportunity to mitigate the effects of traffic in the area on local residents and improve the pedestrian and cycling permeability of the area. **In this regard, environmental improvement measures in the immediate vicinity of Martin's Terrace, which shall be implemented after consultation with the local community, will be undertaken as part of any road realignment.** **3. Public Realm** An important city block at interface between Hanover Street and Grand Canal Quay/Hanover Quay. Misery Hill to be re-aligned East-West to create a strong visual and public transport link between these 2 parts of the south city. • Urban Blocks 11A and 11C to form west side of enhanced North-South pedestrian route. Further North-South pedestrian route from Sir John Rogerson's Quay to new Misery Hill should be provided, with small civic space (Whittaker Square) and junction with East-West route adjacent to the ESRI building. **4 Infrastructure** Each site to complete access and attendant Public Realm prior to occupation. Drainage/water infrastructure to be installed as part of access installation. Foul drainage: Site to drain to 940 x 1370 pipeline running through the site. Surface water drainage: Storm Water Infrastructure to be put in place to drain northwards towards the Liffey.														

Chapter 5 Block Details – City Block 12	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 12 – Key Points **Existing Context** This block has been built-out in its entirety. It is predominantly 7-8 storeys in height and delivers a successful use mix including residential, commercial, a deluxe hotel and active ground floor uses. High profile commercial office buildings occupy river frontage, whilst the hotel provides animation and vibrancy onto Grand Canal Plaza, as well as being a complimentary use to the Bord Gáis Energy Theatre. **Existing use mix is circa 50:50 residential: commercial.** A number of ground floor retail units, as part of the hotel development, have been provided along Forbes Street. These present an opportunity to animate the street leading into the major civic space of Grand Canal Plaza, particularly as the hotel comes into operation. Chimney Park, a children's playground which incorporates an historic red-brick chimney and innovative play features, was delivered as part of this block (circa 1,500m2). **b. Specific Objective** **1. Use Mix** To retain the successful use mix athe overall city block level. To promote occupancy of the vacant ground floor units with quality uses such as retail, restaurants, cafes and culture to lend vibrancy to the streets leading to Grand Canal Plaza. **All planning applications within the Zone of Influence of the proposed DART Underground, as identified in Appendix 7 shall demonstrate to Iarnród Éireann how the proposal relates to the DART Underground**	**++**	**+**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

Project. No development shall compromise the integrity of, or adversely impact on the DART Underground Line. (see also appendix 7) **2. Public Realm** Dublin City Council policy to take in charge all elements of the public realm															

Chapter 5 Block Details – City Block 13	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context This block has also been completely developed with frontage onto Grand Canal Plaza and the Canal Basin. Building heights are in the main 7-storey commercial. **The primary use within this block is residential, but when taken in conjunction with adjoining City Blocks 12 & 16, it exhibits a successful use mix over the hub area. The residential development benefits from the favourable southerly aspect of Hanover Quay and the water frontage amenity onto the Grand Canal Basin, as the well as the quieter secondary or inner streets within the city block. Ground floor café, restaurants and retail uses animate the basin area. Existing use mix is circa 100% Residential.** There are active retail frontages onto Hanover Quay. These lend a vibrancy to the area, serving the need of residents and complementary to the cultural and leisure activities related to the theatre and extensive waterbodies. **b. Specific Objective** **1. Use Mix** To retain the successful use mix at the overall city block level. To promote occupancy of ground floor units with quality uses to create a vibrancy up to and leading into Grand Canal To exploit the southerly orientation and animate the water frontage along Hanover Quay with vibrant retail, cultural and leisure uses. **2. Public Realm** Dublin City Council policy to take in charge	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

all elements of the public realm. **3. Infrastructure** **All planning applications within the Zone of Influence of the proposed DART Underground, as identified in Appendix 7 shall demonstrate to Iarnród Éireann how the proposal relates to the DART Underground Project. No development shall compromise the integrity of, or adversely impact on the DART Underground Line. (see also appendix 7).**															

Chapter 5 Block Details – City Block 14	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context **Over half of this block has been redeveloped resulting in an existing use mix of circa 40:60 Residential: Commercial.** The existing warehouse premises at 76 Sir John Rogerson's Quay / Marine School Walk. Section 25 Certificate for 6-storey and part 8-storey mixed use development (DD331) The former Kilsaran Concrete site at Hanover Quay (no planning history). Block C of the Riverside IV Scheme (north of Kilsaran site) change of use from residential to commercial office development of circa 4,000m2, 5-storeys plus setback (DD368). Delivery of Chocolate Park (linked to DD331). The building heights range from 5-7 commercial storeys including 8 residential storeys. **b. Specific Objectives** **1. Use Mix** 50:50 Residential / Commercial with fine grain **development** dominant to the north side of Kilsaran Site. Vibrant ground floor uses to be provided along Hanover Quay. **2. Urban Form/Height** Up to **5 storey commercial / 6 storeys residential** fronting Horse Fair Road and 6 storeys commercial/7 storeys residential to Hanover Quay to allow for residential amenity and appropriate transition in scale, as well as adequate presence on Grand Canal frontage. Up to **8 storeys commercial / 10 storeys residential fronting Sir John Rogerson's Quay with reduced height fronting the proposed Chocolate Park at Block 14B** **3. Public Realm** A new/enhanced north-south route midway between Blood Stoney Road and Benson Street. A new east-west route midway between Sir John Rogerson's Quay and Hanover Quay, linking and leading into new public space Chocolate Park. A new public space incorporating SUDs (at Chocolate Park). New streets to be within the range of widths as shown on Figure 31 and subject to the criteria	+	+	+	+	+	+	+ _	+	+	+	+	+	+	+	+

set out in Section 5.4.3 **4. Infrastructure Provision** Each site to complete access to an attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. Foul drainage: North and south west of the site to drain to existing 375mm foul pipeline running through the site. North and south east of block to drain to proposed 375mm pipeline. Surface water drainage: North and south west of site to drain to existing 525mm storm pipeline running through the block. North and south east of block to drain to proposed 1050mm diameter pipeline.														

Chapter 5 Block Details – City Block 15	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 15 – Key Points **. Existing Context** Only the State Street building has been developed in the city block. A number of warehouses, some of which are protected structures, front Hanover Quay. State Street bank has been developed, apart from the 4 residential blocks which were also permitted on the Green Street frontage (Ref DD466). On Hanover Quay, a mixed use development, up to 10 storeys, was certified (but not commenced) on site containing protected warehouses (DD238). **b. Specific Objectives** **1. Land Use Mix** **30:70 Residential / Commercial over the City Block.** Hanover Quay traditional warehouse ranges to be use for variety of commercial/start-up and/or cultural uses. Pavilion building east of Britain Quay could have a variety of publically accessible commercial/cultural uses with a maritime flavour. **2. Urban Form/Height** Northern part of site to accommodate 8 storey commercial / 10 storey residential, up to 22 storey commercial / 29 storey residential at North East corner. Higher part to form part of urban block, appropriately articulated. Central part of warehouse range could cater for a **5 storey commercial building**. Any new building on western range of warehouses to articulate the gable and roofscape identity of warehouses (10m setbacks minimum). Eastern range (on RPS) to retain roofscape in total. Pavilion building west of Britain Quay to be 3 storey commercial/cultural. **3. Public Realm** Hub to provide for a significant civic space with 2 functions; a sheltered environment surrounded by buildings and a more open space exploiting the views and character of Dublin Bay/Liffey estuary around Britain Quay. This civic space to have a pedestrian link to Hanover Quay across Green St East. The link should be largely open to sky (e.g. Italian Quarter, Ormond Quay).	+	+	+	+	+	+	+ _	+	+	++	+	+	+	+	++

Public access to be re-opened linking Hanover Quay with Britain Quay. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4. Infrastructure** Foul drainage: North of Site to drain to proposed 225mm pipeline along Sir John Rogerson's Quay South of Site to drain to 300mm pipeline along Green Street. Surface water drainage: North of site to drain to proposed 1050mm surface water pipeline along Sir John Rogerson's Quay. South of Site to drain to proposed 1,200mm pipeline along Green St. Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation.															

Chapter 5 Block Details – City Block 16	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 16 – Key Points **Existing Context** This block is built out with occupation of most, if not all buildings, save perhaps for a number of smaller units. It has delivered a successful use mix with cultural, commercial and residential uses, with the buildings fronting onto key public spaces, Grand Canal Square and the Campshires at Gallery Quay, containing vibrant ground floor uses. The block acts a hub or centre of gravity fronting onto Grand Canal Basin and including the Liebskind designed Bord Gáis Energy Theatre with its Martha Schwartz landscape designed plaza. These elements of cultural infrastructure and public art combine to reinforce the block as a cultural hub. **b. Specific Objectives** **1. Use Mix** To retain the successful use mix at the overall city block level. To promote occupancy of ground floor units with quality uses to create vibrancy up to and leaving into Grand Canal To animate the water frontage along Gallery Quay with vibrant retail, cultural and leisure uses. **2. Public Realm** It is Dublin City Council's policy to take in charge all elements of the public realm.	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

Chapter 5 Block Details – City Block 17	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 17 – Key Points **Existing Context** High profile city block containing a number of stone protected structures and high concrete grain/flour silos. Important frontages onto Grand Canal Dock, Ringsend Road and Barrow Street. **Existing use mix is circa 40 residential:60 commercial.** Site has 2 Section 25 Certificates granted in early 2000's which have not been implemented, for c. 7 storey new build and retention of protected structures (DD193 and DD148). Permission was refused in 2006 for a circa 38,000m2 development, to 20 storeys (80m) high, including the refurbishment of the protected structures. **B. Specific Objectives** **1. Use Mix** Boland's Mill site, to be developed as a coherent package, integrating the protection and re-use of the protected structures with contemporary buildings and a waterfront public domain. **30 Residential :70 Commercial to apply to the Boland's Mills Site having regard to the unique characteristics of this site and in particular the extent of protected structures that will require restoration.** **2. Urban Form/Height** If feasibility studies conclude that existing concrete silos cannot be adapted for sustainable use, site could be used for new commercial buildings, subject to: Any new buildings to be no higher than a line between top of Millennium Tower (54m) and Monte Vetro (61m) (c.15storeys) 2-3 vertical elements can be considered subject to separate and distinct visual forms being achieved, subject to the criteria for tall buildings set out in Appendix 5. Any taller buildings and any other new buildings on the site to be located, orientated and designed to maximise sunlight to the civic spaces (see below) and in a manner which protects the residential amenity and minimises overshadowing the fine grain residential area to the east. The other/ remaining buildings to be up to 6 storeys commercial/ 7 storey residential. A new building along Barrow Street should contribute to the remaking of this street – up to 5	**+**	**0**	**+**	**+**	**+**	**+**	**+** **-**	**+**	**+**	**++**	**+**	**+**	**+**	**+**	**+**

storey commercial/6 residential. Any modifications / reconfigurations to the ~~2~~ two long heritage buildings at the south end of site (2 storey brick gables protected structure ref RPS485) should retain a portion of the building to at least the same extent as the adjoining building to the north, to ensure that the character and integrity of the gables and their relationship and setting to the water is protected.. Any proposed alteration/amendments to the Protected Structures in the Boland's Mill complex shall respect the significance of the site and be appropriate to its historic and spatial context. This shall be detailed in the design rational in the planning application. **3. Public Realm** The scheme to provide for a new linked civic space which successfully exploits the Grand Canal Harbour as a water amenity; such a space to have meaningful proportions, i.e. 40m x 20m, as per Temple Bar Square. There should be at least two pedestrian links to the waterfront civic space, from Barrow Street, and at least one other from Ringsend Road to be provided at the western end of the Protected Structure. **The pedestrian link from Barrow Street must provide at a minimum a double height archway or two-storey equivalent to allow for sufficient light penetration and amenity, in the event of any overhead development.** New streets/lanes to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4. Infrastructure Provision** Foul Drainage: To drain to 660 x 1230mm pipeline along Ringsend Road. Surface Water Drainage: Separate storm water pipeline to be laid along Ringsend Road, release more capacity in existing combined system. Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. **All planning applications within the Zone of Influence of the proposed DART Underground, as identified in Appendix 7 shall demonstrate to Iarnród Éireann how the proposal relates to the DART Underground Project. No development shall compromise the integrity of, or adversely impact on the DART Underground Line. (see also appendix 7).**														

Chapter 5 Block Details – City Block 18	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context Rectangular block extending from Charlotte Quay to South Dock Road, between Ringsend Road and Grand Canal Dock. Block 60% built out, mainly with residential schemes, including the landmark 15 storey Millennium Building. Bus depot occupies central part of City Block. The 4 granite gate piers are protected structures. **B. Specific Objectives** **1. Land Use** **60 Residential/40 Commercial over this City Block.** **2. Urban Form/Height** 6 storey commercial / 7 storey residential along the water frontage to frame Grand Canal Dock and also along Ringsend Road to define the streetscape. **3. Public Realm** New North South Street to be provided centrally on site, with 25x20m (min) civic space opening onto Grand Canal Dock forming part of a continuous public realm. Street could be pedestrian based with landscaping/SUDS features. New streets to be within the range of widths as shown on Figure 31 and subject to the criteria set out in Section 5.4.3 **4. Infrastructure** Foul drainage – Remove a volume of surface water currently generated from the Ringsend Road area by laying a new storm water sewer along Ringsend Road (circa 660x1230m). Surface water drainage: Separate storm water pipeline to be laid along Ringsend Road release more capacity in combined system. Each site to complete access and attendant public realm prior to occupation. Drainage/water infrastructure to be installed with access installation. Potential for connection to district heating system	+	+	+	+	+	+	+ –	+	+	+	+	+	0	+	0

Chapter 5 Block Details – City Block 19	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Existing Context Unique triangular site circa 1.2ha area at confluence of Grand Canal Dock and River Dodder, containing 3 graving docks (one infilled) and Waterways Ireland Property. Camden Lock, a residential development, occupies the southern end of the site. There is a pedestrian crossing over the Lock Gates to Britain Quay. The site was identified for community purposes in the 2008 Docklands Masterplan, and a joint Venture Agreement between the DDDA (Interests transferred to NAMA since) and Waterways Ireland to provide a multi-use space, training facilities, crèche and office space, when economic conditions allowed. **b. Specific Objectives** **1. Use Mix** 40 residential/30 commercial/ 30 community and recreational or cultural. The residential component to be provided in Block B. To ensure the timely delivery of community facilities / social infrastructure component Water-based recreational facilities to be promoted. Opportunities for nautical heritage centre should also be explored. **2. Urban Form/Height** Commercial / community buildings up to **5 storeys** to contain the dock space. Residential perimeter block **up to a maximum of 7 storeys** to northern side of existing Camden Lock Development, **subject to an appropriate transition in scale and design criteria which protects the residential amenity and minimises overshadowing of the Camden Lock Development.** **3. Public Realm** Public access to quays/water bodies to be maximised including non-stepped pedestrian access from Ringsend Road, (in which case, a second pedestrian bridge linking recreational facilities to Thorncastle Street may not be necessary). Pedestrian link to Britain Quay to be provided, which does not compromise the use of the locks by barges. Feasibility of re-opening one of the infilled graving docks to be included in any development proposals. **4. Infrastructure**	+	+	+	+	+	+	+	+	+	+	++	+	+	+	+

Foul Drainage – Remove the volume of surface water currently generated from the Ringsend Road area by laying a new storm water sewer. Surface Water – a storm sewer to be laid on Ringsend Road to capture storm water currently discharging to the combined system in the area. Each individual development will be required to provide additional surface water storage equivalent to at least 570m3/ ha. Details and location of the retention facility to be agreed with Dublin City Council Drainage Division. Accesses, as part of public realm, to be provided prior to occupation of development															

Chapter 5 Block Details – City Block 20	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 20 – Key Points **Existing Context** This block at the confluence of the River Dodder / River Liffey and opposite the Britain Quay Hub and Graving Docks (Blocks 15 & 19), is primarily built-out save for lands adjoining the Ringsend Community Centre. The northern half of the block includes a recent mixed-use development of residential and commercial office with the remainder occupied by Ringsend Community Centre. A Section 25 Certificate was granted for an extension and refurbishment of the Ringsend Community Centre to result in a three-storey building with an additional floorspace of circa 630m2, to include a crèche facility, youth centre, multipurpose hall, meeting and training rooms. The site includes lands in the ownership of Dublin City Council. (DD624 – Not Commenced). **b. Specific Objectives** **1. Use Mix** A mix of community, recreational and cultural uses with enabling residential / commercial development. **2. Urban Form/Height (see map)** 4 storeys commercial/cultural as part of transition in scale between the new block to the north and the existing residential to the south. **3. Public Realm** There should be public accessible frontage onto the waterbody and a pedestrian bridge from Thorncastle Street to the Graving Docks at Plot 19 (formerly Plot 8) in order to allow for a sharing of the recreational facilities on both of these sites. **4. Infrastructure Provision** Each site to complete access and attendant public realm prior to occupation. Drainage / water infrastructure to be installed with access installation. Foul Drainage: Block to drain to existing 450mm pipeline.Surface Water Drainage: New storm water infrastructure to be put in place.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**++**	**+**	**0**	**0**	**0**	**0**

Chapter 5 Block Details – City Blocks 21 & 22	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
City Block 21 & 22 Key Points **Existing Context** It is acknowledged that both the Liffey Campshires and the Campshires on the Grand and Royal Canals have benefited from a considerable level of investment and from a consistent commitment to good design. That said the work is not complete. Extensive tracts, while paved to a high standard, come across as quite bare and sterile. It is noticeable that the more generously planted areas in the vicinity of IFSC 1&2 contrast with a bleaker context further to the east. There have also been some issues with the maintenance of lighting and street furniture. The Campshires of the Royal Canal, in the vicinity of Spencer Dock, were to feature at the heart of an ambitious landscaping plan, but due to budget cutbacks, only a very basic programme has so far been implemented. In the case of Grand Canal Dock, a generally high standard of public domain has been implemented, which also interfaces successfully with Grand Canal Square. Limited access to the water exists in the inner dock area. In view of the important role of the Campshires in the public domain of the SDZ, it is proposed that a 'Public Domain and Landscape Framework' be prepared, covering the core areas of paving, street furniture, lighting, planting and art. It is recognized that this framework will have to be prepared in the context of a framework for water animation covered in below. In the extensive public consultation carried out at pre-draft stage, the theme of maritime has been linked consistently to that of identity. Dubliners love the natural setting of their city on a river and close to the sea and the bay. There is frequently an expression of sadness however, that the river has lost a lot of its animation, as commercial shipping activity has moved eastwards with the industrial port. At the same time, events like 'The Tall Ships' bring back a great buzz and remind people of the recreational potential of the waterbodies. The SDZ can play a major role in facilitating an intensive recreational use on the waters of the Liffey and Canals, which are	**++**	**+** –	**0**	**+**	**0**	**+** –	**+** –	**+** –	**+** –	**++**	**0**	**0**	**+** –	**0**	**0**

regarded as an integral part of the public domain. It is an objective to draw up a water animation framework, in partnership with the Dublin Port Company and Waterways Ireland. **a. Specific Objectives** To maximize public pedestrian access to all water-body frontages To produce a public realm and landscape framework for the Campshires as an action of the City Council's Public Realm Strategy To prepare a water animation framework in partnership with the Port Company and Waterways Ireland To allow for limited pavilion style/kiosk development on the Campshires. Such development must provide for the animation of the Campshires, be of high design quality and must not compromise the integrity of the Campshires nor impede pedestrian and cycling access														

Chapter 5 Block Details – City Blocks 23	PH1	BFF1	W1	W2	W3	AN1	AN2	CF1	CF2	MA1	MA2	MA3	LS1	LS2	CH1
Public Squares The delivery of a unique high quality urban square in each of the 5 Hubs is a central objective of the SDZ. The design and delivery of this objective will be achieved in co-operation with relevant stakeholders/owners. A range of design objectives to achieve specific qualities for each of the squares, to complement the existing Grand Canal Square, is outlined below and will inform the preparation of design briefs. The use of design competitions will be encouraged. **Spencer Dock** Generating a powerful visual centre of gravity through a strong concept and imaginative composition. Relating creatively to the cluster of protected structures to the south of the square. Integrating the proposed route structure to the Dart Underground. Optimizing the relationship to buildings containing the space of the square. Maximizing the potential of the route structure from the proposed Liffey pedestrian bridge. Integrating pavilion services such as a unique café design. **Point Square** Achieving a design which tackles the windswept expanse of the current poorly contained space. Incorporating sufficient flexibility to facilitate a range of events. Taking inspiration from the entertainment culture of the O2 arena. Integrating existing and future route structures. Relating creatively to proposed buildings defining the eastern edge of the square. • Responding to subterranean entertainment venues. **Britain Quay** The exploitation of maritime and canal views. The generation of containment and protection. The animation through mixed use. The creative use of route structure to connect and generate sequence.	**+**	**+** –	**+**	**+**	**+**	**0**	**0**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Effective integration of paving, street furniture, lighting, nature and art. The need to consider events. **Boland's Mills** The exploitation of views to Grand Canal [inner dock]. Drawing on the relationship with retained protected structures. Developing an effective route structure to connect the square. Effective integration of paving, street furniture, lighting, nature and art. Generating a positive interface with new buildings. Generating animation through mixed use. The need to consider events. **b. Major Spines - Mayor Street/Sheriff Street** A number of streets perform a critical role in the urban structure. Mayor Street is in effect a high street in the North Lotts. The status of the street emerged during the design of IFSC 1&2, has been further strengthened in the Section 25 Planning Scheme for North Lotts, and consolidated by the construction of Luas. The public domain remains weak however. Sheriff Street is at the interface of the North Lotts and East Wall. To date it has been treated as a design backwater and suffers obvious neglect in terms of its public domain quality. It is considered that a Public Domain and Landscape Framework should be prepared for both Mayor Street and Sheriff Street and that a brief be prepared which should address opportunities for a co-ordinated design approach to paving, street furniture, lighting, planting and art. **c. Key North-South Streets - New Wapping & Castleforbes** While the SDZ proposals for North Lotts will refine the urban grid, and result in greater permeability and more routes, a number of original streets, due to their scale and orientation, have the capacity to deliver considerable amenity for residents and workers. New Wapping Street is the only street connecting directly with East Wall. Castleforbes has an existing carriageway width of circa 12 metres and has a mainly intact floor of original setts. It is considered that both New Wapping and Castleforbes would benefit from a major															

environmental improvement scheme and that a public domain and landscape framework should be prepared to give effect to this. **d. Specific objectives** To provide a high quality urban space in each of the 5 Hubs in accordance with the specific design briefs To produce a public realm and landscape framework for Mayor Street, Sherrif Street, New Wapping Street and Castleforbes Road as an action of the City Council's Public Realm Strategy															

Appendix B

Appendix B – Non Technical Summary

Section 1 – SEA INTRODUCTION & PLANNING SCHEME

This is the non technical summary of the Environmental Report (ER) of the Planning Scheme for North Lotts Grand Canal Dock Strategic Development Zone (SDZ). The purpose of the Environmental Report is to provide documentary evidence of the SEA process.

Strategic Environmental Assessment (SEA) is a process described as the "formal, systematic assessment of the likely effects on implementing a plan or programme before a decision is made to adopt the plan or programme" and its purpose is to systematically identify and evaluate the likely significant environmental effects on the plan area and environs of implementing the Planning Scheme. SEA affords a high level of protection of the environment and contributes to the integration of environmental considerations into the preparation of a plan with a view to promoting sustainable development by ensuring that an environmental assessment is carried out of certain plans and programmes which are likely to have effects that are significant on the environment. The SEA informs the plan making authority of the likely and significant environmental effects as a result of implementing the plan. The assessment process is recognised as a central mechanism in promoting sustainable development, in raising awareness of the significant environmental issues experienced by an area and ensuring that these issues are addressed within the capacity of the planning system to do so.

The Environmental Report contains the following information**:**

- A description of the baseline environment and the key environmental issues identified.
- A description and assessment of alternatives for the Planning Scheme;
- An assessment of Planning Scheme objectives; and,
- Mitigation measures which set out to aid compliance with important environmental protection legislation - e.g. the Water Framework Directive, the Habitats Directive etc

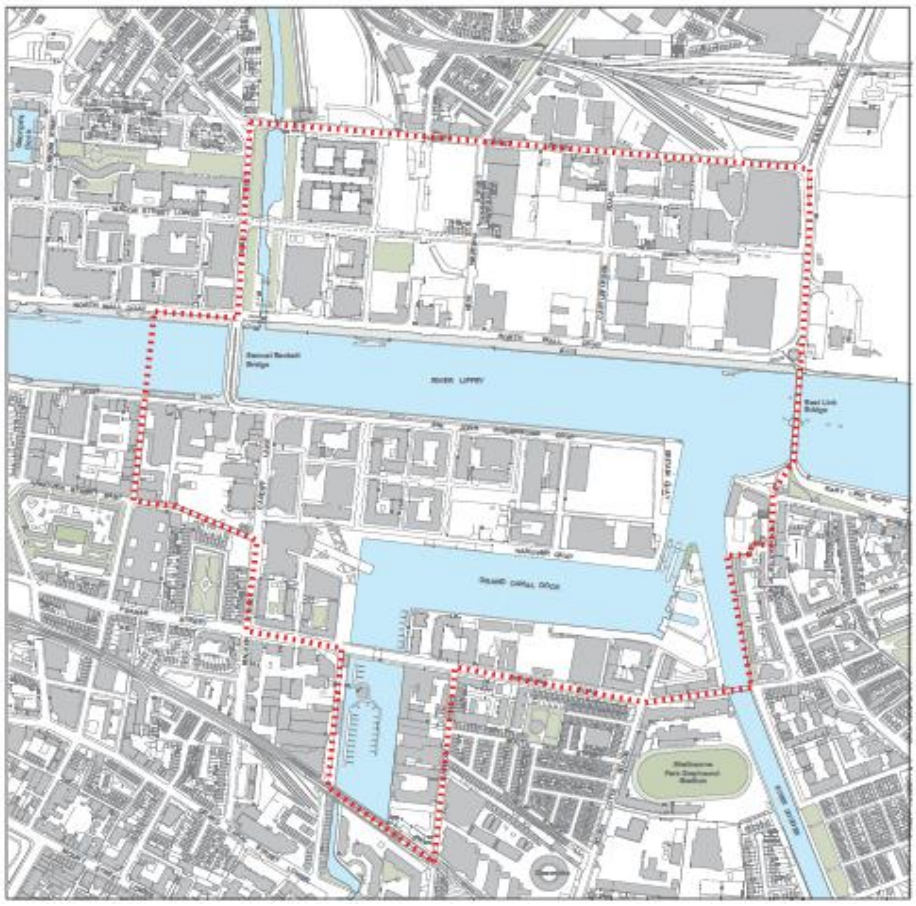
The Planning Scheme

The Planning Scheme boundary (see figure 1 below) equates to the SDZ area as designated by the Minister. This area replaces the two Dublin Docklands Development Authority Section 25 Planning Schemes, namely the North Lotts Planning Scheme and the Grand Canal Dock Planning Schemes. The area as designated is also identified as a Key Developing Area (KDA) and a Strategic Development and Regeneration Area (SDRA) under the core strategy of the Dublin City Development Plan 2011 -2017

Statutory Context

Part IX of the Planning and Development Act 2000-2011 provides for the designation of a Strategic Development Zone (SDZ) to facilitate development which in the opinion of the Government is of economic or social importance to the State. The Government designated lands at North Lotts and Grand Canal Docks in the Dublin Docklands as a site for a Strategic Development Zone (SDZ) on19th December 2012 (S.I.No.530/2012) and specified Dublin City Council as the Development Agency. Where land is designated as an SDZ by Government Order, a Planning Scheme must be prepared by the Development Agency before any development can be permitted in the SDZ Area. The SDZ planning process is detailed in Section 165 to 171 of the Planning and Development Act 2000 – 2010.

Figure 1 – SDZ Boundary



Contents of Scheme

The Planning Scheme document has been prepared by Dublin City Council and comprised of a written document with accompanying maps. A Strategic Environmental Assessment, Appropriate Assessment and a Flood Risk Assessment also accompany the Planning Scheme.

The structure of the Planning Scheme is as follows:

8) Introduction and Background

This chapter sets out the challenges and opportunities facing the area. It sets out the historical context, policy context and background to the Planning Scheme area. With this foundation the chapter sets out the vision, principles, and themes for North Lotts – Grand Canal Dock which underpins all the chapters and aspects of the Planning Scheme.

9) The Docklands SDZ area today and the Future

The chapter sets out the existing key statistics in relation to population and employment. It also provides an analysis of the following areas, including: the profile of the SDZ resident population, the socio economic profile of the SDZ population, modes of travel, educational attainment & housing characteristics

10) Vision and High Level Themes for Scheme

This chapter outlines the vision the North Lotts – Grand Canal Planning Scheme area and set out a number of high level themes which include.

vii) Sustainability
viii) Economic Renewal & Employment
ix) Quality of Living
x) Identity
xi) Infrastructure
xii) Movement & Connectivity

11) Achieving the Vision and High level Themes

This chapter sets out the achievements to date in the Docklands area and the challenges facing the area and sets out the way forward for the Planning Scheme area. The chapter is divided into a number of subsections as identified below:

a) Economic Regeneration
b) Residential Neighbourhoods
c) Community Development
d) Movement
e) Sustainable Infrastructure
f) Built Heritage
g) Culture
h) Retail
i) Tourism & Leisure
j) Urban Structure & Design, Density, Height
k) Green Infrastructure
l) Public realm
m) Land use & Mix
n) Sustainable Building Quality & Design

12) Nature and Extent of Proposed Development in Scheme

The preceding chapter 4 sets out the high level themes (including the Framework for a Sustainable Dublin) the key structuring principles and the key building blocks, together with a suite of objectives, all of which are necessary to achieve a successful city quarter of social and economic importance in the state.

Chapter 5 translates these identified themes, principles and objectives into a development code to guide the nature and extent of the proposed development in the SDZ.

The urban structure map identifies the main structuring principles and is based on a hierarchy with a declining scale:

7. The historic orthogonal grid
8. The City Blocks
9. Local Streets and spaces
10. The Urban Block
11. The Public Realm
12. The Five Hubs: Station Square/Spencer, Point Village, Grand Canal Square, Britain Quay, & Barrow Street/Boland's Mills.

13) Implementation and Monitoring the SDZ Planning Scheme

This chapter sets out how the implementation of the SDZ will operate, the Governance and monitoring, promotion and marketing, and also funding the public infrastructure in the Planning Scheme.

14) SEA & AA Summary

This chapter outlines the statutory context for the SEA and AA procedure and summaries the findings of both Environmental Reports.

Relationship with other Relevant Policy, Plans or Programmes.

The Planning Scheme for the SDZ has been prepared to accord with the hierarchy of land uses and spatial plans and other relevant policies at national, regional and city level. In particular the SDZ scheme accords with the following hierarchy of strategies and plans:

- **The National Spatial Strategy 2002-2020 (NSS)** recognises that Dublin as the capital city and national gateway plays a vital national role and that the performance of its economy is essential to the success and competitiveness of the national economy. In order to sustain this role as the engine of the economy, it advocates the physical consolidation of Dublin. The Docklands SDZ lies at the heart of the metropolitan core, with its capacity to facilitate a significant supply of modern commercial and office space in tandem with its high levels of accessibility, make it a crucial national resource for innovation, enterprise and employment, and as such it fully accords with the NSS. The premier gateway status is envisaged to remain in any successor to the NSS.

- **The National Development Plan 2007-2013 (NDP)** also supports the regeneration of the wider Docklands Area and acknowledges that it has been a factor that has contributed to the success of the Dublin Gateway.

- **The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (RPGs),** translates the national strategy to the regional level with a similar emphasis on Dublin as the driver of national development and the

need to physically consolidate the growth of the Metropolitan Area. The RPGs settlement hierarchy seeks to prioritise and focus investment and growth to achieve integration of infrastructure, employment and new housing. Further consolidation of the Docklands SDZ lands will maximise the use of recently installed physical infrastructure such as the Luas C1 Extension, the Samuel Beckett Bridge and in the longer term the DART Underground.

- **Transport 21 and Smarter Travel – A Sustainable Transport Future 2009-2010,** are the capital investment frameworks under the National Development Plan to deliver the transport system in Ireland. The Docklands Rail Station at Sherriff Street which caters for mainline commuter services and the extension of the Luas Red Line from Connolly Station to the Point Village have been delivered under Transport 21. The longer term proposals for DART Underground with a station at Spencer Dock will facilitate interchange with the Luas, DART and mainline commuter services, making the proposed SDZ lands highly accessible on a city and national level. The Government's transport policy recognises the vital importance of continued investment in transport to ensure a competitive economy, but also sets out the necessary steps to ensure the use of more sustainable transport modes such as walking, cycling and public transport.

- **Dublin City Development Plan 2011-2017**, reinforces and distils these higher level plans with the promotion of the intensification and consolidation of the city. It seeks to achieve this by way of regeneration and renewal of the inner city and redevelopment of brownfield areas. It also emphasises the city's role as the national gateway and key economic driver of growth for the region and state as a whole, with the need for the city to develop sufficient critical mass to compete at an international level.

  The development plan **core strategy** designates the Docklands, including the Docklands SDZ, as a Key Developing Area (KDA) and a Strategic Development Regeneration Area (SDRA). KDAs relate to those areas of the city with substantial development capacity and the potential to support economic or cultural specialism's essential for the growth and diversification of the city. SDRAs relate to important Brownfield sites with the potential to deliver a significant quantum of mixed uses. The Docklands SDZ exhibits all these characteristics with an opportunity for continued physical and social regeneration of the Docklands, supporting the emergence of the area as a new and vibrant economic, cultural and amenity quarter of the city.

  The development plan sets out a series of **Guiding Principles** in chapter 16 for the North Lotts and Grand Canal Dock SDRAs. These principles promote the creation of a new urban neighbourhood with a socially cohesive community and high quality physical environment. A number of principles stress the need to forge spatial connections with the wider docklands area, the city centre and surrounding neighbourhoods as well as linkages with the IFSC. Optimising the potential of key Brownfield sites to contribute to the city in employment and economic terms and fostering the area's role as an emerging cultural destination are also key governing principles relevant for the Docklands SDZ Area. The plan also identifies the Docklands Area as one of the very limited locations in the city that has the potential to accommodate landmark buildings for economic and identity reasons appropriate for a capital city.

  The City Development Plan is consistent with the Docklands Master plan 2008.

  - **Dublin Docklands Area 2008-2013 Master Plan** set out a 5 year framework for the regeneration of the Docklands Area as defined by the Dublin Docklands Development Authority Act, 1997. The area

extends to circa 520 Ha and consists of both established communities and new areas that have been subsequently developed with newly emerging employment and residential neighbourhoods.

The Master Plan reflects the statutory objectives as set out under the 1997 Act, namely, the social and economic regeneration of the Dublin Docklands Area on a sustainable basis; improvements in the physical environment of the Dublin Docklands Area; and the continued development in the Docklands of services of, for and in support of, or ancillary to, the financial sector of the economy.

The Master Plan in turn is driven by five strategic objectives: accelerating physical roll out of development; achieving genuine architectural legacy; fulfilling the potential of the docklands; realising quality of life; and creating a sense of place.

It provides a framework to guide the development of the Docklands Area over the five-year period and beyond, embracing social regeneration, economic development, land use, transportation, infrastructure, urban design, arts, tourism, culture, leisure and implementation. The five-year life of the current Docklands Master Plan expires in November 2013.

Grand Canal Dock and North Lotts Section 25 Planning Schemes

These two schemes essentially cover the same 90Ha area as the new SDZ area (including water bodies). They provide a local planning framework under the Docklands Master plan, setting out area-specific guidance in relation to land use mix, urban design, amenities and transportation. The schemes are primarily physical in nature but reflect the social and economic policies of the Docklands Area Master Plan. In this regard, the Grand Canal Dock and North Lotts Schemes were important elements in the implementation of the broader strategy for Docklands during the first ten-year framework of the Master Plan under the 1998 and 2007 Master Plans.

The Grand Canal Dock Planning Scheme 2000 (Amended 2006) has produced a successful new urban quarter around the Grand Canal Dock, including An Bord Gais Theatre Hub, a vibrant residential/commercial mixed use zone, and the attraction of digital media industry to the area (e.g. Google)

The Docklands North Lotts Planning Scheme 2002 (Amended 2006) follows a set of principles to extend the successful IFSC, Mayor Street areas eastwards to the Point Village. Major achievements include the National Conference Centre and the new LUAS line.

In addition to the above, there are a number of non-statutory local level plan which the SDZ scheme has had regard to' including:

- **Dublin Port Master plan 2012-2040** is a non-statutory plan which sets out a vision for the operations of the port. It acknowledges the importance of the emerging cruise liner tourism and potential of the natural amenities of Dublin Bay. The Master plan seeks to ensure that there is harmony and synergy between the plan for the Port, Dublin Docklands Area and Dublin City, whilst the integration of the Port with the City and its people is a core aim of the Master plan.

- **The River Regeneration Strategy, 2001** aims to maximise the amenity potential of the River Liffey with a series of initiatives for river based projects, a number of which have been successfully implemented including the upgrading of the Dublin City Moorings and the Docklands Maritime Festival.

- **The Campshire Vision, 2007** looks at how the Liffey with its water, waterfront and docks has the potential to become a new centre for employment, leisure, culture and the arts and assesses how connections from the city centre and surrounding areas can make the campshires more accessible and inviting. The strategy is based on three pillars: 'Making Connections, Creating Destinations and Animating the Water'.

- **The City Canals Plan, 2010** was prepared on a partnership basis between Dublin City Council, Docklands Authority and Waterways Ireland. The plan relates to the canals and associated docks within the city boundary area. It identifies the recreational and tourism potential for specific sections of the canals, including the Royal Canal and Grand Canal at Docklands. Proposals which relate specifically to SDZ are.

- **The Cruise Traffic & Urban Regeneration of City-Port Heritage - Local Action Plan for Dublin, 2011** sets out a strategy for the development of cruise tourism and urban regeneration of the port area to create an urban quarter that facilitates sustainable and consolidated growth in the city and to articulate a new relationship between the city and port through the development of the cruise tourism sector. This represents a joint strategy prepared by Dublin City Council, Dublin Port and the Docklands Authority.

SECTION 2 SEA METHODOLOGY

SEA Screening

In the case of a Strategic Development Zone, the legislation automatically requires the provision of an Environmental Report in conjunction with the Planning Scheme.

SEA Scoping

Having established that SEA is mandatory for a Strategic Development Zone, the next step was scoping the contents of the Environmental Report (ER). Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. Scoping is undertaken early in the process to ensure that all relevant issues are identified and dealt with.

Under Article 6 of the SEA Directive, the competent authority, in this case Dublin City Council, in preparing the plan is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to the included in the Environmental Report. Under S.I. 436 of 2004 and as set out in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and S.I. 201 of 2011 amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004, the statutory consultees have been established as being:

(vii) Environmental Protection Agency (EPA),

(viii) the Department of Environment, Community and Local Government,

(ix) Department of Arts, Heritage and Gaeltacht Affairs (if potential significant impacts in relation to the architectural or archaeological heritage or to nature conservation)

(x) Department of Agriculture, Fisheries and Food (if potential significant effect on marine environment / fisheries),

(xi) the Department of Communications, Energy and Natural Resources (if potential significant effect on marine environment / fisheries),

(xii) The adjoining planning authority to the plan area.

A Scoping Issues Paper was prepared by the planning authority and initial consultation was carried out in December 2012. Written feedback was received from two of the statutory consultees, and is summarised below:

Environmental Protection Agency

- Flood Risk Assessment (and associated CFRAMS)
- Protection/Improvement of Water Quality (in line with the Programme of Measures for the appropriate Water Unit in the Eastern River Basin Management Plan)
- Promoting the establishment of an integrated traffic management plan (and taking into consideration the recommendations of the Greater Dublin Area Draft Transport Strategy, as appropriate and relevant.
- Protection of areas of designated landscape character (including seascape, coast-scape, urban-scape) and integrating the Building Heights Strategy as appropriate
- Protection of designated national and international conservation areas(Natural Heritage Areas and Nature 2000 sites, including candidate & proposed sites)
- Promotion of a 'plan-lead' approach to integration, green infrastructure, and ecological corridors/linkages in the development of the Planning Scheme.
- Further comment will be provided by the Agency upon receipt of the Draft Environmental Report and Planning Scheme.
- Note should be taken of updated SEA Regulations/Circular, SI No.200 of 2011, and S.I No.201 of 2011, also DoEHLG Circular PSSP 6/2011 issued on 25th July 2011.
- Should refer to the recent European Communities (Birds and natural Habitats) Regulations 2011 (S.I No477 of 2011) .
- Environmental Authorities- reminded under the SEA Regulations to give notice to the stature Authorities.

Department of Arts, Heritage and Gaeltacht Affairs

SEA Issues

- The area of the SZD Planning Scheme contains an important wildlife corridor. The Royal and Grand Canals are both designated as proposed Natural Heritage Areas (pNHA) and both link up with the River Liffey in the Docklands area**.** They list a number of birds that use the general vicinity for nesting and feeding.

- Bats and otters both listed on the Habitats Directive for strict protection. Peregrine falcons also nest and hunt in the wider Docklands and are listed in annex 1.
- Note that our reference to Guillemots nesting in the area should be amended to Black Guillemots which are a different species, which nest in holes in the wall. Consideration should be given to their potential nesting places.
- Consideration should be given for providing nesting platforms for Peregrine Falcons on buildings of appropriate heights.
- The proposed SDZ area links into River Liffey where there are nesting terns within the South Dublin Bay and River Liffey Tolka Estuary SPA. Seals occur in the river Liffey occasionally, and also present in Dublin Bay.
- With regard to Marine issues they refer to www.npws.ie/marine.
- They advise DCC to prepare an inventory of/and if necessary carry out a survey of the habitats and species present in the proposed area, before preparing the SDZ to fully inform the process.
- When carrying out the SEA it is recommended that the Biodiversity SEOs in the SEA cover habitats and species both within and outside of designated sites .
- It is recommend that Strategic Environmental Objective (SEOs) for biodiversity 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, Nature:
    - Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts of 1976 to 2010,
    - Habitats listed on annex I of the Habitats Directive,
    - Species listed on Annexes II and IV of the Habitats Directive,
    - Habitats important for birds,
    - Birds listed on Annex I of the EC Birds Directive,
    - Species protected under the Wildlife Acts including protected flora,
    - Habitats that can be considered to be corridors or stepping stones for the purpose of article 10 of
    - the Habitats Directive,
    - Red data book species,
    - And, biodiversity in general.
- Important that the needs of protected species such as salmon are considered.
- Account should be taken of the Planning System and Flood Risk Management, published in 2009. Important the ground and surface waters be protected from pollutants.
- Dublin City Council to ensure that adequate water supplies are present prior to development.
- SDZ should include a Natural Heritage Section and that all designated sites within the and nearby the SDZ should be mapped and listed.
- Reference should be made to the National Biodiversity Plan and also the Dublin City Biodiversity Plan.
- Invasive species - a policy is needed to protect against introduction of such a species.
- Appropriate Assessment – The proposed draft SDZ should be screened for appropriate assessment. Important that the State 1 screening is in place in consolation with the teams working on the draft SDZ and SEA so that the draft SDZ will have no significant effects on any Natura 2000 site. Also

recommended that DCC consult with other local authorities to determine if there are any other projects or plans which in combination with the proposed SDZ could impact on any Natura 2000 site.

SECTION 3 Environmental Baseline Data & Environmental Issues

The main purpose of describing the existing environment is to identify the current state of the environment, against which the likely effects of implementing the Planning Scheme can be assessed. The baseline in this instance refers to the existing state of the environment in the plan area and environs. Environmental baseline information at the city level is also relevant, and has been described where appropriate.

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The environmental impacts of the Planning Scheme can be estimated as the difference in environmental conditions with or without implementation of the plan. Dublin City's existing environment is characterised by way of a description of the environmental receptors as set out in SEA Directive and Regulations i.e.

- Population and Human Health
- Biodiversity, flora and fauna
- Air & Noise
- Climatic Factors
- Water
- Material Assets (transport and waste management)
- Cultural Heritage (including architectural and archaeological heritage)
- Soil and Landscape

Key Environmental Goals – Population and Human Health

- To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.
- The quality of housing, density and location are major factors to be considered in the redevelopment of this plan area given the impact of same on the health of a population.
- Key significant issues and Objectives for Population and Human Health include the provision of employment opportunities in the area, the provision of access to educational and amenity facilities with an emphasis of integration and improvement to the quality of life for the Docklands community.

Key Environmental Sensitivities - Population and Human Health

- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the Planning Scheme. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks

Key Environmental Goals – Biodiversity Flora and Fauna

- To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors within the SDZ area.

- All Development needs to be sensitive to relevant aquatic and riparian species (protected and indicator species) both within development sites and along the water courses.
- To prevent loss of habitat extent by protecting areas, sites, and natural features of high biodiversity and along water courses.
- To recognise the importance of ecological corridors to maintain biodiversity/need to provide a spatial strategy that provides for greater connectivity between substantial amounts of green space.
- To control and monitor and spread of invasive species and to combat ways for their removal/eradication.
- To improve the water quality of the River Liffey and River Dodder, to good status by 2027.
- To protect areas of designated landscape, character (including seascape, coast-scape, urban-scape.
- To protect designated national and international conservation areas (Natural Heritage Areas and Natura 2000 sites, including candidate & proposed sites).
- Any proposals for the canals, including the grand Canal should be given adequate consideration due to the threat of introduction of invasive species.

Key Environmental Sensitivities – Biodiversity Flora and Fauna

- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the Planning Scheme. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks.
- Pressures on biodiversity potentially arise as a result of increased commercial, residential & recreational use including more activity in Dublin Bay.
- Potential risk to protected species from contaminated water

Key Environmental Goals – Water

- To provide adequate wastewater treatment, water distribution networks and drainage networks.
- Investment will be required to enable the installation of a significant number of new water mains in the plan area and environs in order to cater for the proposed development and population increase in the area.
- The scale and phasing of new development in the Planning Scheme will need to be cognisant and in keeping with the capacity available at Ringsend treatment plant and be compatible with local sewer capacity constraints.
- To cater for future development, investment will be required in the foul sewer network and the completion of the sewer overflow through the Grand Canal Basin to the River Liffey. This will be essential if water recreational activities are to be promoted in the water body.
- To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area
- Protection/Improvement of Water Quality (in line with the Programme of Measures set out in the Eastern River Basin Management Plan.
- To reduce and manage the risk of flooding, and to take into account the provisions of the guidelines on the Planning System and Flood Risk Management.

Key Environmental Sensitivities – Water

- Water quality in the area is a result of complex interactions at both the local and regional levels. The upstream catchments of the various rivers in the Docklands SDZ contribute to the pollution load recorded in the water quality in the areas. In addition, natural vulnerability of the groundwater to contamination should be borne in mind.

Key Significant Environmental Goals – Air & Noise

- To continue to promote the modal shift from private car use towards more sustainable forms of transport such as cycling, walking and public transport.
- To preserve and maintain good air quality in the plan area in accordance with National and EU policy directives on air quality.
- To minimise the adverse impacts on noise and promote good health and a good quality of life for the existing and future residents f the plan area.

Key Environmental Sensitivities – Air & Noise

- Emission of air pollutants from road traffic remain the main threat to air quality, a modal shift from the private car to high quality public transport is required.
- The levels of Nitrogen Oxide (NO2) and Particulate Matter (PM2.5 and PL10) remains a particular concern and required special attention in the coming years

Key Environmental Goals - Climatic Factors.

They include localised as well as more strategic issues:

- To continue to promote the modal shift from private car use towards more sustainable forms of transport such as cycling, walking and public transport
- The use of renewable energy sources to be promoted..
- The building Rating of the proposed buildings should be considered as part of the assessment.
- To promote the use of thermal energy and integration into a District Heating System
- To preserve and maintain good air quality in the plan area.
- To promote the use of ecological friendly building material

Key Environmental Sensitivities – Climatic Factors

- Potential increased flood risk from changed land use patterns and climate change
- Vehicle emissions associated with the proposed Planning Scheme for the Docklands will give rise to CO2 and N2O emissions in the region.

- Emissions from energy generation and space heating in commercial and residential units, will also contribute to national emissions of greenhouse gases.

Key Environmental Goals - Material Assets

- To manage congestion and traffic management issues - to restrict through traffic and calm traffic in city centre, achieve modal share targets crossing the canal of 55% for public transport, 15% for cycling , 10% for walking and 20% for private car use by 2017.
- To manage the capacity of the street network to provide maximum accessibility between the SDZ and the GDA, and at the same time integrating internal movement across the Liffey and within the city centre. Improving linkages to the port , in the context of increase cruise liners
- To improve accessibility and maximise the use of public transport
- To place a stronger emphasis on sustainable forms of transport such as walking, cycling and public transport
- To promote the establishment of an integrated traffic management plan (and taking into consideration the recommendation of the Greater Dublin Area Draft Transport Strategy, as appropriate and relevant.
- To reduce the extent of waste through waste prevention strategies, maximising the recycling and recovery of waste and minimising the environmental impacts of the final disposal of waste, particularly through reducing the reliance on landfill
- The promotion of the use of renewable materials in future developments

Key Environmental Sensitivities – Material Assets

- Deficiencies exist in the capacity of the wastewater collection system in the Docklands area.
- Traffic congestion and traffic management issues - to restrict through traffic and calm traffic in city
- Deficiencies exist in the capacity of the wastewater collection system in the Docklands area
- Need to reduced the amount of waster being generated within the SDZ area, particularly in relation to reducing the reliance on landfill.

Key Environmental Goals - Cultural Heritage

- To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets.
- To ensure that the architectural and historic significance of the docklands area is protected, conserved and enhanced.
- To ensure that redundant dock water-spaces are managed and re-used in a way that respects their significance and utilises their potential.
- To ensure that new development respects the significance of the site and is appropriate to its historic, spatial context.
- To conserve the character and physical integrity of the Grand Canal Dock and its sea locks, the graving docks, historic marine artefacts, street furniture, views and vistas to preserve its identity.
- To actively promote the conservation and adaptive re-use of protected structures and heritage buildings.

- To minimise interference in original maritime and river, and transport heritage, thereby protecting quays, canal walls, docks, graving docks & industrial fabric.

Key Environmental Sensitivities

- All new buildings must be sensitive to the character and design of the existing landscape including the built environment and settings and archaeological assets.

Key Environmental Goals –Landscape & Soils

- To ensure that the natural environment and open space amenities are connected and integrated as main features of the area's identity and character and to align with the City Council's wider Strategic Green Network.
- To diversify the existing landscape character through the creation of new green spaces, parks etc
- To protect and promote new areas of biodiversity and to protect existing habitats, in the Planning Scheme as these provide visible tangible indicators of the health of the soil.

Key Environmental Sensitivities – Landscape & Soils

- Increased volumes of surface water run-off due to conversion of permeable landscapes to impermeable causes increased flooding, erosion and alteration of soils and their associated habitat.
- Some sites within the SDZ Planning Scheme have been found to have contaminated soils. (refer to Flannery Nagel Study, Appendix). The redevelopment of these sites will impact on soil conditions as the existing ground will be removed and remediation of contaminated soils on the former industrial Brownfield lands will be necessary

SECTION 4 ENVIRONMENTAL PROTECTION OBJECTIVES

SEA Environmental Protection Objectives are measures used to show whether the objectives of the Planning Scheme are beneficial to the environment, to compare the environmental effects of alternatives, or to suggest improvements. If complied with in full, the environmental objectives set should result in an environmentally neutral impact from implementation of the plan. Objectives set have been adapted to the local circumstances and environmental issues of the North Lotts – Grand Canal Planning Scheme and in some cases Dublin city (more strategic issues). The environmental protection objectives set for the SEA have been derived from environmental protection objectives which have been established in law at international, European Union, national and local level and from a review of baseline information and the environmental problems identified by the SEA team.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PH1** To protect and enhance people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Biodiversity/Flora & Fauna	**BFF1** To protect and enhance the diversity and range of habitats, species, natural heritage features and wildlife corridors / green corridors.
Water	**W1:** To comply with EU Water Framework Directive to ensure and maintain at least good ecological status of all receiving waters in the SDZ area.
	W2 To reduce and manage the risk of flooding.
	W3 To provide adequate wastewater treatment, water distribution networks and drainage networks.
Air Quality & Noise	**AN1:** To protect good air quality status and minimise output of Nitrogen Oxides (NO_x) and Particulate Matter (PM_{10})
	AN2: To maintain and, where possible, improve the acoustic quality for the current and future residents of the plan area.
Climatic Factors	**CF1**: To minimise emissions of greenhouse gases.
	CF2: To limit adverse impacts on climate though the use of sustainable energy sources.
Material Assets	**MA1** To encourage modal change from car to more sustainable modes of transport such as public transport, walking & cycling.
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management.
	MA3 To promote sustainable water use and promote sustainable drainage systems.
Landscape & Soils	**LS1** To conserve and enhance valued natural and historic landscapes and features within them.
	LS2 To protect, improve and maintain the quality of soils in the SDZ area.
Cultural Heritage	**CH1** To protect and enhance the cultural heritage of the plan area including the built environment and settings and archaeological assets

SECTION 5 – IDENTIFICAITON OF ALTERNATIVE SCENARIOS

It is standard practice when devising a plan that various ways of fulfilling its objectives are considered. Dublin City Council, as the plan making authority, is obliged therefore to consider alternative ways of achieving the objectives

of the SZD for the North Lotts – Grand Canal Planning Scheme. For the purposes of the SDZ three possible realistic alternatives have been identified,

Alternative 1 – High Density Approach

Alternative 2 - Medium Density Approach (Planning Scheme Preferred Option)

Alternative 3 - Low Density Approach

The 'Do Nothing Scenario'

In the absence of the Planning Scheme for the area, the existing policies and objective of the current Dublin City Council Development Plan 2011 – 2017 would prevail. It is considered that this alternative would not deliver the objectives of the SDZ..

The SDZ designation came about following the Government's decision in May 2012 to wind up the Dublin Docklands Development Authority. The SDZ designation provides for a continued fast-track planning mechanism so as to maintain the focus on the social and economic regeneration of the area. The SDZ, as a holistic plan-led approach with fast-track planning procedures, is an appropriate mechanism to sustain the good work and significant of the DDDA in terms of regeneration a city quarter, successful urban-place-making, employment creation, community engagement and marketing of Docklands internationally.

The SDZ as a holistic plan led approach with fast track planning procedures is an appropriate mechanism to sustain the good work and significant achievements of the DDDA, in terms of generating a city quarter, successful urban-place-making, employment, community engagement and marketing the Docklands internationally. The SDZ offers a coherent spatial and urban planning approach and is considered the most appropriate and effective mechanism to deliver the remaining parts of this area of economic and social importance to the city and state.

In the absence of the Planning Scheme for the area, as stated above the area would revert to the zonings under the current Dublin City Development Plan. There would be no fast track planning mechanism and there would be less specific guidance in relation to the overall urban structure.

The Do Northing Scenario is not considered to be a reasonable alternative for the SDZ area, and therefore will not be considered.

SECTION 6 EVALUATION OF ALTERNATIVE DEVELOPMENT SCENARIOS

The three alternative scenarios were tested against the environmental protection objectives and a preferred strategy emerged.

All three options have some positive and some negative impacts on the environmental indicators, however It is clear from the assessment that Alternative 2, the medium density option (Planning Scheme preferred option) has an overall positive outcome in terms of the environmental receptors carried out as part of this SEA. This option when subjected to appropriate mitigation measures has been identified as the preferred development strategy for the North Lotts – Grand Canal SDZ.

The medium density model, the one adopted in the SDZ, successfully integrates the complex set of objectives under High Level Themes, incorporates the Key Structuring Principles effectively into the urban structure, and devises a set of layouts for City Blocks all of which responds to the core vision. This scheme is robust in terms of implementation and will prove resilient over time. It is not seriously dependent on complex phasing and can be responsive to an emerging process of collaboration. It above all has a robust practicality which responds strongly to core strands of sustainability, while avoiding the risks associated with the high and low density options outlined above.

SEXTION 7 EVALUATION OF THE PLANNING SCHEME

The vision of the Docklands Planning Scheme is to ensure that the area becomes a world class maritime quarter with a distinctive Dublin Character. To be a model for sustainable inner city regeneration that is supported by exemplary social and physical infrastructure and a quality public realm.

Layout and Format of Planning Scheme

- Chapter one of the plan gives a background introduction about the area
- Chapter two looks at the area it is today; the context, key statistics for the area and the existing environment in terms of land use, role of Docklands, movement, heritage, public realm and infrastructure. This chapter sets up high level themes for the scheme in the subsequent chapter
- Chapter three describes high level themes for the future of the SDZ area
- Chapter four lists objectives that would ensure the high level themes in the previous section are delivered.
- Chapter five breaks the Planning Scheme area into blocks and provides urban design solutions to achieve the objectives.
- Chapter six sets out the implementation and monitoring for the Planning Scheme and
- Chapter seven provides the SEA and AA summary for the Planning Scheme.

The planning tools within the plan to deliver its vision are contained in chapters 3, 4 & 5. These chapters have been informed by the other chapters in the plan. In relation to the screening matrices for the Planning Scheme, these three chapters were deemed necessary to screen (Chapters 3, 4 & 5).

Chapter three has been screened as it sets out the vision for the Docklands area which is informed by the high level themes set out below:

i. Sustainability
ii. Economic Revival & Employment
iii. Quality of Life
iv. Identity
v. Infrastructure
vi. Movement and Connectivity

Chapter 4 which is informed by the high level themes, sets out the overall objectives for the Planning Scheme, This chapter is subdivided into a number of sections:

Economic Regeneration (ER)

Residential Neighbourhoods (RN)

Community Development (CD)

Movement (MV)

Sustainable Infrastructure (SI)

Built Heritage (BH)

Culture (CR)

Retail (RT)

Tourism & Leisure (TL)

Urban Structure/Design/Density/Height(US)

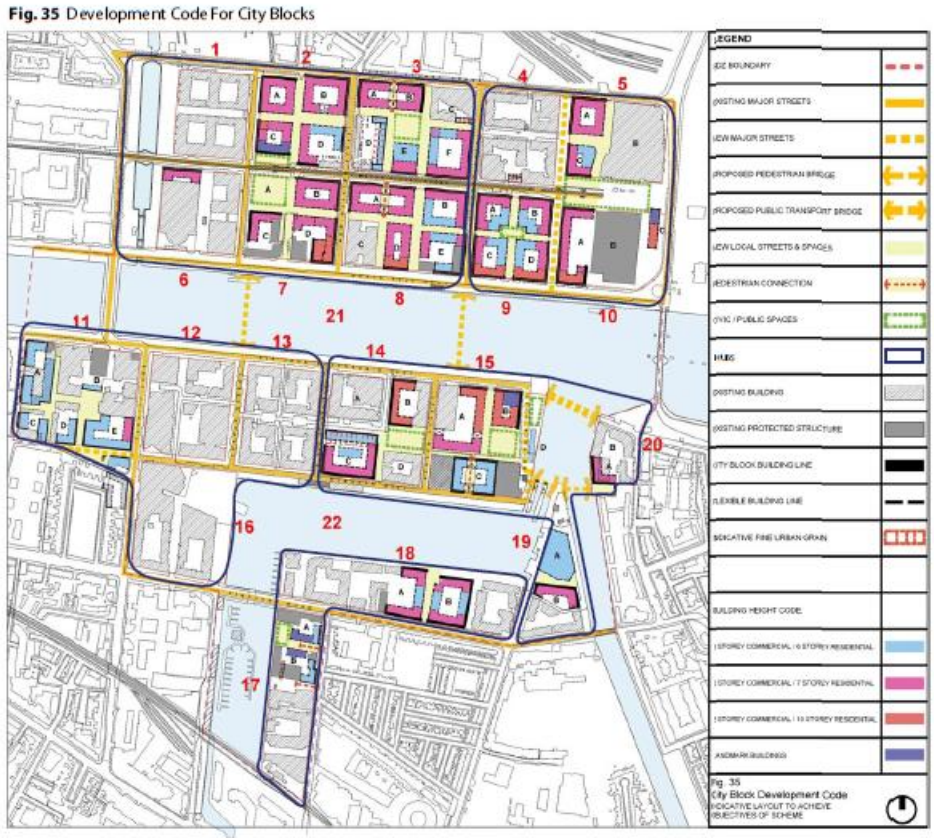
Green Infrastructure (GI)

Public Realm (PR)

Land Use & Mix (LU)

Sustainable Building Design/Quality/Design (SD)

Figure 2 – Planning Scheme for SDZ



Chapter 5 is also screened as this chapter sets out the development and requirements for the area on a city block basis. This chapter has been informed by the previous two chapters. In total 23 blocks were assessed**.**

This evaluation assesses the likely or potential significant effects on the environment, i.e. on biodiversity, flora and fauna, population & human health, water, air, climatic factors, material assets, cultural heritage (including architectural heritage) and soils & landscape, of implementing the Planning Scheme

In accordance with the SEA Directive, the likely significant effects on the environment of implementing the Planning Scheme must be assessed. In line with best practice, as set out in the SEA guidelines, the planning team as a whole carried out the assessment of the likely significant effects of the plan by testing the vision, the high level themes, the objectives, and also the detailed city blocks, contained within Planning Scheme against the environmental protection objectives devised by the SEA team. The high level themes and objectives were determined to have either : positive impact, very positive impact, insignificant/no impact, negative, very negative, or uncertain impact on the environmental receptors. **Section 7** of the Planning Scheme contains the findings of the detailed evaluation of the preferred alternative against the Environmental Protection Objectives.

Possible In combination effects with other plans and projects.

The relevant plans and projects that have been reviewed with potential to result in in-combination effects with the DDPS are as follows:

- Eastern River Basin District Management Plan 2010
- Dublin City Development Plan 2011-2017
- Dublin Port Master Plan 2012-2040
- Dublin Docklands Masterplan 2008
- George's Quay Local Area Plan 2012-2018
- Draft Poolbeg Planning Scheme
- Dublin Port National Development Plan study 2009
- The Dublin Port 6 year Dredge Plan
- North Bull Island Management Plan
- Dublin City Biodiversity Action Plan 2008-2012
- The Dublin Waste to Energy facility
- S2S Dollymount promenade and flood protection project
- S2S – Cycleway and Footway Interim works 2013
- North City Arterial Watermain and Clontarf Flood defences
- Dublin Eastern Bypass project

Screening below indicated that seven plans or projects were assessed as having possible significant in-combination impacts, while eight projects or plans were assessed as having no in-combination impact. Apart from the Dublin Port National Development Study 2009, all of the plans and planning related reports below have gone through an Appropriate Assessment process. Plans and planning related report that have the potential to impact on Natura 2000 sites have provided mitigation measures to avoid impacts. In many cases projects either identified no impacts on Natura 2000 sites or proposed mitigation to ensure that no impacts would take place.

One project was assessed as potentially having a significant in-combination impact, the Dublin Eastern Bypass. A feasibility study for the Eastern Bypass was published in 2007 and recommended a number of route and construction options. Potential impacts on Natura 2000 sites were envisaged but the impacts depended on the final design of the bypass. This project is still at feasibility stage and as such, not enough information available at this time to determine any likely in-combination effects.

Elements of the plan that are likely to have impacts on Natura 2000 sites are the Waste Water Treatment Plant in Ringsend, construction activities and the increased recreational activities. Having regard to elements of the DDPS that are likely to result in impacts, it is considered that, with mitigation in place, significant in-combination effects on Natura 2000 sites are considered unlikely, in relation to the Docklands Planning Scheme.

SECTION 8 MITIGATION

Annex I of the SEA Directive requires the Environmental Report to include measures envisaged to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the plan. These measures are referred to as 'mitigation' measures. These mitigation measures include proactive avoidance of adverse effects on the environment as well as actions taken after any negative effects are noticed. **Section 8** of this report describes the measures devised to militate against any potential significant impacts of implementing the Planning Scheme for the SDZ.

In conclusion it is apparent from the above assessment that the Planning Scheme for the North Lotts/Grand Canal SDZ includes adequate mitigatory measures in the form of objectives to offset any potential impacts on the environmental receptors. No additional mitigation measures were considered necessary in relation to any of the environmental receptors. Objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the plan. Mitigation in the form of objectives serves to formalise the mitigation measures and fully integrates them into the Planning Scheme process.

SECTION 9 MONITORING

The significant environmental effects of the implementation of the Planning Scheme must be monitored in order to identify at an early stage unforeseen adverse effects and to allow for appropriate remedial action to be undertaken. A monitoring programme has been devised having regard to the existing monitoring mechanisms currently in place in Dublin City Council. **Section 9** of this report sets out the Monitoring Programme.

The City Council, as Development Agency, will be responsible for monitoring and reporting on feedback. The City Council will prepare an Annual Progress Report detailing planning permissions granted, development commenced and/or completed, progress on objectives and progress on sustainability indicators. The Report will be submitted to Dublin City Council, its relevant Area Committees and to any other formal consultative structure put in place to oversee regeneration in the wider Docklands Area. In addition, a formal twice-annual consultative forum will be held in the Docklands, with representatives of business, community, environmental and other stakeholders in the area to engage in two-way communication and feedback on progress on the SDZ

Appropriate Assessment and Flood Risk Assessment

The AA Screening process that was undertaken alongside the preparation of the Planning Scheme concluded that no Natura 2000 Sites are deemed to be at risk of likely significant effects of implementing the Scheme.

A flood risk assessment was carried out for the Planning Scheme.(see section 4.5.4.3 Planning Scheme).
The preparation of the Planning Scheme, SEA, AA and FRA has taken place concurrently and the findings of the AA and FRA have informed both the Planning Scheme and the SEA.

The SEA Statement

The Planning Scheme for the North Lotts and Grand Canal Dock SDZ was adopted by the Council on the 5th of November 2013. On adoption, the final stage of the SEA process is undertaken i.e the SEA Statement. This document is published and sent to the Environmental Authorities. It is required to include information on:

- How environmental considerations have been integrated into the Planning Scheme , highlighting the main changes to the plan which resulted from the SEA process.
- How the Environmental Report and consultations have been taken into account summarising the key issues raised in consultations.
- In the Environmental Report, indicate what actions, if any, were undertaken in response, and the reasons for choosing the plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the plan was selected.

The SEA statement must include information on how environmental considerations have been integrated throughout the process. It must also describe how the preferred alternative was chosen to introduce accountability, credibility and transparency into the strategic decision making process.

Legislative Conformance

This report complies with the provisions of the SEA Regulations and is written in accordance with Schedule 2B of the Planning and Development (SEA) Regulations 2004-2011.

Appendix C

Appendix C Relationship with other Relevant Policy, Plans and Programmes.

Table 1.1 below sets out the main plans, policies, programmes and directives identified and gives a brief summary of their main objectives.

Plan / Programme	Summary of Key Objectives
EU Level	
Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment	Under the SEA Directive the plan requires an SEA. The plan must take into account protection of the environment and the integration of the plan into the sustainable planning of the country as a whole
Kyoto Protocol	Objectives seek to alleviate the impacts of climate change and reduce global emissions of Green House Gases (GHGs). The development plan has regard to the objectives and targets of Kyoto and aim to reduce GHG emissions from the management of residential and commercial development. Harnessing energy from natural resources could be considered to reduce overall GHG emissions
Energy End-Use Efficiency and Energy Services Directive (2006/32/EC)	
The European Landscape Convention (Florence 2000)	Aims to promote landscape protection, management and planning and to organise European co-operation on landscape issues
EU Directive 96/62/EC (Air Quality Directive)	Objective to improve air quality by controlling the level of certain pollutants and monitoring their concentrations
EU Water Framework Directive (2000/60/EC)	Aimed at improving the water environment, requiring member governments to take a holistic approach to managing their waters. Member states must aim to achieve good status in all waters by 2015 and must ensure that status does not deteriorate in any waters
European Environment and Health Action Plan 2004 – 2010	Designed to give the EU the scientifically grounded information needed to help member states reduce the adverse health impacts of certain environmental factors and to endorse better cooperation between actors in the environment, health and research fields
EU Groundwater Directive 2006/118/EC	Developed in response to Article 17 of the Water Framework Directive
EU Floods Directive 2007/60/EC	Aim is to reduce and manage the risk that floods pose to human health, the environment, cultural heritage and economic activity
EU Directive 2002/49/EC	To define a common approach intended to avoid, prevent or reduce, on a prioritised basis, the harmful effects, including annoyance, due to exposure to environmental noise.
EU Habitats Directive 92/43/EEC	Protects over 1000 animals and plant species and over 200 'habitat types' which are of European

Plan / Programme	Summary of Key Objectives
	importance
EU Birds Directive 79/409/EEC	Long term protection and conservation of all bird species living in the wild within the European territory of the member states
EU Drinking Water Directive 98/83/EC	Objective to protect the health of consumers in the EU and to make sure the water is wholesome and clean
EU Bathing Water Directive 76/160 EEC	To ensure good bathing water quality
EU Urban Waste Water Treatment Directive (91/271/EEC)	Aimed at protecting the environment from the adverse effects of urban wastewater discharges and discharges from certain industrial sectors
Soil Framework Directive (proposed)	Member states to adopt a systematic approach to identifying and combating soil degradation
EU Drinking Water Directive 98/83/EC	To protect the health of the consumers in the European Union and to make sure the water is wholesome and clean
Bathing Water Directive 2006/7/EC	Repeals Bathing Water Directive 76/160/EEC on 31st December 2014
91/271/EEC as amended by Directive 98/15/EEC Urban Wastewater Treatment	To protect the environment from the adverse effects of discharges of urban wastewater by the provision of wastewater collecting systems and treatment plants for urban centres
European Commission White Paper on Adapting to climate change: Towards a European Framework for Action (COM (2009) 147)	Sets out a framework to reduce the EU's vulnerability to the impact of climate change
EU Shellfish Waters Directive 2006/113/EC	Concerns the quality of shellfish waters and applies to those waters designated as needing protection or improvement in order to support shellfish life and growth
EU Air Quality Directive 2008	Sets binding standards for Air Particles
Directive on Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC	Provides standards for fine particle PM2.5 pollution in the European Union
Pesticides Framework Directive (proposed)	To control the storage, use and disposal of pesticides to minimise risk to health and environment from their usage and to include measures which relate to soil management strategies in land use planning
National Level	
Water Services Act 2007 (As amended)	Focuses on management of water 'in the pipe' as opposed to river water quality etc
National Climate Change Strategy 2007 – 2012	Sets out measures for Ireland's reduction in emissions
National Development Plan 2007 – 2013	€184 mil infrastructural investment plan to build a prosperous country for Ireland's population

Plan / Programme	Summary of Key Objectives
National Spatial Strategy 2002 - 2020	20-year national planning framework to achieve more balanced social, economic and physical development across Ireland based on Gateways and Hubs
Transport 21 (2006 – 2015)	€34 billion transport capital investment framework under the NDP to address past investment backlogs and continuing growth in transport demand
Actions for Biodiversity 2011-2016 – Ireland's National Biodiversity Plan	Objective to promote the conservation and sustainable use of biodiversity
National Energy Efficiency Action Plan 2009 – 2020	Sets out the government's actions to achieve 20% energy efficiency saving
Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities 2009	Objective to produce high quality sustainable development which includes the integration of schools, community facilities, employment, transport and amenities in a timely and cost-effective manner
Urban Design Manual – A Best Practice Approach	Companion document on best practice implementation of 'Sustainable Residential Development in Urban Areas'
The Planning System and Flood Risk Management – Guidelines for Planning Authorities 2009	Aims to integrate flood risk management into the planning process
Preventing and Recycling Waste: Delivering Change (2002)	Aims to achieve an integrated approach to waste management based on the internationally accepted hierarchy of options with waste prevention favoured
Framework and Principles for the Protection of the Archaeological Heritage (1999)	Outlines the State's general principles in relation to the management and protection of archaeological heritage
European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 S.I. 435 of 2004 and **Planning and Development (Strategic Environmental Assessment) Regulations 2004 S.I. 436 of 2004**	Transposes EU Directive 2001/42/EC into Irish Law
Architectural Heritage Protection Guidelines for Planning Authorities (2004)	Practical Guide for planning authorities to deal with the provisions of Part IV of the Planning and Development Act
Wildlife Act 1976 and Wildlife (Amendment) Act 2000	Main Objectives of 1976 Act: To provide for the protection of flora and fauna, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims Main Objective of the 2000 (Amendment) Act: To give statutory protection to NHAs, geological and geomorphological sites, enhance the conservation of species and habitats, enhance hunting controls,

Plan / Programme	Summary of Key Objectives
	inclusion of most species for protection, regulation of commercial shoot operators, ensure compliance with international agreements, increase fine levels for contravention of Wildlife Acts, strengthen the provisions relating to the cutting of hedgerows, strengthen the protective regime for SACs and to give statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity Transposes EU Habitats Directive 92/43/EEC into Irish law
European Communities (Drinking Water) (No.2) Regulations 2007 S.I. 278 of 2007	Transposes EU Water Framework Directive (2000/60/EC) and EU Drinking Water Directive 98/83/EC into Irish Law
European Communities (Water Policy) Regulations 2009 S.I. 272 of 2009	Gives effect to the measures needed to achieve the environmental objectives established for the bodies of surface water by Directive 2006/60/EC
Quality of Bathing Water Regulations, 1992 S.I. 155 of 1992	Transposes EU Bathing Water Directive 76/160/EEC into Irish Law
Urban Wastewater Treatment (Amendment) Regulations 2010 S.I. 48 of 2010	Gives effect to Directive 2000/60/EC and to Directive 91/271/EEC
European Communities (Water Policy) Regulations 2003 S.I. 722 of 2003	Transposes the Water Framework Directive into Irish Law
European Communities Quality of Shellfish Waters (Amendment) Regulation 2009 S.I. 55 of 2009 & Malahide Shellfish Waters Pollution Reduction Programme for Programmes as per SI No. 268 of 2006	To give effect to in the State to Directive 79/923/EEC of 30th October 1979 on the quality required of shellfish waters
European Communities (Assessment and Management of Flood Risk) Regulations 2010 S.I. 122 of 2010	Transposes EU Floods Directive 2007/60/EC into Irish Law
Environmental Noise Regulations 2006 S.I. 140 of 2006	Transposes EU Directive 2002/49/EC into Irish Law
Ambient Air Quality and Assessment and Management Regulations, 1999 S.I. 33 of 1999	Transposes EU Directive 96/62/EC (Air Quality Directive) into Irish Law
National Renewable Energy Action Plan (NREAP)	The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC
S.I. 436 of 2004 Planning and Development (Strategic Environmental Assessment) Regulations 2004	
Regional Level	
Retail Strategy for the Greater Dublin Area (GDA) 008 - 2016	Aims to set out a co-ordinated, sustainable approach to the assessment and provision of retail within the Greater Dublin Area
Greater Dublin Strategic Drainage Study	Identifies the policies, strategies and projects for

Plan / Programme	Summary of Key Objectives
	developing a sustainable drainage system for the Greater Dublin Region; Identifies the need for the North Dublin Wastewater Treatment Plan and the Orbital Sewer, improvements in the drainage capacity and the need to upgrade existing treatment plants to their ultimate capacity
Dublin Coastal Flooding Protection Project	Aims to address and assess the risk from tidal flooding around the coastline
Regional Planning Guidelines for the Greater Dublin Area 2010 - 2022	Aims to direct the future growth of the Greater Dublin Area over the medium to long term involving sustainable planning and through the protection of environmentally sensitive or important locations
Waste Management Plan for the Dublin Region 2005 – 2010	Provides a framework for minimising waste, encouraging recycling and ensuring the avoidance of environmental pollution. Policy also includes diversion from landfill in accordance with targets set out in the European Union Landfill Directive
DTO Strategy 2000 – 2016 A Platform for Change	Integrated, multi-modal transportation strategy for the Greater Dublin Area
2030 Vision for Greater Dublin Transport	To identify areas of accessibility within the Dublin Region and the most appropriate locations for intensification
Dublin Agglomeration Noise Action Plan relating to the Assessment and Management of Environmental Noise 2008 - 2013	To identify the scale of the noise problem in the Dublin Region and set realistic targets for noise reduction if so required
Eastern River Basin District - River Basin Management Plan 2008 and Associated Programme of Measures (POM)	Describes the actions that are proposed to ensure the necessary protection of waters in the Eastern River Basin District
Greater Dublin Strategic Drainage Study (GDSDS) 2005	Objective to identify the policies, strategies and projects for developing a sustainable drainage system for the Greater Dublin Area
Water Supply Project Dublin Region	Study determining a new major water source to meet projected demand in the long term
Eastern River Basin District Management Plan 2009 – 2015 and Associated Programmes of Measures	Describes the actions that are proposed to ensure the necessary protection of waters in the Eastern River Basin District
Catchment-Wide Flood Risk Assessments	Requirement of the EU Floods Directive
2030 Vision, DTO (Draft)	To identify areas of accessibility within the Dublin Region and the most appropriate locations for intensification
Dublin City Level	
Dublin City Development Plan 2011-2017	The development plan sets out the spatial framework for the city within the context of National and regional plans.
Dublin Docklands Master Plan 2008	Key objective to secure the sustainable social and economic regeneration of the area, with improvements to the physical environmental being

Plan / Programme	Summary of Key Objectives
	a vital ingredient
Dublin City Council Biodiversity Action Plan 2008	Aims to achieve the objectives of the Dublin City Development Plan relating to quality of life, green spaces, amenity provision, planning development and protection of the natural heritage in the city as well as working towards the world target the "achievement by 2010 of a significant reduction in the current loss of biological biodiversity"
Dublin Agglomeration Noise Action Plan relating to the Assessment and Management of Environmental Noise 2008 – 2013	For the Dublin Agglomeration distinct noise maps have been produced for all roads, and all railway lines including the Luas (light rail) for all four local authorities in the Agglomeration. These maps cover the long term average periods for night time (Lnight) and 24 hours (Lden).
Green City Guidelines – Advice for the Protection and Enhancement of Biodiversity in Medium to High-Density Urban Developments 2008	Provides practical guidance to planners and developers on how to integrate biodiversity into new developments, specifically medium to high density housing developments in urban areas
Climate Change Strategy for Dublin City 2008 - 2012	Focuses on the continuation of the implementation of a range of measures across key areas involving a cross-cutting approach and includes targets in energy, planning, transport, waste management
Dublin City Sustainable Energy Action Plan 2010-2020	This long-term vision shows how, the introduction of carbon neutral and low-energy buildings, improvements in information technology and the development of a low-carbon transport system will help Dublin to reduce its carbon emissions by 50 per cent.
Cultural Strategy for Dublin City 2009	Aims to fulfil the vision "Culture is integral to Dublin city's identity and quality of life"
Dublin City Heritage Plan	Sets out priorities to identify, protect, preserve, enhance and increase awareness of Dublin's heritage in the area of the historic built environment, the natural environment and the social and cultural history of the city
Dublin City Council's Guidelines for Open Space and Development Taking in Charge (2009)	Guidelines issued by Dublin City Council which include required measures
Habitat Management Plans	Management Plans produced for five parks – Springdale Park, St. Kevin's Park, St. Anne's Park, Le Fanu Park and Bushy Park - and being implemented by Dublin City Council Parks and Landscape Services
Litter Management Plan 2008	Plan prepared and adopted by the Dublin City Council. Deals with the issues of (i) prevention and awareness, (ii) responsibility and partnership, (iii) litter management and cleaning, (iv) graffiti and (v) enforcement
Dublin Port Master Plan 2012 – 2040 (Non statutory plan)	Sets out a vision for the operations of the port
The River Regeneration Strategy 2001	Aims to maximise the amenity potential of the River Liffey with a series of initiatives for river based projects.

Plan / Programme	Summary of Key Objectives
The Campshire Vision 2007	Looks at how the Liffet with its water , waterfront and docks has the potential to become a new centre for employment, leisure, culture and the arts.
The City Canals Plan 2010	Was prepared on a partnership basis between Dublin City Council, Docklands Authority and Waterways Ireland. The Plan relates to the canals and associated docks within the city boundary areas, and identifies recreational and tourism potential for specific sections of the canals including the Royal an Grand Canal at Docklands.
The Cruise & Urban regeneration of City Port Heritage – Local Action Plan for Dublin 2011	Sets out a strategy for the development of cruise tourism and urban regeneration of the port area to create an urban quarter that facilitates sustainable and consolidated growth in the city and to articulate a new relationship between the city and port through the development of the cruise tourism sector
Grand Canal Dock and North Lotts Section 25 Planning Schemes	Grand Canal Dock Planning Scheme 2000 (amended 2006) has produced a successful new urban quarter around Grand Canal Dock The Docklands North Lotts Planning Scheme 2002 (amended 2006) follows a set of principles to extend the successful IFSC, Mayor Street areas eastwards to the Point Village.

Appendix D

Feature No.	Site Function	Type	Location	Notes	Rating
18 11 151	Custom House	Trade	Custom House Quay	not in SDZ area	N
18 12 020	Goods Shed	Trade	Lime Street		R
18 12 031	Railway Station	Transport	Cumberland Street South		R
18 12 032	Bridge	Transport	Sandwith Street Upper		R
18 12 033	Bridge	Transport	Erne Street Upper		R
18 12 034	Bridge	Transport	Erne Place, Brunswick Place		R
18 12 040	Gas Works	Manufacturing	Pearse St, Macken St		NR
18 12 049	Bridge	Transport	Mount Street Crescent		R
18 12 050	Canal Lock	Transport	Herbert P, Percy Pl		R
18 12 060	Canal Office	Transport	North Wall Quay, Guild St		NR
18 12 061	Bridge	Transport	North Wall Quay		NA
18 12 062	Sea Lock	Transport	North Wall Quay		R
18 12 063	Bridge	Transport	North Wall Quay		R
18 12 064	Garage (Tram power station)	Transport	Ringsend Road		R
18 12 067	Docks	Transport	Spencer Dock		R

18 12 068	Timber Yards	Trade	Hanover St East, SJR Quay		NR
18 12 069	Railway	Transport	North Wall Quay		NR
18 12 070	Goods Shed	Trade	North Wall Quay		NR
18 12 071	Railway	Transport	North Wall Quay		NR
18 12 072	Railway Station	Transport	North Wall Quay		R
18 12 073	Goods Shed	Trade	North Wall Quay		NR
18 12 074	Vitriol Works	Manufacturing	New Wapping St, Mayor St		NR
18 12 075	Iron Works	Manufacturing	New Wapping St, North Wall Quay		NR
18 12 076	Goods Shed	Trade	North Wall Quay		NR
18 12 077	Saw Mills	Manufacturing	Castleforbes Road, North Wall Quay		NR
18 12 078	Packing Case Factory	Manufacturing	North Wall Quay		NR
18 12 079	Goods Station	Transport	North Wall Quay		R
18 12 080	Railway	Transport	North Wall Quay		R
18 12 084	Quay	Transport	North Quay Extension		R
18 12 089	Quay	Transport	Alexandra Basin		NR
18 12 090	Quay	Transport	Alexandra Quay		NR
18 12 091	Basin	Transport	Alexandra Basin, North Wall Ext		R
18 12 093	Light House	Transport	North Wall Extension, North Wall Quay		NR
18 12 095	Chemical Works	Manufacturing	North Wall Quay		NR

18 12 096	Iron Works	Manufacturing	North Wall Quay		NR
18 12 097	Railway Station	Transport	North Wall		NR
18 12 098	Tramway	Transport	Mayor Street Upper, North Wall Quay		NR
18 12 100	Cooker and Meter Factory	Manufacturing	SJR Quay		NR
18 12 101	Corn Mill	Manufacturing	Barrow Street		R
18 12 102	Chemical Manure Works	Manufacturing	SJR Quay		R
18 12 103	Chemical Manure and Oilcake Mills	Manufacturing	SJR Quay & others		NR
18 12 104	Granary	Manufacturing	Hanover Quay, Green St E, Benson St	18 12 104	R
18 12 106	Canal Lock	Transport	Britain Quay	18 12 106	R
18 12 107	Canal Lock	Transport	Britain Quay	18 12 107	R
18 12 108	Canal Lock	Transport	Britain Quay	18 12 108	R
18 12 109	Dry Dock	Transport	Charlotte Quay, S Docks Rd	18 12 109	R
18 12 110	Dry Dock	Transport	S Docks Rd, Charlotte Quay	18 12 110	R
18 12 111	Coal Yard	Trade	S Docks Rd, Charlotte Quay	18 12 111	R
18 12 112	Bridge	Transport	Pearse St, Ringsend Rd	18 12 112	NR
18 12 114	Glass bottle factory	Manufacturing	Ringsend Rd, Charlotte Quay	18 12 114	NR
18 12 115	Bottle factory	Manufacturing	South Docks Road	18 12 115	NR
18 12 118	Boat Slip	Transport	York Road	18 12 118	L

18 12 119	Bottle Works	Manufacturing	Thorncastle St, York Rd	18 12 119	NR
18 12 121	Landing Stage	Transport	Thorncastle Street	18 12 121	L
18 12 126	Sack Factory	Manufacturing	Barrow Street	18 12 126	R
18 12 127	Corn Kiln	Manufacturing	Barrow Street	18 12 127	R
18 12 128	Mills	Manufacturing	Barrow Street	18 12 128	R
18 12 133	Railway Engine Shed	Transport	Barrow Street	18 12 133	NR
18 12 134	Bridge	Transport	Barrow Street	18 12 134	L
18 12 144	Bottle factory	Manufacturing	Ringsend Road	18 12 144	R
18 12 145	Gas Works	Manufacturing	SJR Quay & others	18 12 145	R
18 12 146	Coal Yard	Trade	Thorncastle Street	18 12 146	NR

Key to DCIHR Rating

N	**National**	**1**
R	**Regional**	**30**
L	**Local**	**3**
NR	**No Rating**	**28**

Total: 62 (including Custom House just outside SDZ boundary)

Appendix D Archaeological Investigations

2002:0543. River Liffey, Guild Street/Macken Street, Dublin
No archaeological significance

2004:0565. BUILDING C, SPENCER DOCK, NORTH WALL QUAY, DUBLIN
Late Mesolithic fish traps and post-medieval structures

2006:634. National Conference Centre, Spencer Dock, North Wall Quay, Dublin
Post-medieval reclamation deposits

2007:491. North Wall Quay, Dublin
Monitoring

2007:492. North Wall Quay, Dublin
No archaeological significance

2007:493. National Conference Centre, Spencer Dock, North Wall Quay, Dublin
Urban, post-medieval

2007:494. Spencer Dock, North Wall Quay, Dublin
Prehistoric fish traps

2012E0126. Environmental improvement and bus corridor scheme
Post medieval maritime and land reclamation.

Sir John Roberson's Quay
2002:0577. Sir John Rogerson's Quay, Dublin
Urban

2003:0577. Sir John Rogerson's Quay, Dublin
Urban post-medieval

2006:641. 17–19 Sir John Rogerson's Quay, Dublin
Urban, post-medieval

2006:642. 17–19 Sir John Rogerson's Quay
Urban

2006:643. 17–19 Sir John Rogerson's Quay, Dublin
Urban, post-medieval

2008:412. Grand Canal Docks/Sir John Rogerson's Quay, Dublin
Canal basin/riverine

2004:0519. U2 TOWER, BRITAIN QUAY, DUBLIN
Urban

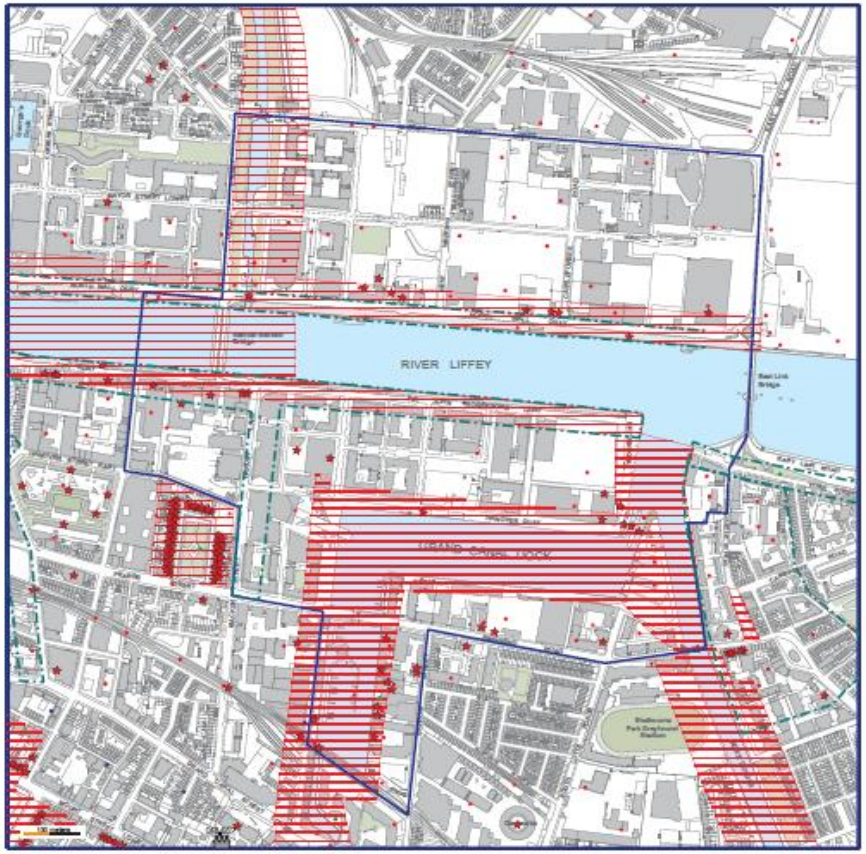
2005:445. 5–7 AND 8 HANOVER QUAY, DUBLIN
Urban

2006:624. 5–7/8 Hanover Quay, Dublin
Urban

Appendix E

DOCKLANDS SDZ

HERITAGE AND CONSERVATION



Boland's Mills

LEGEND

HERITAGE:

- Industrial Heritage
- Historic Street Surfaces
- Statues
- Protected Structures
- Conservation Areas Development Plan 2011-2017
- Site of Archaeological Interest
- Zone of Archaeological Interest

33 Barrow Street, Dublin 4

Constructed: c. 1835

Brief Description: Semi-detached, two-storey-over-basement, two-bay rendered house with paired granite steps to main entrance having round-head openings with console brackets, square-headed window openings with hood moulding to ground floor and band moulding to upper floors. Plinth wall with granite coping to front site (railings removed). Roof concealed behind granite parapet. Modern steel frame supports structure.

Protected Structure Ref: 483, House/offices, including railings and steps

Architect: Unknown

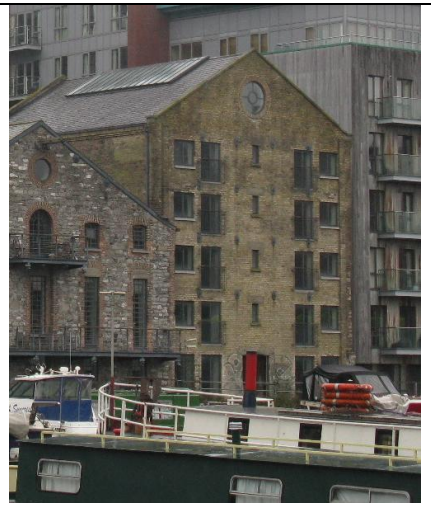
Original Use: Residential

Current Use: Derelict

Special Interest Categories: Architectural

34 Barrow Street, Dublin 4 *Constructed:* c. 1835 *Brief Description:* Semi-detached, two-storey-over-basement, two-bay rendered house with paired granite steps to main entrance having round-head openings with console brackets, square-headed window openings with hood moulding to ground floor and band moulding to upper floors. Plinth wall with granite coping to front site (railings removed). Flat roof concealed behind granite parapet. Modern steel frame supports structure. *Protected Structure Ref:* 484, House/offices, including railings and steps *Architect:* Unknown *Original Use:* Residential *Current Use:* Derelict *Special Interest Categories**:*** Architectural	
Boland's Mill, Barrow Street, Dublin 4 *Constructed:* c.1920 *Brief Description:* Two-storey with attic former sack factory consisting of two gable-fronted ranges, each of three bays. Pitched roofs with roof lights c.1990 and cast-iron rainwater goods. Squared random coursed limestone walls with	

dressed limestone quoins. Brick walling in Flemish-bond, on squared limestone plinth to west elevation with brick eaves and dog-tooth string courses. Gauged brick low segmental-arched and square-headed openings, brick block-and-start surrounds to east elevation. Replacement segmental-headed carriage arches with brick block-and-start surrounds. Carriage arches to west elevation previously provided access to canal, now windows. Remains of pulley visible to east elevation. Structures may incorporate fabric from earlier lime kilns. *Protected Status Ref:* 485, (a) Two-storey brick gables of warehouses to south of Boland's Mill, see also no.1 Ringsend Road *Architect:* Unknown *Original Use:* Sack Factory *Current Use:* Recording Studios c. 1990 *Special Interest Categories:* Architectural, Social	
36 (rear of) Barrow Street, Dublin 4 *Constructed:* c.1850 *Brief Description:* Three-storey, five-bay, stone gable-fronted rubble limestone structure. Pitched replacement roof with cast-iron rainwater goods. Gauged brick low segmental-arched and square-headed window openings; square-	

headed window openings to west elevation with red brick block-and-start surrounds; replacement windows throughout. Oriel window to west gable. *Protected Status Ref:* 486, (b) Three-storey warehouse with Oriel window, to south of (a) above. *Architect:* Unknown *Original Use:* Corn kiln complex *Current Use:* Commercial c. 2003 *Special Interest Categories:* Architectural, Social	
37 (rear of) Barrow Street, Dublin 4 *Constructed:* c.1850 *Brief Description:* Three-bay, five-storey yellow brick structure fronting onto canal. Pitched replacement roof with roof lights and cast-iron rainwater goods. Square-headed window openings with replacement windows and Oriel window to west gable, replacement windows throughout. *Protected Status Ref:* 487, (c) Five-storey warehouse/mill gable end to quay, to south of (b) above. *Architect:* Unknown	

Original Use: Corn kiln complex *Current Use:* Commercial c. 2003 *Special Interest Categories:* Architectural, Social	
38-40 (rear of) Barrow Street, Dublin 4 *Constructed:* c.1850. *Brief Description:* Four-storey, eight-bay brick and stone structure survives with west elevation fronting onto canal and converted to new apartments c.2007. Pitched slate roof with rooflights added c.2007 to east elevation and cast-iron rainwater goods. Random rubble stone walling. Red brick walling to west elevation with bays defined by full-height recesses and moulded brick stringcourses. Gauged brick low segmental-arched window and door openings with block-and-start brick surrounds to east elevation and integrated keystones to west elevation openings, replacement windows and doors. Glass stairwell added to east elevation c.2007. Remains of a further stone structure to east *of former mill building with brick block-and-start window surrounds.* *Protected Status Ref:* 488, (d) Four-storey brick warehouse/mill parallel to quayside, to rear of 38-40 Barrow Street, to south of (c) above *Architect:* Unknown	

Original Use: Corn mills *Current Use:* Commercial & Residential c.2007 *Special Interest Categories:* Architectural, Social	
Former Lock-Keeper's Cottage, Britain Quay, Dublin 2 *Constructed:* c. 1780 *Brief Description:* Detached, three-bay, single-storey, rendered, lock keeper's cottage with square-headed window openings with stone sills and square-headed door opening all blocked up. Tall rendered chimney stacks to collapsed pitched roof. *Protected Status Ref:* 986, Former lock-keeper's cottage *Architect:* Unknown *Original Use:* Lock keeper's cottage *Current Use:* Derelict *Special Interest Categories:* Architectural, Social	

Westmoreland, Buckingham and Camden Locks, Britain Quay/Hanover Quay, Dublin 2

Constructed: 1796

Brief Description: Three tidal locks, each of varying size at the entrance to Grand Canal Dock. Lock gates of timber and iron construction, with ashlar granite inner walls and integrated footbridges. Painted timber mooring posts at intervals between gates. Incised lettering to west wall of each lock reads *Westmoreland Lock 1796, Buckingham Lock 1796 & Camden Lock 1796*, each named after an English Viceroy

Protected Status Ref: 987, Triple sea-locks (Westmoreland, Buckingham and Camden Locks) at the river entrance to Grand Canal Dock

Architect: Unknown

Original Use: Lock gates

Current Use: Westmoreland Lock now disused. Buckingham Lock recently restored and still in use. Camden Lock original windlasses still in place.

Special Interest Categories: Architectural, Historical, Technical

Bridges: Railway, Grand Canal Quay, Dublin 2 *Constructed:* c.1834 *Brief Description:* Single-arch masonry railway bridge. Segmental arch with ashlar voussoirs resting on channelled ashlar limestone piers with granite opening. Channelled ashlar limestone spandrels and channelled ashlar granite arch barrel laid at an angle. *Protected Status Ref:* 883, Grand Canal Quay *Architect:* Unknown *Original Use:* Railway bridge constructed to carry the Dublin and Kingstown Railway *Current Use:* Railway bridge *Special Interest Categories:* Architectural, Social, Technical	
Railway viaduct, Grand Canal Quay, Dublin 2 *Constructed:* c. 1834 *Brief Description:* Single-arch masonry railway bridge. Segmental arch with ashlar voussoirs resting on channelled ashlar limestone piers with granite	

opening. Channelled ashlar limestone spandrels and channelled ashlar granite arch barrel. Random squared stone abutment to east of the bridge. *Protected Status Ref:* 3276, Railway viaduct with semi-elliptical arch *Architect:* Unknown *Original Use:* Railway bridge constructed to carry the Dublin and Kingstown Railway over Grand Canal Quay. *Current Use:* Railway Bridge *Special Interest Categories:* Architectural, Social	
8 Grand Canal Quay, Dublin 2 *Constructed:* c. 1880 *Brief Description:* Detached, four-storey with modern attic storey, multiple-bay yellow brick former Malt House with rubble stone ground floor and rendered rear elevation. Ground floor segmental-headed carriage arch openings having keystones with square-headed openings with granite sills to upper floors with timber sash windows. *Protected Status Ref:* 3277, Old Malt House *Architect:* Unknown	

Original Use: Malt House *Current Use:* Commercial *Special Interest Categories:* Architectural, Social	
2 Green Street East, Dublin 2 *Constructed:* c. 1890 renovated 2000 by NBK Designs Ltd for which they won RIAI Irish Architect Award Regional Award 2000 *Brief Description:* Detached, two-storey, six-bay rubble store former warehouse with two double height sliding timber doors with segmental-headed window openings having granite sills. Pitched hipped roof with natural slate. *Protected Status Ref:* 3328, Two-storey warehouse at corner of Britain Quay *Architect:* Unknown *Original Use:* Warehouse *Current Use:* Commercial *Special Interest Categories:* Architectural, Historical	

Three-Gabled Warehouse, Hanover Quay, Dublin 2 *Constructed:* c.1890 *Brief Description:* Terraced row of three gable fronted warehouses with semi-vitrified brown brick with granite ashlar plinth, stringcourse and door surrounds and with yellow-brick detailing to gables and to central Oriel. Door opes are segmental-headed throughout and some retain original tongue-and-groove timber doors. *Protected Status Ref:* 3512, Three-gabled warehouse fronting quay *Architect:* Unknown *Original Use:* Former Dublin Granaries Site *Current Use:* Commercial *Special Interest Categories:* Architectural, Historical	
9 Hanover Quay, Dublin 2 *Constructed:* c. 1840 *Brief Des*cription: Detached, two-storey, six-bay, rubble stone former warehouse with red brick dressing to window and carriage arch openings	

having four carriage arch openings onto the Grand Canal Dock. Modern refurbishment added double height atrium to the west gable end and a double height canted bay to the south elevation. *Protected Status Ref:* 3513, Malt House *Architect:* Unknown *Original Use:* Malt House *Current Use:* Residential *Special Interest Categories:* Architectural, Historical	
Alliance Gasworks Chimney Stack, Hibernian Road, Dublin 2 *Constructed:* c.1880-1900 *Brief Description:* Round profile tapered red brick chimneystack, one of the few surviving elements of the former Alliance Gas Works on this site. Now integrated into a public park with lower section used as climbing wall. *Protected Status Ref:* Progressing through addition process to the RPS *Architect:* Unknown *Original Use:* Part of the Alliance Gas Works Plant	

Current Use: Unused *Special Interest Categories:* Architectural, Historical	
Bridges: Royal Canal, North Wall Quay: Dublin 1 *Constructed:* c. 1912 *Brief Description:* Pair of iron lifting bridges across entrance to Spencer Dock. Each bridge comprises two main girders connected by floor beams with segmental girders to west end of main girders to form rolling surface upon which the bridge bears; segmental girders are extended so as to carry a large counterweight. Similar pair of bridges erected over entrance to Georges Dock further to west along quays. Snecked limestone wall to north having segmental coping with square profile gate piers having dressed caps. *Protected Status Ref:* 912, two swing bridges, including adjoining stone walls *Architect:* Based on design patented by William Scherzer in 1893 *Original Use:* Pair of iron lifting bridge across entrance to Spencer Dock. *Current Use:* Lift bridge function not in use. *Special Interest Categories:* Architectural, Technical	

CIE Goods Depot, North Wall Quay, Dublin 1

Constructed: 1890-1905

Brief Description: Detached, thirteen-bay, two-storey former train station with red brick façade having granite plinth, quoins, key stones, string course and entablature. Granite parapet detail over main entrance. Single-storey curved block to east. Timber sash windows and timber and glazed doors throughout. Sections of elaborate Victorian canopy still exists over the curving section of the rear elevation concourse laid with stone setts.

Protected Status Ref: 5836, CIE goods depot, including curved wall and chimneys

Architect: Unknown

Original Use: North Wall Station of the branch line built to connect the Amiens Street (Connolly Station) network with the North Wall Quay, where the London and North Western Railway mail boats were moored also having the capacity for both goods and passengers. Post WW1, it was converted for freight use. Used by Irish Rail as a freight-handling depot and administrative offices.

Current Use: Unused

Special Interest Categories: Architectural, Historical, Social

Former Goods Depot, North Wall Quay, Dublin 1

Constructed: c. 1878 refurbished c.1988 and c. 2008

Brief Description: Detached, sixteen-bay, two storey former railway depot with tripartite goods station to north having sixteen-bay side elevation. Pitched slate roof to south section with red brick chimneystacks having limestone cornices; roof to rear section replaced by modern glazed flat-roofed structure rising above original walls. Limestone ashlar forming arcade to ground floor with entablature over; red brick to first floor with limestone entablature and brick blocking course having limestone coping; limestone quoins; roughly squared random coursed limestone wall to east elevation. Three groups of three round-arched openings to ground floor south elevation with limestone moulded architrave and replacement windows and doors. Round-headed door openings to south with Doric limestone surrounds incorporating pilasters supporting entablatures;

Protected Status Ref: 5843, Former goods depot (The O2)

Architect: Unknown

Original Use: Goods terminal for the Great Southern and Western Railway Company

Current Use: Concert Venue

Special Interest Categories: Architectural, Historical, Social

Granite Quay Walls and Associated Elements, North Wall Quay, Dublin 1

Constructed: Between 1864 to 1869

Brief Description: Granite ashlar quay walls constructed using precast large-mass concrete wall units to form the lower sections, the first example of this construction in Ireland, with ashlar granite walls above and granite flags forming kerbing having intermittent cast-iron moorings, stone setts, mooring rings, steps with sections of the tracks of the mobile cranes that once fronted the quay. Mix of original and modern stone paving with inset pavement lights, modern lamp standards and a steel railing to river's edge.

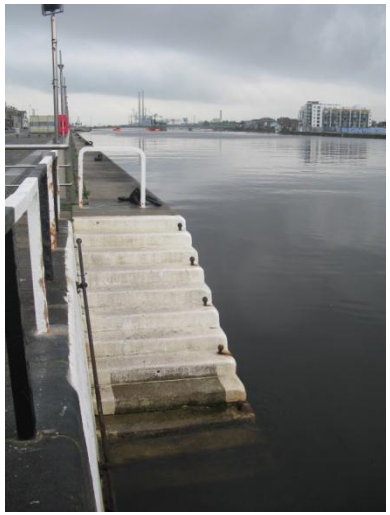
Protected Status Ref: 5835, Granite ashlar quay walls, stone setts, mooring rings, steps, bollards, lamp standards and machinery (Granite bollards, lamp standards and machinery are no longer present)

Engineer: Bindon Blood Stoney, the Ballast Board's chief engineer

Original Use: Commercial

Current Use: Amenity

Special Interest Categories: Architectural, Historical, Technical



The Wool Store, North Wall Quay, Dublin 1

Constructed: 1847 - 1864

Brief Description: Detached, eleven-bay, three-storey, former railway warehouse with a five-bay, central gabled section originally with timber lantern over. Rubble stone walls with ashlar quoins and granite coping to gables. Centrally placed timber lifting beam below Oriel window. Brick reveals and granite sills to blocked up openings. Corrugated metal roof covering.

Protected Status Ref: 5837, The Wool Store, including hexagonal lantern (hexagonal lantern no longer present)

Architect: Unknown

Original Use: Originally designed as a port facility, it was subsequently incorporated into the North Wall Station, although it was never directly accessible from the railway sidings. The ground floor was formerly used as stables by the LNWR. In the 1940s, it was referred to as the Wool Warehouse Stable.

Current Use: Unused

Special Interest Categories: Architectural, Historical, Social

58-59 North Wall Quay, Dublin 1

Constructed: 1890

Brief Description: Detached, eight-bay, three-storey with attic former hotel building. Red brick façade with red terracotta string courses, entablatures and parapets pedimented panels, granite ashlar plinth and red sandstone dressing to pedimented bay on west façade. Steep pitched roof with brick decorative stacks, lead finials and copper clad hemispherical dome. Decorative terracotta dressing to openings with square and round-headed window openings with timber sash windows and timber panelled double-leaf doors.

Protected Status Ref: 5838, Former British Rail Hotel

Architect: Unknown

Original Use: **London and North Western Hotel. Subsequently became known as the British Rail Hotel after the nationalisation of the railways but ceased to be a hotel during the 1920s. Following that it contained offices of Irish Rail, including the architects department.**

Current Use: Unused

Special Interest Categories: Architectural, Historical, Social

Granite Walls and Associated Elements at Former British Rail Hotel, North Wall Quay, Dublin 1

Constructed: 1890

Brief Description: Granite plinth with decorative cast-iron railings, gate to west side with cast-iron posts having ball finials. Granite setts to west roadway have been removed and the area is now tarmacadamed over.

Protected Status Ref: 5839, Granite walls at former British Rail hotel, railings, gates, and adjoining setts in cul-de-sac (now removed)

Architect: Unknown

Original Use: See 58-59 North Wall Quay above

Current Use: See 58-59 North Wall Quay above

Special Interest Categories: Architectural

81 North Wall Quay, Dublin 1

Constructed: c.1860

Brief Description: Terraced, three-storey over basement, two-bay red brick building with public house to ground floor and residential above. Timber framed shopfront to ground floor and separate entrance to upper floors.

Protected Status Ref: 5841, Business premises

Architect: Unknown

Original Use: Residential, separate Public House to ground floor c. 1908

Current Use: Unused

Special Interest Categories: Architectural, Historical, Social

82 North Wall Quay, Dublin 1

Constructed: c. 1890

Brief Description: End-of-terrace, three-bay, gable-fronted red brick building with eight-bays to the east side elevation. Yellow brick string-course with granite sills and plinth. Segmental-headed openings with timber framed sash windows. Cast-iron downpipes and concrete ring beam to parapet.

Protected Status Ref: 5842, Business premises

Architect: Unknown

Original Use: Warehouse

Current Use: Unused

Special Interest Categories: Architectural, Historical

1 Ringsend Road, Dublin 4

Constructed: Between 1837 and 1880

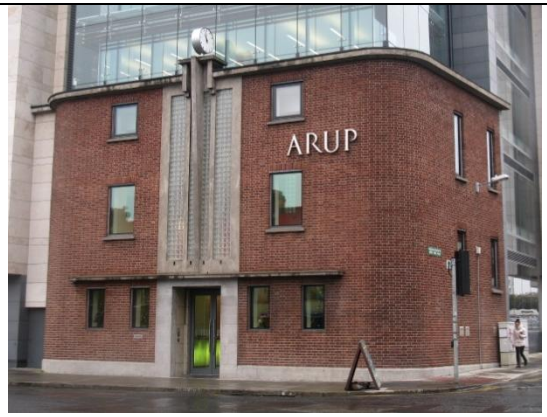
Brief Description: Extensive mill complex comprising a wide range of building phases. First established in 1837 by Pim & Co. who built the double-pile store fronting onto Grand Canal Harbour as well as a 'spring mill' fronting onto Ringsend Road. The store survives largely intact, a multiple-bay six-storey building in squared limestone rubble with brick surrounds to opes. The 'spring mill' on Ringsend Road was amalgamated into a larger range of buildings when Pim extended the site east along Ringsend Road in the 1860s, with the addition of a multiple-bay six-storey 'winter' mill, again in squared rubble with brick surrounds and timber frame two-over-two sash windows. Pim also added the two-storey office building to the northeast corner of the site, c.1870-80. The four-bay six-storey rubble stone building fronting onto the harbour further south is 'Perrin's grain store' built in 1863, and acquired by Patrick Boland after he took over Pim's mills in the 1870s. The remainder of the site is now occupied by twentieth-century concrete silos, built in 1954-56 and 1960 and giving the complex its distinctive skyline.

Protected Status Ref: 7377 Boland’s warehouse/mill at lifting bridge, Ringsend Road: six-storey stone warehouse (See also Barrow Street)

Architect: Unknown

Original Use: Mill Complex Milling activities ceased in 2001.*Current Use:* Unused *Special Interest Categories:* Architectural, Historical, Social

CIE Bus Depot, Ringsend Road, Dublin 4 *Constructed: c. 1900* *Brief Description:* Four square-profile rusticated ashlar granite piers with carved capstones and moulded string course. *Protected Status Ref:* 7380, CIE bus depot: four rusticated granite gate piers *Architect:* Unknown *Original Use:* Provided access to former Tram Power Station. *Current Use:* Entrance gate to Dublin Bus Depot *Special Interest Categories:* Architectural, Historical	
Former Irish Glass Bottle Company, 50 Ringsend Road, Dublin 4 *Constructed:* c. 1930 *Brief Description:* End-of-terrace, three-storey, three-bay red brick building constructed in the Art Deco-style with glass block entrance feature window surmounted by a clock. Concrete canopy over ground floor entrance and rounded corners returning to east and west from south façade.	

Protected Status Ref: 7379, Former Irish Glass Bottle Company (on corner of South Docks Road): three-storey brick office with glass-block entrance, feature window and clock. Now incorporated as entrance to large office block. *Architect:* 2007 refurbishment and new build, Fitzgerald Kavanagh & Partners *Original Use:* Irish Glass Bottle Company Offices *Current Use:* Arup, Consulting Engineers *Special Interest Categories:* Architectural, Historical	
Ringsend Shelbourne Pierrot Club (former Bovril building), Ringsend Road, Dublin 4 *Constructed:* c. 1898 *Brief Description:* Detached, two-storey, single-bay rendered building with six-bay side elevations. Egyptian-style decoration to double height entrance porch and stepped entrance door surround. *Protected Status Ref:* 7381, Ringsend Shelbourne Pierrot Club (former Bovril building): commercial warehouse/sound studio *Architect:* Unknown *Original Use:* Originally a power station for the Dublin United Tramways Company, it was later transformed into a Bovril factory, then a plush snooker	

hall. *Current Use:* Recording Studio *Special Interest Categories:* Architectural, Historical	
Granite Quay Walls and Associated Elements, Sir John Rogerson's Quay, Dublin 2 *Constructed:* Between 1713 wooden piles up to stone quays c.1720 *Brief Description:* Granite ashlar quay walls, stone setts, mooring rings, steps, with sections of the tracks of the mobile cranes that once fronted the quay. Mix of original and modern stone paving with modern lamp standards *Protected Status Ref:* 7542, Granite ashlar quay walls, stone setts, mooring rings, steps, bollards, lamp standards and machinery (Granite bollards, lamp standards and machinery are no longer present) *Developer:* Sir John Rogerson *Original Use:* Commercial *Current Use:* Amenity *Special Interest Categories:* Architectural, Historical, Technical	

20-24 Sir John Rogerson's Quay, Dublin 2 should read 20-27 *Constructed:* c. 1909 *Brief Description:* Terraced, two-storey with attic storey with mansard roof, six-bay, red brick building with round-headed ground floor openings flanked by carriage arches and Oriel window over entrance doors, stone plinth, string courses, sills and parapet. Cast-iron railings to street. Red brick wall with carriage arches and Oriel windows having granite keystones to west with curved wall to side street *Protected Status Ref:* 7547, Former B & I Steam Packet Company office building *Architect:* W.H. Byrne *Original Use*: Offices for British & Irish Steam Packet Company *Current Use:* Unused *Special Interest Categories:* Architectural, Historical	
30-32 Sir John Rogerson's Quay, Dublin 2 *Constructed:* c. 1890 *Brief Description:* Detached, two-storey, multiple-bay, red brick, gable fronted warehouse with windows on the roof ridges running perpendicular to the street.	

Six keystones above the segmental-headed first floor openings surmounted by red brick pilasters. The large keystones above the main entrances are original keystones salvaged from the Carlisle Bridge and they represent the Atlantic and Anna Liffey. *Protected Status Ref:* 7548, Tropical Fruit Co. *Architect:* Unknown *Original Use:* Tropical Fruit Company *Current Use:* Offices (The warehouse was renovated by Beardmore Yauner Byrne and Felim Dunne in 1990, and was used as offices by U2's manager, Paul McGuinness). *Special Interest Categories:* Architectural, Historical	

35 Sir John Rogerson's Quay, Dublin 2

Constructed: c. 1780

Brief Description: One of a pair of terraced, four-storey over basement redbrick, three-bay buildings with public house to ground floor spanning two buildings. Granite sills and parapet with large red brick chimney stacks and terracotta pots. Round-headed first floor window openings with square-headed elsewhere having timber sash windows.

Protected Status Ref: 7549, Georgian-style commercial/residential premises

Architect: Unknown

Original Use: Residential

Current Use: Public House, Hotel

Special Interest Categories: Architectural, Historical

36 Sir John Rogerson's Quay, Dublin 2

Constructed: c. 1780

Brief Description: One of a pair of terraced, four-storey over basement redbrick, three-bay buildings with public house to ground floor spanning two buildings. Granite sills and parapet with large red brick chimney stacks and terracotta pots. Round-headed first floor window openings with square-headed elsewhere having timber sash windows.

Protected Status Ref: 7550, Georgian-style commercial/residential premises

Architect: Unknown

Original Use: Residential

Current Use: Public House, Hotel

Special Interest Categories: Architectural, Historical

Appendix F

STRATEGIC FLOOD RISK ASSESSMENT

North Lotts and Grand Canal Dock Flood Risk Assessment

Introduction

This Flood Risk Assessment was prepared and informed by the DoEHLG Guidelines for Planning Authorities (DoEHLG & OPW, 2009) on 'The Planning System and Flood Risk Management' (and Technical Appendices). The Guidelines state that planning authorities are required to introduce flood risk assessment as an integral and leading element of their development plan functions. It sets out that development plans and local area plans, must establish the flood risk assessment requirements for their functional area.

A Strategic Flood Risk Assessment (SFRA) is an area wide assessment of the existing risks of flooding and the impact on those risks arising from proposed spatial planning decisions. A staged approach was adopted in the preparation of this FRA. The Stage 1 approach has identified that the area is at risk of flooding, and the principle sources of flooding identified are pluvial and coastal flooding. The Stage 2 Flood Risk Assessment will confirm sources of flooding that affect the plan area, and will involve the preparation of a flood zone map, based on best available information. This assessment will also detail flood management strategy for the SDZ area. Where a detailed Flood Risk Assessment is required to assess flood risk areas in sufficient detail and to provide quantitative appraisal of potential flood risk to a proposed or existing development a stage 3 flood risk assessment will be carried out.

The guidelines require the planning system at national, regional and local levels to:

a) Avoid developments in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere.
b) Adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk, and incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals

Strategic Development Zone North Lotts and Grand Canal Docks – Statutory Context

The Minister designated the North Lotts and Grand Canal Dock Area as an SDZ for the following reasons:

- The potential and need for comprehensive planning and development of the site due to its economic and social importance to the State;
- The efficient use of public investment in infrastructural facilities; and
- The giving of effect to the policies contained in the development plan made by Dublin City Council in accordance with section 9 of the Act of 2000.

Part IX of the Planning and Development Act 2000-2011 provides for the designation of a Strategic Development Zone (SDZ) to facilitate development which in the opinion of the Government is of economic or social importance to the State.

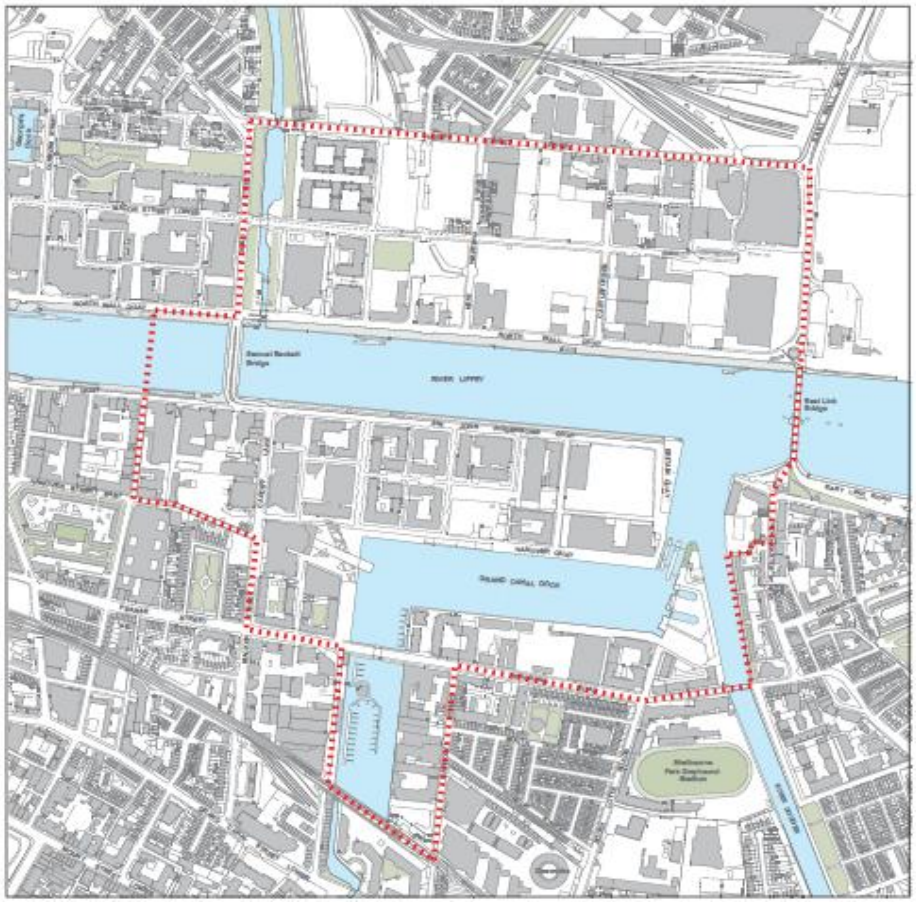
The Government designated lands at North Lotts and Grand Canal Docks in the Dublin Docklands as a site for an SDZ on 18 December 2012 and specified Dublin City Council as the Development Agency (SI No 530 of 2012). Where land is designated as an SDZ by Government Order, a Planning Scheme must be prepared by the Development Agency before any development can be permitted in the SDZ Area.

Description of Study Area

The North Lotts/Grand Canal Dock Planning Scheme (see Figure 1) is situated on the River Liffey Estuary which flows through Dublin City and between the great South Wall and North Bull Wall before entering Dublin Bay. The Bay itself is a shallow bay with water depths not greater than 20m at low tide at its outer limit between Sorrento Point and Bailey at Howth. The water depth decreases towards the harbour at Bull Island to less than 5m occurring in the inner half of the bay.

The Docklands area has seen a large amount of development over the past fifteen years, however there are a number of strategic sites and vacant lands at the core of the regeneration areas, which need to be developed to consolidate the area and help achieve a critical mass necessary to support a vibrant mixed urban quarter. The Samuel Beckett Bridge provides a vital link between the two locations north and south of the Liffey. The plan area including the water bodies such as Royal Canal (Spencer Dock), the Liffey, Dodder and Grand Canal Basin, is circa 90 Ha., of which the land take is 62 Ha whilst the lands to be developed equates to circa 22 Ha.

Figure 1 – Planning Scheme Boundary



On the basis of the development capacities set out in this scheme, the 22ha of available lands could accommodate an estimated 2,600 residential units and 305,000m^2 of commercial floorspace, which equates to a residential population of circa 5,800 and circa 23,000 workers.

Identification of Flood Risk

Over the last few decades the risk of flooding has continued to increase in Ireland. Much of this has been attributed to climate change, resulting in increased & more intense rainfall, increased sea water levels, and also due to increasing levels of urbanisation. Coastal erosion can also increase the risk of flooding in some areas. The main types of flooding are from (i) coastal flooding which arises from the sea or estuaries,, (ii) fluvial flooding which arise from rivers or streams, (iii) pluvial or surface water flooding which arises directly from rainfall, (iv) groundwater flooding (v) dam breach and (vi) sewer/infrastructural failure.

Dublin City due to its coastal location is prone to various forms of flooding. The main flood risks identified in the SDZ area are from coastal/tidal, pluvial and infrastructural overload or failure.

As the area is prone to flooding the Justification Test is required. The sequential approach to planning is the key tool in ensuring that development is first and foremost directed towards land which is at low risk of flooding. This is described in Fig 2 below.

Sequential Approach & Justification Test

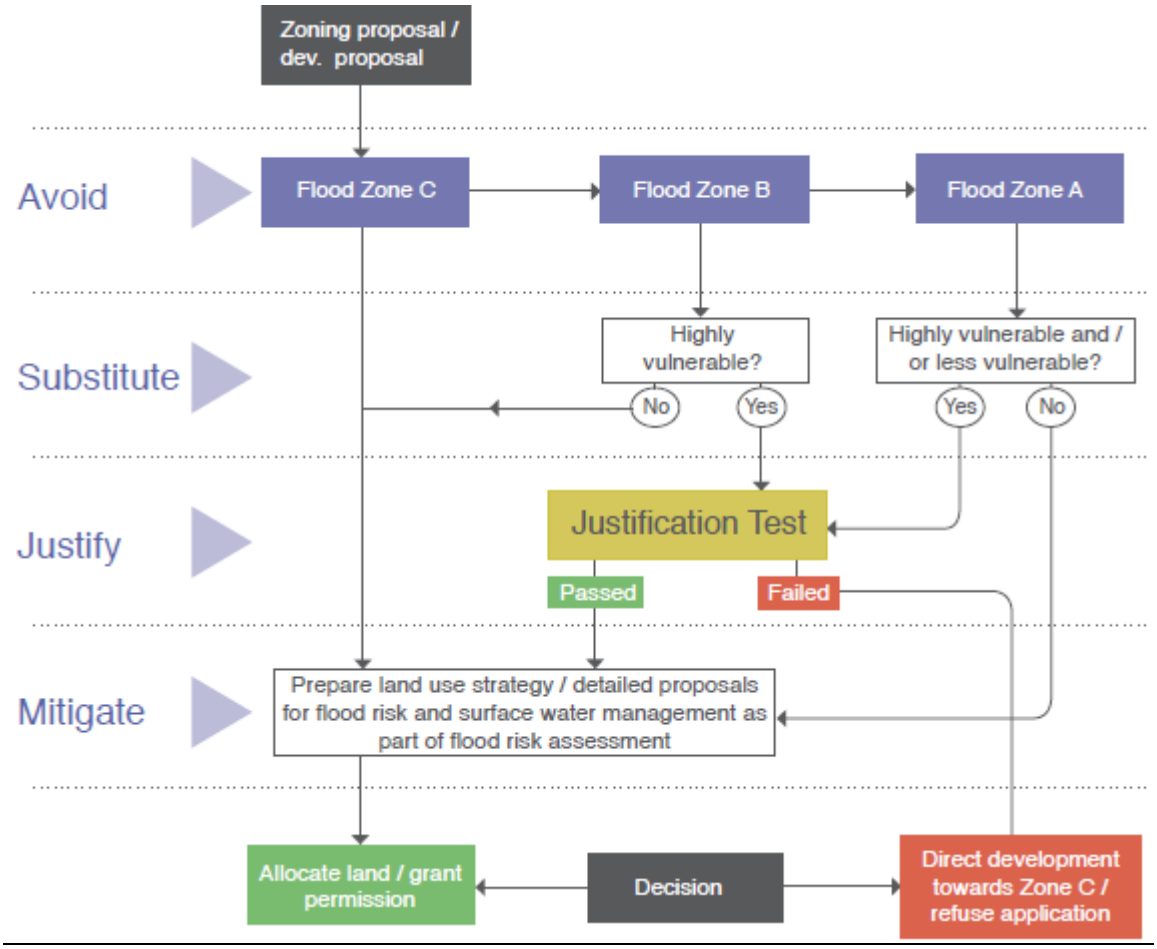
The key principles of the risk based sequential approach is managing flood risk in the preparation of plans as set out in Chapter 3 of the DEHLG Flood Guidelines and these principles will be followed in Docklands Planning area.

This is the key tool in the decision making process of preparing plans to ensure that development is first and foremost directed towards land that is at low risk of flooding . This approach makes use of existing flood risk assessments (FRA's) and other data identifying flood zones for rivers, coastal and pluvial flooding and the classification of the vulnerability of flooding of different types of development.

The sequential approach in terms of flood risk is based on the following principles:

- The primary objective of the sequential approach is that development is primarily directed towards land that is at low risk of flooding (AVOID).
- The next stage is to ensure that the type of development proposed is not especially vulnerable to the adverse impacts of flooding (SUBSTITUTION).
- The Justification Test is designed to rigorously assess the appropriateness, or otherwise, of particular developments that, for various reasons, are being considered in areas of moderate or high flood risk (JUSTIFICATION).
- The test is comprised of two processes, namely The Plan-Making Justification Test and The Development Management Justification Test.

Figure 2 Sequential Approach Mechanism in the Planning Process (source 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' November 2009)



Justification Test for North Lotts and Grand Canal Planning Scheme

The flood risk assessment carried out for the purposes of the Planning Scheme in the Docklands concluded that certain areas zoned for development are within lands at risk of flooding.

In this context the designation satisfies the Justification Test, in that:
1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning Guidelines, statutory plans as defined above or under the planning guidelines or planning Directives of the Planning and Development Act, 2000 as amended.

The National Spatial strategy (NSS) recognises Dublin, as the Capital City, plays a vital national role and that the performance of its economy is essential to the success and competitiveness of the national economy. The NSS places particular emphases on the physical consolidation of the metropolitan area, which incorporates the entire functional area of Dublin City Council. The Regional Planning Guidelines **(RPG)** for the Greater Dublin Area 2010 – 2022 translates the national strategy to the Regional Level with an emphasis on Dublin as the driver of national development and the need to physically consolidate the growth of the metropolitan area.

The RPG recognises that ‘‘the settlement hierarchy selected by the Guidelines takes account of the fact that while a number of key towns and the City which are vulnerable to two key sources of flooding, fluvial and coastal, effective management of flood risk coupled to wider environmental, sustainability and economic considerations mean that it is possible to facilitate the continued consolidation of the existing urban structure of the GDA. In line with the sequential and justification criteria set out in the Department’s Guidelines on the’ Planning System and Flood Risk Management’ it is considered that these locations should be encouraged to continue to consolidate

and to grow in order to bring about a more compact and sustainable urban development form while at the same time managing flood risk appropriately''.

The Dublin City Development Plan 2011-2017 has been prepared in accordance with the requirements of the Planning and Development Act, 2000, (as amended) the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and Article 5 of the Habitats Directive 92/43/EEC.

Two areas within the high/medium **flood** risk fall within the **SDZ** plan area**. These areas** relates to two former Section 25 Planning Schemes, namely the North Lotts Scheme and the Grand Canal Scheme and is identified as a Key Developing Area (KDA) and Strategic Development and Regeneration Area (SDRA) under the Dublin City Development Plan 2011 – 2017.

2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular;

i) To facilitate regeneration and/or expansion of the centre of the urban settlement.
The plan area is located to the East of the City Centre, just outside the inner city zoning in the current development plan, but forms part of the Key Development Areas and Strategic Development and Regeneration Area. The Key Development Areas represent significant areas of the inner and outer city with substantial development capacity and the potential to deliver the residential, employment and recreational needs of the city. The Docklands area in particular is seen as essential as supporting the economic or cultural specialism essential for the growth and diversification of the city's economy. All of these areas correspond to high levels of public transport accessibility, whether existing or planned under Transport 21.

The scheme is considered to be the most appropriate and effective mechanism to deliver the remaining parts of this area of economic and social importance to the city and state. The extent of the SDZ reflects a sequential approach to development and the need to ensure the effective consolidation of the IFSC with build out of remaining brownfield sites and optimisation for public investment on infrastructure to date including strategic transport infrastructure and public realm projects of city wide importance.

ii) Comprise significant previously developed or underutilised lands
The plan area comprises a significant amount of undeveloped lands. The remaining sites available for development in the North Lotts and Grand Canal Schemes equate to circa 22Ha, and area roughly equivalent in scale to the entire Custom House Docks/IFSC Area (24 Ha). On the basis of the development capacities achieved to date, the 22Ha of available lands could accommodate an estimated 2,600 residential units and 350,000 sq.m. of commercial floor space, which equates to a residential population of circa 5,800 and circa 23,000 employees.

iii) Will be essential in achieving compact and sustainable urban growth
Dublin City Council considers that the best planning routes to harness the economic and social significance of these lands and to deliver the continued regeneration of the Docklands, is through the fast track planning framework of a Strategic Development Zone (SDZ).

The redevelopment of this area will ensure the efficient use of public investment in infrastructure to date including strategic transport infrastructure such as the Sean O'Casey Bridge, Samuel Beckett Bridge and the Luas Docklands extension, Chimney Park and Royal Canal Linear Park and community facilities such as Sean O'Casey Community Centre. The SDZ will also ensure the effective implementation and phasing of the continued regeneration of the Docklands.

iv) There are no sustainable alternative lands for the particular use or development type in areas of lower risk.

The Minister for the Environment, Community and Local Government designated the North Lotts and Grand Canal Dock as an SDZ (S.I.No.530 of 2012) for the following reasons:

- The potential and need for comprehensive planning and development of the site due to its economic and social importance to the State.
- The efficient use of public investment in infrastructural facilities, and

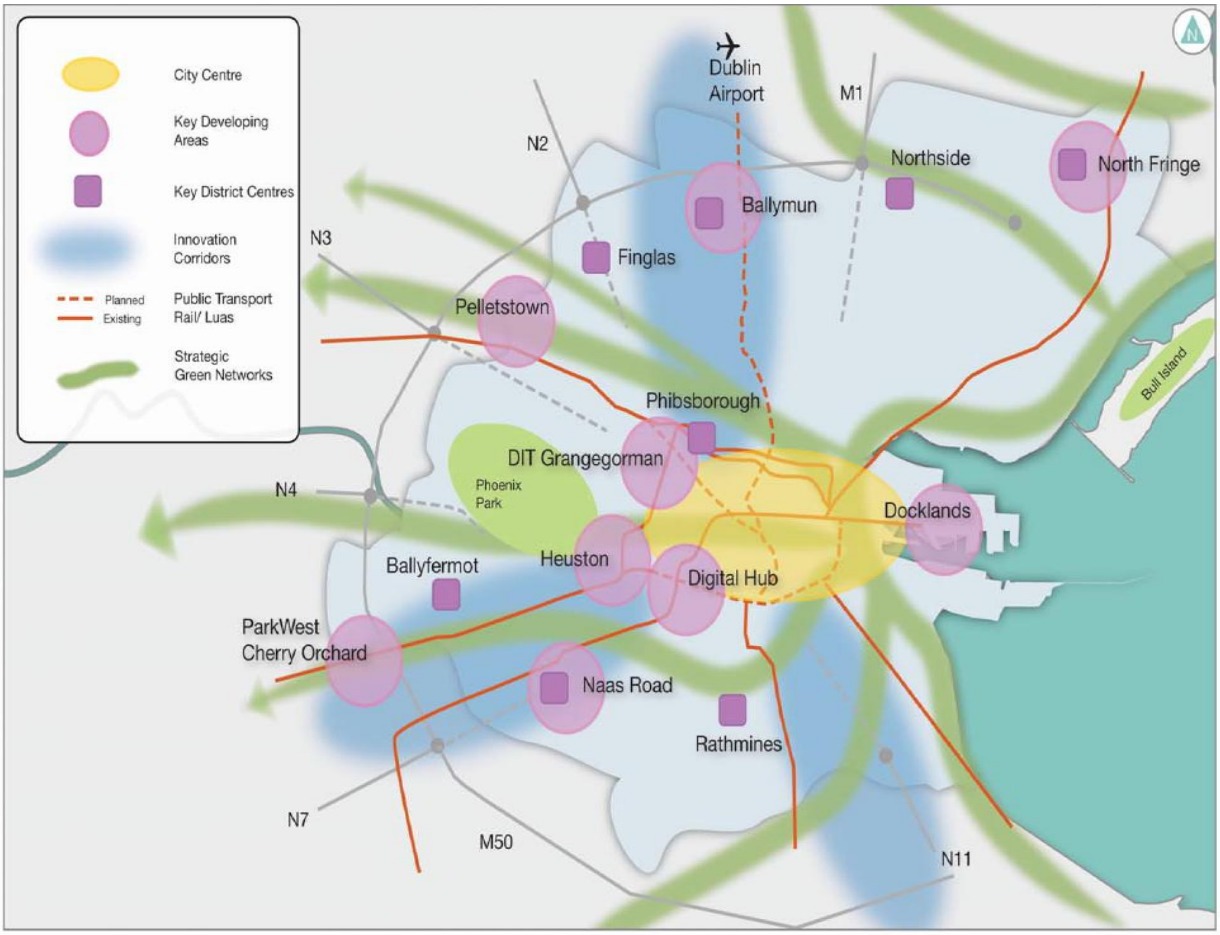
- The giving of effect to the policies contained in the development plan made by Dublin City Council in accordance with section 9 of the Act of 2000.

In terms of the Justification Test and the rationale as to why there are no suitable alternative zoned lands, this area has been included in a series of Docklands Masterplans since 1997, and comprised two areas covered by Section 25 Planning Schemes, the North Lotts Planning Scheme and the Grand Canal Dock Planning Scheme. The vast majority of the Docklands Areas has been successfully redeveloped over the past two decades or relates to long-established residential communities in the vicinity of the development sites, save for the Poolbeg Peninsula. However there are a number of strategic sites and vacant lands at the core of the regeneration areas at the North Lotts and Grand Canal Dock which need to be developed to consolidate the achievements to date and to help sustain a critical mass necessary to support a vibrant mixed –use urban quarter and to attract inward investment.

Dublin City lies entirely within the metropolitan area and the RPGs give direction to Dublin City as the 'gateway core' for high intensity clusters, Brownfield development, urban renewal and regeneration. The SDZ is a Brownfield area, and has been intensely developed for port and related industries in the 19th / early 20th centuries (up to 1970's), employing thousands of people. The National Spatial Strategy designates Dublin as the pre-eminent gateway in Ireland, as the key international gateway of the State. Gateways are strategically located and have a key role to play nationally and relative to their surrounding areas by virtue of their existing economic and social attributes. A core element of the RPGs is the importance of integration of land use, employment and transport. Within the City, as the national hub of employment and transport, it is critical that the policy of encouraging high quality new housing within the core of the gateway continues. The RPGs also takes account that while a number of key towns and the City which are vulnerable to two key sources of flooding – fluvial and coastal – effective management of flood risk couples to wider environmental, sustainability and economic considerations mean that it is possible to facilitate the continued consolidation of the existing urban structure of the GDA. In line with the sequential and justification criteria set out in the Department's Guidelines on the Planning System and Flood Risk Management'
The SDZ will facilitate the future development of the Docklands Area in a consolidated manner. The North Lotts and Grand Canal Dock area of the Dublin Docklands comprises some 66 hectares of the overall 520-hectare Dublin Docklands area and is where the greatest focus and pressure for redevelopment is likely to occur in the short to medium term. The SDZ is adjacent to the City Centre at the heart of the City Region, in the most radially connected part of the State.

The proposed SDZ will support an eastward extension of Dublin City Centre and the areas involved are well-served by high-quality public transport, including Luas, DART and mainline rail commuter services, while the more long-term proposals for a DART underground station at Spencer Dock would potentially result in the lands becoming the most accessible and connected part of the city. The Samuel Beckett Bridge provides a vital link between the two locations north and south of the River Liffey. The area encompasses several major attractions, including the Convention Centre at Spencer Dock, the O_2 Arena at the Point Village and the Bord Gáis Energy Theatre at Grand Canal Dock in addition to major international employers, such as Google, Facebook, which are forging Digital-Tech clusters. These developing clusters can only be located in this location, rather than in suburban locations. The SDZ area has the potential to become a major magnet for employment and cultural and leisure uses of national importance.

Dublin City Development Plan Core Strategy
The Development Plan's Core Strategy (see Fig 2) designates the Docklands, including the Docklands SDZ, as a Key Developing Area (KDA) and a Strategic Development Regeneration Area (SDRA).


City Centre
Key Developing Areas
Key District Centres
Innovation Corridors
Planned
Existing
Public Transport Rail/ Luas
Strategic Green Networks
Dublin Airport
M1
N2
N3
N4
N7
M50
N11
Northside
North Fringe
Ballymun
Finglas
Pelletstown
Phibsborough
DIT Grangegorman
Phoenix Park
Docklands
Heuston
Digital Hub
Ballyfermot
ParkWest
Cherry Orchard
Naas Road
Rathmines
Bull Island

The Regional Planning Guidelines Settlement Strategy for the metropolitan area includes a strong policy empathises on the need to gain maximum benefit from existing assets, such as public transport and social infrastructure, through the continuation and consolidation and increasing densities within the existing footprint of the city. It should be noted that there is only circa 503 Ha of available zoned residential land which is capable of meeting the RPGs housing unit allocation of 42,4000 for the period 2006 – 2016.

The Docklands area is one of 9 Key Developing Areas,(in addition to the inner City), which represent significant areas of the overall city with substantial development capacity and the potential to deliver the residential, employment and recreational needs of the city, such as Pelletstown, North Fringe, and Naas Road lands, whilst several will support the economic or cultural specialism's essential for the growth and diversification of the city's economy, namely, the Docklands, Digital Hub/Liberties, Grangegorman and Heuston. The table below is from the Dublin City Development Plan Table 3.3 and shows the estimated capacity of key developing areas.

Table 3.3 Estimated capacities of Key Developing Areas (DCDP 2011- 2017)

KDAs	Housing Units (Estimated)	Zoned Commercial/Employment Lands (Estimated)
1. Inner City	6,340	475 Ha
2. North Fringe	4,000	170 Ha
3. Ballymun	3,950	60 Ha
4. Pelletstown	1,800	41 Ha
5. Park West/Cherry Orchard	2,000	121 Ha
6. Naas Road Lands	2,100	63 Ha
7. Docklands	1,950	207 Ha
8. Digital Hub / Liberties	1,200	59 Ha
9. Heuston	1,200	49 Ha
10. Grangegorman/Phibsborough	800	34 Ha
Rest of City	6,340	350 Ha
Total	31,680	1,629 Ha

Note: The estimated capacities in the Core Strategy relates to the 6 year Development Plan period, whereas the estimated capacity in the SDZ relates to eventual build-out. The 207 Ha relates to the SDRA as depicted in Development Plan Zoning Map E.

The Docklands area is also designated a Strategic Development & Regeneration Area, which are important Brownfield sites with the potential to deliver a significant quantum of mixed uses and create synergies to regenerate their respective areas. As stated above, the SDZ has been designated by Government as a growth hub of economic importance to the state, and these uses can only go in certain KDAs such as the Docklands, Digital Hub/Liberties, Grangegorman and Heuston, and not in the other KDAs such as Pelletstown, North Fringe, Naas Road Lands, and Grangegorman ,which are intended for other purposes such as to deliver the residential , employment , recreational and educational needs of the city. These suburban lands are not suitable for the type of HQ and FDI economic activities which the SDZ is set up to attract. Furthermore, the City Centre, with its historic Georgian fabric, cannot accommodate the large floor plates needed to compete with the capital city region.

The Development Plan sets out a series of Guiding Principles in Chapter 16 for the North Lotts and Grand Canal Dock SDRAs. These principles promote the creation of a new urban neighbourhood with a socially cohesive community and high quality physical environment.

The core strategy of the Development Plan is to achieve the vision in a manner that is consistent with the guidance, strategies and policies at national and regional levels. In particular, the National Spatial Strategy 2002-2020 (NSS), The Regional Planning guidelines for the Greater Dublin Areas 2010 – 2022 (RPGs_ and the governments' Smarter Travel – A Sustainable Transport Future 2009 – 2020, all guide and direct the fundamentals of the City Council housing Strategies which in turn are integrated into the overall development plan vision and core strategy for 2011 – 2017.

Section 4.4.1.2 of the DCDP sets out the approach to the Docklands area and the Port area. It recognises that significant achievements have been made to date not only in the scale of new commercial and apartment development, but also in other symbols of regeneration and new place-making such as the Point Deport (The O2) the public square and Theatre at Grand Canal Dock and the camp shires. A number of policies in the Dublin City Development Plan 2011 - 2017 (Policy SC1, RE2, and RE14), refer to consolidating the inner city and linking the critical mass of existing emerging clusters such as the Docklands areas, also promoting the role of Dublin as the National and economic engine and drive of economic recovery and growth, including the Docklands as its core economic generator. Policies also recognise that cities are crucibles of innovation and that the city centre and inner city including the Docklands area is the crucial metropolitan and national resource for innovation.

It is concluded that there are no suitable alternative lands for the particular employment specialism's and clusters for which the SDZ has been designated by the Minister, and given that the remaining zoned lands in the city are designated for other purposes.

A flood risk assessment to an appropriate level of detail has been carried out as part of the SEA which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.

Flood risk was considered as an issue in the screening process for the Strategic Environmental Assessment that was undertaken for the Dublin City Development Plan 2011 -2017. The SDZ plan was screened in line with implementation of SEA Directive (2001/42/EC), Assessment of Certain Plans and Programmes on the Environment – Guidelines for Planning Authorities to determine whether or not a full Environmental Report would nevertheless be appropriate. It was determined that a full Environmental Report was required.

A flood Risk assessment has been carried out to an appropriate level of detail. It is recognised that Dublin City is vulnerable to flooding. The majority of the lands in the SDZ would be prone to occasional flooding and would be at risk mainly from coastal and pluvial flooding, however Dublin City Council are undertaking a number of projects to improve the defences of Dublin City.

Sources of Flooding Introduction

The main flood risks identified in the SDZ area are from coastal/tidal, pluvial and infrastructural overload or failure.

The OPW, as part of the National Flood Risk Management Policy has developed a number of information resources for the public. These resources provide information through a number of websites: (www.floodmaps.ie, www.opw.ie/hydro, www.flooding.ie,)

The Preliminary Flood Risk Assessment for the Republic of Ireland was published in late 2011. This was a requirement of the EU Floods Directive (2007/60/EC). The objective was to develop a method to indicatively access potential future flood risk to enable the identification of 'Areas of Potentially Significant Flood Risk (APSRs) using available data. These APSRs will form the focus of the more detailed Catchment Based Flood Risk Assessment and Management (CFRAM) Studies.

Catchment Flood Risk Assessment and Management Studies.

~~A~~ CFRAMS is a Catchment Flood Risk Assessment and Management Study and its purpose is to manage flood risk to the area being studied. CFRAM Studies are to be carried out for the whole of Ireland, for larger rivers and streams and all coastal areas.

The OPW commissioned RPS to undertake the Eastern Catchment Flood Risk Assessment and Management Study (Eastern CFRAM Study) in June 2011. The study covers four units of Management including HA09 (Liffey-Dublin Bay). The principle river in HA09 is the River Liffey which rises in the Wicklow Mountains and flows initially towards Newbridge, then turn north east towards Lucan and finally flows eastward through Dublin City, directly to Dublin Bay. The Dodder CFRAM Study is one of four pilot studies in Ireland and is the first comprehensive study undertaken with a view to producing a single flood risk management strategy for the whole of the Dodder catchment.

Within HA09 there are 16 discrete Areas for Further Assessment (AFA) in addition to Dublin City under the Eastern CFRAM study. Dublin City AFA is defined by four High Priority Watercourses (HPW), the Liffey, Camac, Poddle and Santry Rivers (as well as the Dodder and Tolka from previous studies). The principal source of flood risk within HA09 is fluvial flooding at 12 of the 16 AFAs. Tidal Flood risk influences one AFA (Sutton and Howth North) with 3 other AFAs within HA09 (Sutton & Baldoyle, Clontarf and Sandymount) considered to have some element of combined fluvial/coastal flood risk.

Dublin City with its specified High Priority Watercourse (HPWs) is also subject to combined fluvial/tidal flood risk.Many of the watercourses within the Greater Dublin Area were previously studied as part of the Greater Strategic Drainage Study (GDSDS).

Sources of Flooding – Docklands SDZ

- **Flooding from Fluvial & Sea Level Rises / Coastal Flooding**

The area within the SDZ boundary is tidal dominant with little fluvial influence. Based on the Dublin Coastal Flooding Protection Study (April 2005) it has been determined that the dominant flooding mechanism is coastal to the Rory O'More Bridge on the Liffey (2.5km upstream of the proposed Docklands SDZ) and London Bridge on the Dodder.

Following recent extreme tide and flood events, and also predictions of a rise in sea levels due to climate change, Dublin City Council carried out a review of the capacity of the existing coastal flood defences to provide protection against tidal flooding or urban areas resulting from extreme weather conditions in the short to long term. The review was carried out as part of the Dublin Coastal Flooding Protection project and was published in 2005. The Dublin Coastal Flood Protection Report prepared identified a number of locations where the current level of flood defences was below that required for the future predicted sea levels. As described below in section *Indicative Flood Zone Maps,* some works have since been completed with further works in the final design stages in this area since the completion of the Dublin Coastal Flooding Protection project.

In the case of Coastal flood risk, the Final Report of the Eastern CFRAMS Liffey Study, currently underway, will determine the 1000 year extent and by doing such identify the location of zone B and zone C. Previous studies identified the 200 year extent, identifying zone A. These preliminary flood zone maps are expected to be complete in January 2014 after which there will be engagement between the local authorities and the OPW, followed by a three month period of public display and consultation. The CFRAMS report will ultimately be used to identify specific measures required in the area. In the interim, the early warning systems outlined above in conjunction with capital works such as the South Campshire Flood Protection Project (currently at advanced design stage), existing Spencer Dock Gate and existing flood defences along the Dodder provide alleviation to flood risk in the area. As it is proposed to completely protect the proposed SDZ area from coastal flooding and there is no risk of fluvial flooding to the 0.5% AEP level plus 50 years of forecast global warming, there will be no depth, hazard or velocity maps for this area once protected.

- **Surface Water Flooding**

Surface water flooding occurs when the local drainage system cannot cope with the rainfall. The rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. Surface water flooding is unpredictable as it depends on a number of factors including ground levels, rainfall and the local drainage network. There are a number of schemes ongoing aimed at improving the infrastructure within the SDZ boundary. These include the

- Recently constructed Spencer Dock Pumping Station and associated rising main and new services tunnel across the Liffey.
- Contract to bring flows from the East Road Pumping Station to Spencer Dock Pumping Station, this has been tendered
- Contract for large combined sewers along Sheriff Street and Castleforbes Street which is currently at detailed design.
- Preliminary design for Phase 2 of the Grand Canal area is complete
- Greater Dublin Regional Project (GDRDP), City Centre Sewerage Scheme, Preliminary Stage.

- **Groundwater Flooding**

Ground water flooding is usually a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained rainfall or very high tides. Higher rainfall means that water will infiltrate into the ground, and causing the water table to rise. Groundwater flooding tends to occur in low lying areas, where with additional groundwater flowing towards these areas, the water table can rise to the surface causing groundwater flooding. Most of the ground within the SDZ is on reclaimed land making most of it is relatively impermeable. However some sections which have good soil permeability are closely linked to tide level plus normal groundwater level on top of that. There are many lenses of permeable material which can be joined up by the drainage network. Basement construction should provide impermeable solutions with possible pumping for seepage. A lot of the land is contaminated and a detailed SI is required before any development and there is also a requirement for a detailed disposal plan, refer to *Desktop Study and Qualitative Risk Assessment of Potentially Contaminated Undeveloped Sites within North Lotts and Grand Canal Dock, 14-11-2012, Flannery Nagel Environmental Ltd.* which outlines remediation measures to be followed.

- **Poulaphuca Dam**

It should be noted for the Flood Risk Assessment that there is a minor risk of infrastructural failure associated with a possible dam burst at Poulaphuca, which dams the River Liffey. This dam is one of four major sources of Dublin's Water Supply.

- **Flooding from the Canal Water Bodies**

The Royal Canal and Grand Canal outfall into the River Liffey within the SDZ study area. In terms of flood risk from the various canals within the plan area, they already overflow into other rivers and areas further inland before they get into the Docklands area of the city and are likely to have low flows in this zone. There was flooding issues at the Royal Canal within the SDZ boundary due to the tide. Flood gates were fitted at Spencer Dock to alleviate this problem.

- Pluvial Flood Risk

Pluvial Flooding results when heavy often sudden rainfall, causes flooding before it can infiltrate the ground, or enter a natural or man-made drainage system or watercourse or enter a conveyance system because the system is already full to capacity. Pluvial flooding is associated with Surface Water Flooding which is a combination of true pluvial flooding, sewer flooding (due to heavy rainfall) groundwater flooding and flooding from urban watercourses. An Extract Pluvial Type 1 Flood Depth Map for the 100 year 180 minute storm is given in the Flood Map section (see Figure D).
In the case of Pluvial flood risk, the 100 year 3 hour map from the city wide SAFER project has identified the very small localised areas at risk. These will be catered for by managing individual developments at planning stage which will prevent any cross-boundary flood water movements.

Dublin City Council is in the process of implementing the Flood Resilient City Project and within this a Flood Risk Management Strategy. This strategy will provide further guidance in spatial planning and appropriate flood measures, if required In accordance with the requirement of the EU Floods Directive (2007/60/EC) the Office of Public Works (OPW) is currently responsible for co-ordinating the development of Flood Risk Management Plans (FRMPs) across Ireland.

Indicative Flood Zone Map,

In the absence of detailed CFRAM studies for the River Liffey, Dublin City Council are using the best information available. The indicative Flood Zone Map (for coastal/fluvial) is based on information from the Dublin Coastal Flooding Protection Project (DCFPP) 2005. This provides information on the 1 in 200 year flood event for Coastal Flooding or the equivalent of Zone A in the OPW classification.

Subsequent to the completion of the Dublin Coast Flooding Protection Project (DCFPP) 2005, flood protection works have been carried out in this area.

- The Spencer Dock flood gates were installed in the canal and this now protects the Zone A area north of the Liffey, see Figure A & Figure B attached. This was designed to a level of 3.65m OD Malin. This includes 200mm for climate change and 250mm freeboard.
- Works have also been carried out with further works ongoing along the Dodder River south of the Liffey. These again are shown on Figure A & Figure B. and include vehicle ramps and wall and balcony strengthening.

- A wall will be constructed along the campshire south of the LIffey. This is currently at detail design stage, see Figures A & C. This wall will be 3.7m OD Malin in height. This includes an allowance of 200mm for climate change and 300mm freeboard.
- Following tidal flooding of 1st February 2002 footpath levels were raised by 100mm at the low points on the south campshires.

It is not possible to clearly identify the 1 in 1000 year flood event, so Zones B and C cannot be accurately delineated until flood map outputs from the Eastern Region Catchment Flood Risk Assessment Management Study are received around the end of 2013, however any development adjacent to Zone A must be considered to be in Zone B up to the 4.0m Contour level, unless disproved by further analysis.

In the absence of catchment flood risk assessment and management study (CFRAM) for the River Liffey, information on flood risk was obtained from a number of sources outlined below:

- Development plans, policies and recent planning applications were studied.
- Responses from statutory bodies during the consultation process were examined, with particular reference to concerns relating to flood risk.
- The nature and location of the area in the vicinity of the proposed development was described in terms of the existing hydrological environment.
- The existing site geology and hydrogeology was examined in terms of how it relates to the flooding history and the potential for drainage methods of the proposed scheme.
- All existing historical information on previous events, studies and surveys, was examined as made available from the Office of Public Works (OPW) flood hazard mapping website.
- The Greater Dublin Strategic Drainage Study flood maps which show the one in a hundred year flood events.

Flood Zones

Flood Zones are geographical areas within which the likelihood of flooding is in a particular range and they are a key tool in flood risk management within the planning process as well as in flood warning and emergency planning. There are three types or levels of flood zones defined in the DECLG and OPW Guidelines on Flood Risk Management:

- Zone A – High probability of flooding – Where the average probability of flooding from rivers and sea is highest (greater than 1% annually or more frequent than 1 in 100 years for river flooding or 0.5% annually or more frequently than 1 in 200 years respectively for coastal flooding). Most forms of development are deemed to be inappropriate here, only water compatible development including essential infrastructure which cannot be located elsewhere, would normally be allowed.
- Zone B – Moderate probability of flooding – (Risk between 0.1% annually or 1 in 1000 and 1 % annually or 1 in 100 years for river flooding, and between 0.1% or 1 in a 1000 years and 0.5% annually or 1 in 200 years for coastal flooding) highly vulnerable development including hospitals, residential care homes, Garda, fire and ambulance stations, dwelling houses and primary strategic transport and utilities infrastructure would generally be considered inappropriate unless the requirements of the justification test is met. Less vulnerable development such as retail, commercial and industrial uses, short term let for caravans,/camping, and secondary strategic transport and utilities infrastructure might be considered appropriate in this zone. Less vulnerable development should only be considered in this zone if adequate lands or sites are not available in Zone C and subject to a flood risk assessment to the appropriate level of detail to demonstrate that flood risk to and from the development can or will be adequately be managed.
- Zone C – Low probability of flooding – (Risk is less than 0.1% annually or 1 in 1000 years for both rivers and coastal flooding) Development is appropriate from a flood risk perspective (subject to flood hazard from sources other than rivers and coast meeting normal proper planning considerations).

Residual Risks (After Flood Defences are in Place)

- *Fluvial*: Possibly the 0.1% AEP from the Liffey CFRAMS will produce some risk in combination with a high tide, but this is extremely doubtful.
- *Coastal*: The 0.1% AEP tide level will be catered for initially in the global warming addition to flood defence levels. 3 day warning of any such significant tidal event will be possible to give everyone plenty of notice. Tides are monitored 365/24/7 by DCC. Closing of tide gates in at risk areas is an integral part of DCC's Emergency Plan.

- *Pluvial*: Significant citywide rainfall events can be forecast 24-48 hours in advance, giving plenty of time to activate local flood plans. Monitoring of levels in local sewers in flood prone areas is another DCC initative which can be incorporated into local flood plans.
- Thunderstorm events are the most difficult to forecast due to the short notice of such events. The localised risk from these can be addressed by having specific planning conditions for the small zones identified on the 100 yr – 3hr pluvial flooding map.

Flood Risk Management Strategy

Dublin City Council and its partners such as the OPW have implemented several measures and projects to address the main flood risks in the docklands area to allow for continuing development in the area. These include:
The Triton and Tidewatch early warning systems, based on sensors in Dublin Bay providing continuous information on sea-level changes and then sending alarm messages to relevant personnel in the Council. The former provides a 1 day advance warning of high tides and the latter provides a 3 day advance warning of same. These early warning systems then provide the necessary information to inform the subsequent emergency response strategy.

- Dodder Flood Protection Scheme Advance works, consisting of raising the flood defence walls along the tidal stretches of the Dodder see Figure A
- Flood Gate at Spencer Dock, see Figure A
- South Campshire Flood Protection Project: this is at design stage and involves the construction of a flood wall along the south quays extending as far downstream as Sir John Rogerson's Quay.
- The Dodder CFRAMS which carried out a major study on the Dodder River. This resulted in recommendations for further flood protection measures along the river.
- The Eastern Region Catchment Flood Risk Assessment and Management Study (Eastern CFRAM) which includes the Liffey and is ongoing
- Newly constructed Pumping Station at Spencer Docks (SDPS, due to be commissioned this year) with associated rising mains and a new services tunnel under the river Liffey. This new infrastructure reduces the risk of flooding from the foul wastewater network in the area.
- New trunk sewers to serve the SDPS.
- New drainage infrastructure in south Docklands - As part of Phase 1 of the DDDA developments in the area an entire foul and surface water network was laid. Separation of flows reduces potential flooding and contamination of any floodwaters.
- City Centre Sewerage Scheme: this catchment study is currently being progressed and will result in recommendations for new and upgraded infrastructure in the city centre and docklands area. Again separation of storm water and foul flows will reduce the potential flooding and contamination of floodwaters.
- A Flood Emergency Plan is in place in Dublin City Council (a Sub-plan of Dublin City Council Major Emergency Plan).
- This plan involves rescue agencies such as the Civil Defence and the Fire Brigade, both of which organisations have extensive experience and resources available, in terms of trained personnel and high bodied vehicles suitable for navigating through flood waters.
- There will be a net beneficial impact in terms of reduced SW run-off from the current situation where the SDZ area is practically 100% hard standing with high run-off. The implementation of Suds and SW storage together with new SW pipelines to remove SW from the existing combined drainage network, will reduce pluvial flood risk both within the SDZ area and to adjacent areas.
- It is not the intent of DCC that flood prevention measures are delegated to individual developments. Rather, it is clearly outlined in the SDZ Report (for example, in the section on Infrastructure) that major capital projects, such as the Campshires Flood protection project and new SW pipelines in public roads, also require implementation in the area. As is normal in these cases, such projects are progressed in conjunction with other state stakeholders such as the OPW (on the CFRAMS Study and Campshire project) or the DECLG (on drainage infrastructure).
- It is normal practice that the state provides the necessary infrastructure within the public realm and the private sector mirror that by complying with planning requirements that complement that infrastructure within their individual developments.

Settlement Strategy and Flood Risk

It is the strategy of Dublin City Council in accordance with the Guidelines to reduce the potential risk to people, property and the environment caused by flooding, through a hierarchy of avoidance, followed by substitution of lower vulnerability used and, only if avoidance and substitution are not possible, reduction and management of the risks through a variety of techniques. Dublin City Council will continue its policy to steer new developments on Greenfield sites to areas with the lowest probability of flooding. Areas with moderate or high risk will require site specific Flood Risk Assessments in any new planning applications, and a subsequent Justification Test.

From an initial examination of the flood risks in the Docklands SDZ, it is noted that coastal, and pluvial flooding are the main risks in the plan area. This area is zoned for development in the Dublin City Development Plan 2011 -2017, and there are a number of key sites within the SDZ boundary due for redevelopment, some of which are within the Flood risk areas.

Flood Resilient Design

Generally the approach to deal with flood protection would involve raising the ground floor levels above the level of extreme high tides. However in some parts of the plan area, which are already developed, ground floor levels for flood protection could lead to floor levels being much higher than adjacent streets, thus creating a hostile streetscape for pedestrians. This would cause problems for infill development sites if floor levels were required to be significantly higher than those of neighbouring properties. In this regard for the key sites in the plan area it has been recognised that ground floor levels below predicted high tide levels could be allowed, in limited circumstances, on a site by site basis. However, if this is the case then these would be required to be flood resistant construction using water resistant materials, and electrical fittings places at higher levels. For areas in high risk areas it would also be necessary to impose planning restrictions in these areas. Residential Uses would not be permitted at ground flood levels in high risk zones.

Planning policies also play a major part in minimising flood risk, Dublin City Council were the first Irish local authority to require storm water management from developers in 1998 and then subsequently implemented a Sustainable Drainage Systems (Suds) Policy in 2005. In essence these planning policies require developers to reduce the storm water run-off from newly paved areas to what it was before the development took place. This will ensure that development can take place in a sustainable manner without increasing the risk of flooding.

Almost all of the docklands area is categorised as brown field, (i.e. previously reclaimed and developed in the past). In terms of minimising flood risk at the regional level, this presents a significant case for targeting economic investment to the area as the drainage infrastructure is in place and can be readily enhanced to address particular challenges rather than such investment going to green field sites on the outskirts of the city which would result in extensive new hard paved surfaces with additional stormwater run-off generated.

In relation to basements and ground level access protection the following Flood Resilience and Adaptation Measures are recommended:
Doorway and access threshold levels are an important factor in determining the susceptibility of domestic and commercial properties and below ground infrastructure to pluvial and other types of flooding. This can be especially important in flat areas where although the depth of ponding may be relatively shallow it can be extensive and potentially affect many properties if doorway and access thresholds are close to street level or even below street level. For low doorway accesses to domestic properties raising of the threshold step may be practical in some instances but not always – in such circumstances temporary door-guards should be considered but these will require advance warning for installation.
Doorway accesses to public, commercial and ritual properties are often at ground level to facilitate access. Shallow ramping may be sufficient to keep pluvial floodwater out of the building.
Vehicular accesses may also ramp down to underground car parks or basement loading areas for example. Again raised ramping across the entrance may be sufficient to mitigate the risk.
Drainage augmentation across entrances may assist but in itself may not be sufficient to deal with surface flows arising from high intensity rainfall.
Particular care should be taken where there are street level accesses to below-ground infrastructure such as underground or low-level transportation systems – in such circumstances rapid inundation could pose a threat to life as well as potentially causing major disruption and damage.

Access protection should be considered as a potential 'early win' particularly for one-off situations where shallow ramping is feasible and relatively inexpensive to install. If the number of properties with low thresholds is extensive then provision of financial incentives to support property resistance measures can be considered, however no centrally funded scheme is yet available for this yet.

Conclusions and Recommendations

Having regard to important status of Docklands SDZ, which is a major transportation hub, the existence of an already built up area, close to the city centre, the existing planning permissions already granted in the area, and also the key sites for redevelopment, the designation of development of lands contiguous to existing zoned lands and the lack of availability of alternative lower flood probability areas, the flood management measures already in place, it is considered that the development of the lands in flood risk areas satisfies the justification test as set out in the Planning System & Flood Risk Management Guidelines for Planning Authorities, November 2009.

All Planning applications for proposed development within the SDZ area should include a site specific flood risk assessment (FRA).

Until the CFRAM Studies are completed and the flood protection and management options are finalised, the flood map should only be taken as indicative. All planning applications will be required to submit a site specific flood risk assessment addressing risks from all sources of flooding, using the best available data. All new development will be required to comply with the Greater Dublin Strategic Drainage Study for surface-water management, with possible provision for the CFRAMS High End Future Scenario. This will ensure that there is no increase in flood risk to properties downstream as a result of future development. In addition, in order to mitigate against the effects of flooding to new development, floor levels should be set to recommended levels. It is anticipated that specific recommendations for floor levels may issue from the CFRAMS Study. In the meantime, a precautionary approach should be taken of the 100 year fluvial flood level plus a minimum of 10% increase in rainfall intensity plus 300mm freeboard. A floor level of 4.0m Malin Head is required for all residential accommodation.

An assessment of the effects of existing development within the plan area on flood risk to properties downstream will be undertaken, and where possible, recommendations made in relation to possible retrofitting of additional flood storage areas within the study area in order to bring existing development in line with current best practice flood management methods. This may result in the creation of areas of multi-functional recreational space within the SDZ lands using principles of sustainable drainage design.

Flood Risk Management Objectives (See Planning Scheme)

Chapter 4.5

- SI6: To require all proposed developments to carry out a site specific Flood Risk Assessment in accordance with the Departmental Guidelines on Flood Risk Management and the Strategic Flood Risk Assessment of this plan, Appendix 1. The flood risk assessment shall accompany the planning application and should be sufficiently detailed to quantify the risks and the effects of any residual mitigation/adaptation together with the measures needed to manage residual risks.

- SI7: To require all developments in the SDZ area to comply with Flood Risk Management Guidelines as well as in accordance with the prevailing City Development Plan and the national standards at the time of application.

- SI8: To require that all new buildings be designed using Flood Resilient Construction methods. A statement shall be submitted with each FRA to show how it is intended to comply with the above.

- SI10: That all new developments shall be required to comply with the standards set out in the Greater Dublin Strategic Drainage Study (GDSDS).

- SI11: To achieve best practice and innovations in SUDS design as part of the Planning Scheme including the successful co-ordination of surface water management with ecology and amenity functions of open space and landscaped areas. All planning applications shall be accompanied by a surface water drainage plan which will include proposals for the management of surface water within sites, protecting the water quality of the existing water bodies and groundwater sources, and retrofitting best practice SUDS techniques on existing sites, where possible**.**

Chapter 4.11

- GI4: To increase the provision of green landscaping including tree planting on streets within the SDZ area and to improve amenity, increase opportunities for wildlife and contribute and contribute to improvements in air and water quality and water attenuation.
- GI8: To pilot and test new green infrastructure installations in the public realm to boost biodiversity and improve surface water management.

- GI9: To support the development of soft landscaping in public open spaces, where feasible in accordance with the principles of Sustainable Urban Drainage Systems.

Chapter 5.4.8

- A minimum level of 4.0 OD will be required for residential development and resilient design should be incorporated to manage flooding below this level.

Chapter 6.1.2 (c)

- The infrastructure requirements for the City Block including connections to the strategic network, together with a programme of installation works and responsibility for delivering infrastructure, such that each application can demonstrate the means by which the necessary infrastructure can be installed prior to the occupation of a given unit. Flood management and soil remediation measures are to be provided as necessary as part of development.

See also Appendix 2 (Planning Scheme) - Suds Measures for New Developments

Disclaimer

It is important to note that compliance with the requirements of *The Planning System and Flood Risk Management - Guidelines for Planning Authorities*, 2009, and of the Floods Directive 2007 60/EC is a work in progress and is currently based on emerging and incomplete data as well as estimates of the locations and likelihood of flooding. In particular, the assessment and mapping of areas of flood risk awaits the publication of Catchment-Based Flood Risk Assessment and Management Plans [CFRAMP]. As a result, this guide for Flood Risk Assessment is based on this available information and may require revision as new information becomes available.

Accordingly, all information in relation to flood risk is provided for general policy guidance only. It may be substantially altered in light of future data and analysis. As a result, all landowners and developers are advised that Dublin City Council can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. It remains the principal responsibility of owners, users and developers to take all reasonable measures to assess the vulnerability to flooding of lands in which they have an interest prior to making planning or development decisions.

The indicative flood map does not show indicative flood hazard associated with any of the following:

- Extreme fluvial dominated combinations within the pluvial flows to the river
- Extreme pluvial events
- Blocked drains
- High ground water level conditions
- Other unforeseen events e.g. bridge/culvert collapse etc.

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UNCERTAINTY

Although great care and modern widely-accepted methods have been used in the preparation of this plan there is inevitably a range of inherent uncertainties and assumptions made during the estimation of design flows and the construction of flood models.

FLOOD MAPS

Notes in Relation to Flood Maps (see Figures A, B, & C below)

1) These maps present tidal flood hazard for a 200 year return period event (shown as flood extent) for the category shown in the legend and as described in the notes below. The justification of these maps and the information presented on them arises through the flood risk assessment work undertaken as part of the Dublin Coastal Flooding Protection Project, completed by Royal Haskoning for Dublin City Council and Fingal County Council in April 2005.
2) Before use is made of these maps the following notes should be read carefully to avoid incorrect interpretation of the information presented. The maps must be used in conjunction with and in acceptance of the information, exclusions and disclaimers set out in these notes.
3) Tidal Flood Hazard is taken to mean areas at risk from combinations of
   a. Extreme tide levels with wave action as appropriate along the open coastline
   b. Extreme tide levels with a component of fluvial discharge as appropriate within tidal reaches on the river.
4) Definition of flood hazard areas and protected area in the context of the information presented on these maps.
   - 1/200 Flood Hazard Area/Extent – Indicative flood hazard extent for a 200 year event taking into consideration the effect of the existing defences and the possibility of plausible failure scenarios of those defences at any given location
   - Protected Area (Based on 200 year event) – The indicative area within the 1/200 Flood Hazard Area that is protected or defended against flooding for a 200 year event as a result of the existence of the current defences, i.e. the existing defences remain intact then the area shown green hatched with light grey background will be protected against flooding for the 2000 year event. The area is a protected flood hazard area.

     Note: The residual blue are within the 1/200 Flood Hazard Area (not overlain with green hatch and light grey background) shows the indicative flood area extent taking into account the effect of the existing defences, i.e. the standard of protection (SoP) of some or all of the defences is less than 200 years. The blue area is not defended to a 200 year event.

     For more details of the definitions and a description of how the areas have been assessed for the production of these maps, see the definitions presents at the beginning of these maps and also the Flood Hazard Manual produced to accompany these maps.

     A 200 year extreme tide level at Dublin Port has been assessed as 3.14 m ODM (5.64 LAT)
5) The work undertaken and hence the information presented on these maps is relative to the year 2005. As such none of the categories presented make any allowance for climate change.
6) These type 1 maps show the indicative extent of flooding for the categories presented in note 4 and also the legend
7) The maps do not show indicative flood hazard associated with any of the following:
   - Extreme fluvially dominated combinations within the tidal reached of the river.
   - Extreme pluvial events.
   - Blocked drains
   - High ground water level conditions
   - Other unforeseen event, e.g. bridge collapse etc.
8) It should be noted that a residual risk remains for the other areas (light grey) located outside those defined as being at risk from tidal flooding on this map, as a result of flooding through the mechanism identified in note 7 above.
9) For more detailed description of the information presented on these flood hazard maps, see the Flood Hazard Map Manual.
10) All level information presented on these maps related to ordnance datum Malin Head, (MODM) for Conversion from mODM to mLAT relative to Dublin Bay ass 2.51m
11) These maps are to be used and read in conjunction with the DCFPP final report and the Flood Hazard Map Manual produced to accompany them. The manual presents details of the work undertaken to produce the maps together with the constraints and assumptions as appropriate for given locations.
12) Whilst the utmost care and quality control has been undertaken in the interpretation of level data and modelling results for the production of these maps, the information presented in indicative only and is subject to the normal uncertainties associated with ground level and modelling accuracy. Accordingly, the maps should not be used in isolation for decision making purposes and should be read and interpreted by suitably

experienced persons using all associated and additional data available for the area to aid n the decision making process.

13) Dublin City Council makes no representations, warranties or undertakings about any of the information in these maps, including without limitations, their accuracy, their completeness or their quality or fitness for any particular purpose.
14) Dublin City Council reserves the right to change the content and /or presentation of any of the information contained in these maps at its sole discretion, including these notes and disclaimers. Use of any of the maps for whatever purpose, the use has signified his or her agreement to be bound by these notes and disclaimers.

Figure 3 South Campshire Flood Cell

Source: South Campshire Flood Protection Project, Georges Quay, City Quay & Sir John Rogerson's Quay, Dublin 2, EIS, Vol 2 of 4, 201

Figure A – North Lotts – Grand Canal Dock – Existing and Proposed Flood Defences

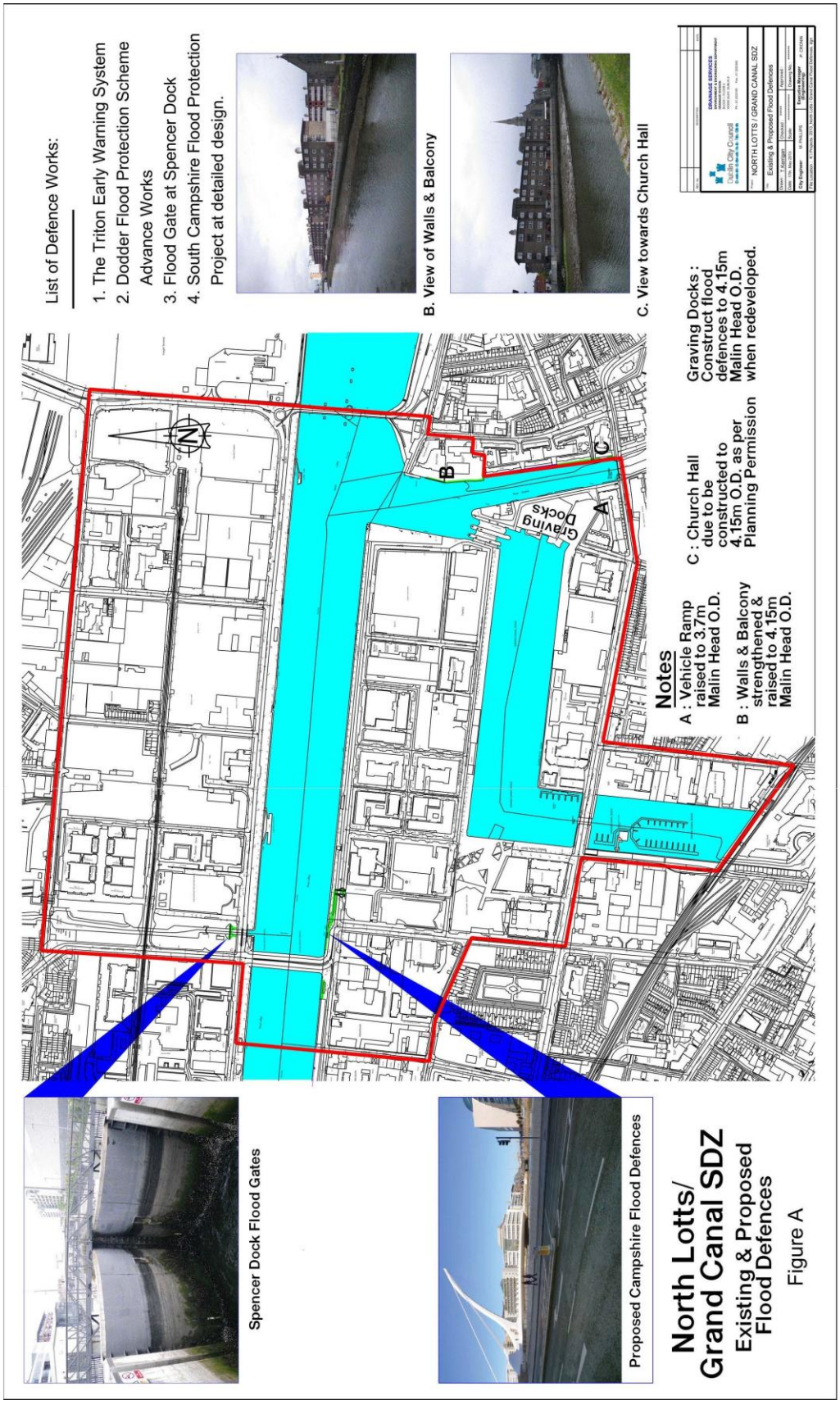


Figure B – North Lotts – Grand Canal Dock SDZ - Existing Flood Zone Map

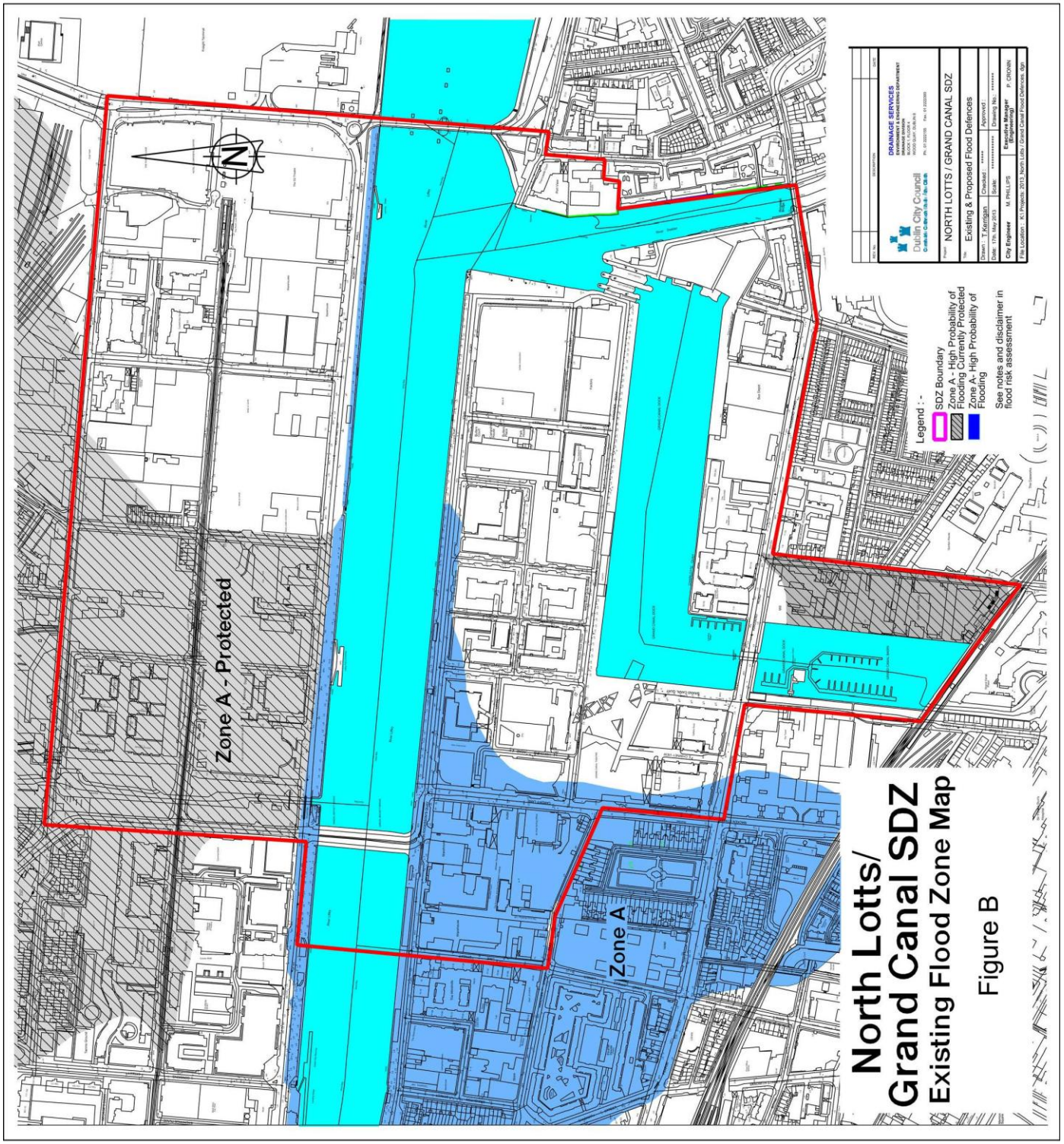


Figure C – North Lotts and Grand Canal Dock SDZ - Proposed Flood Zone Map

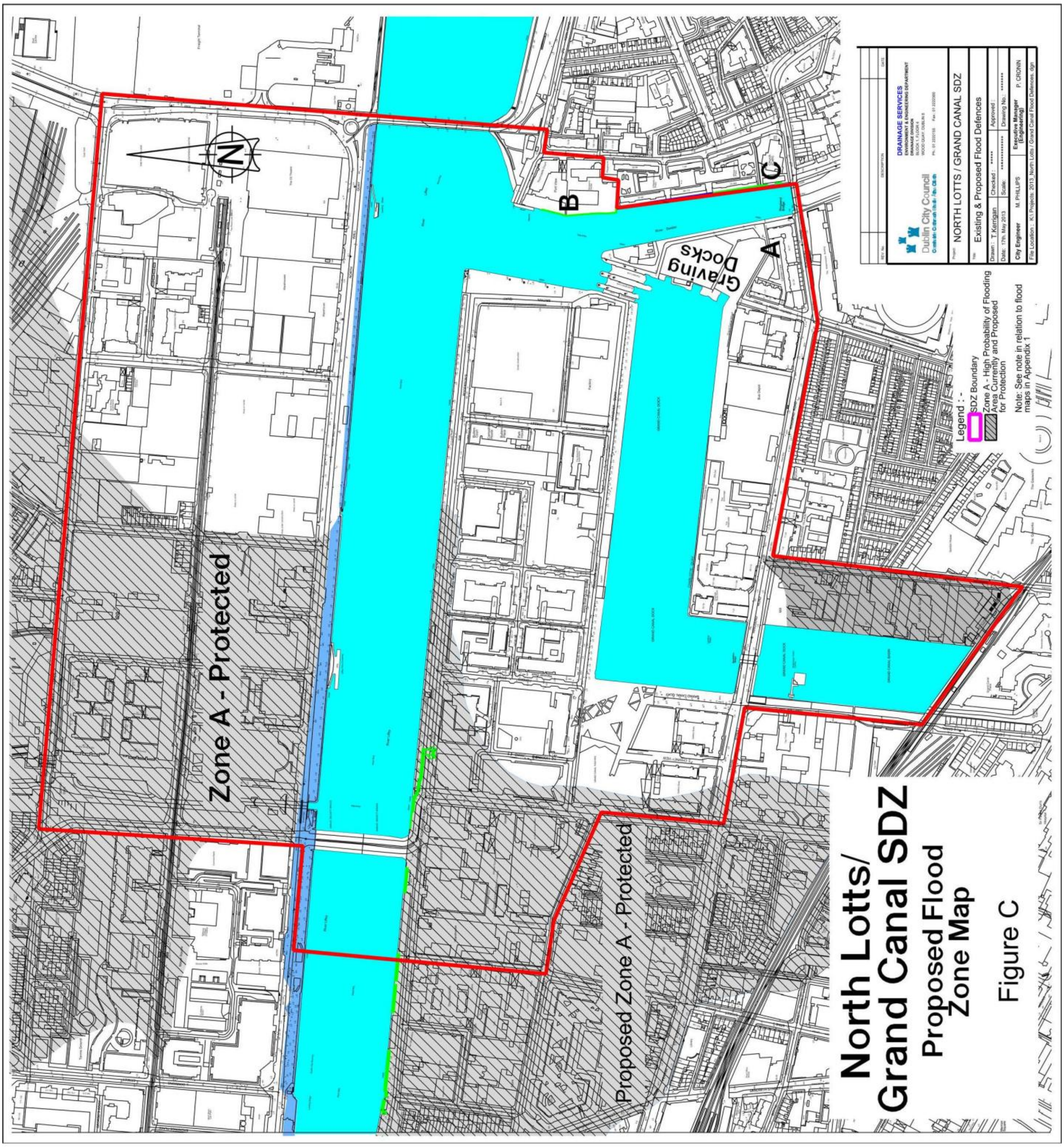
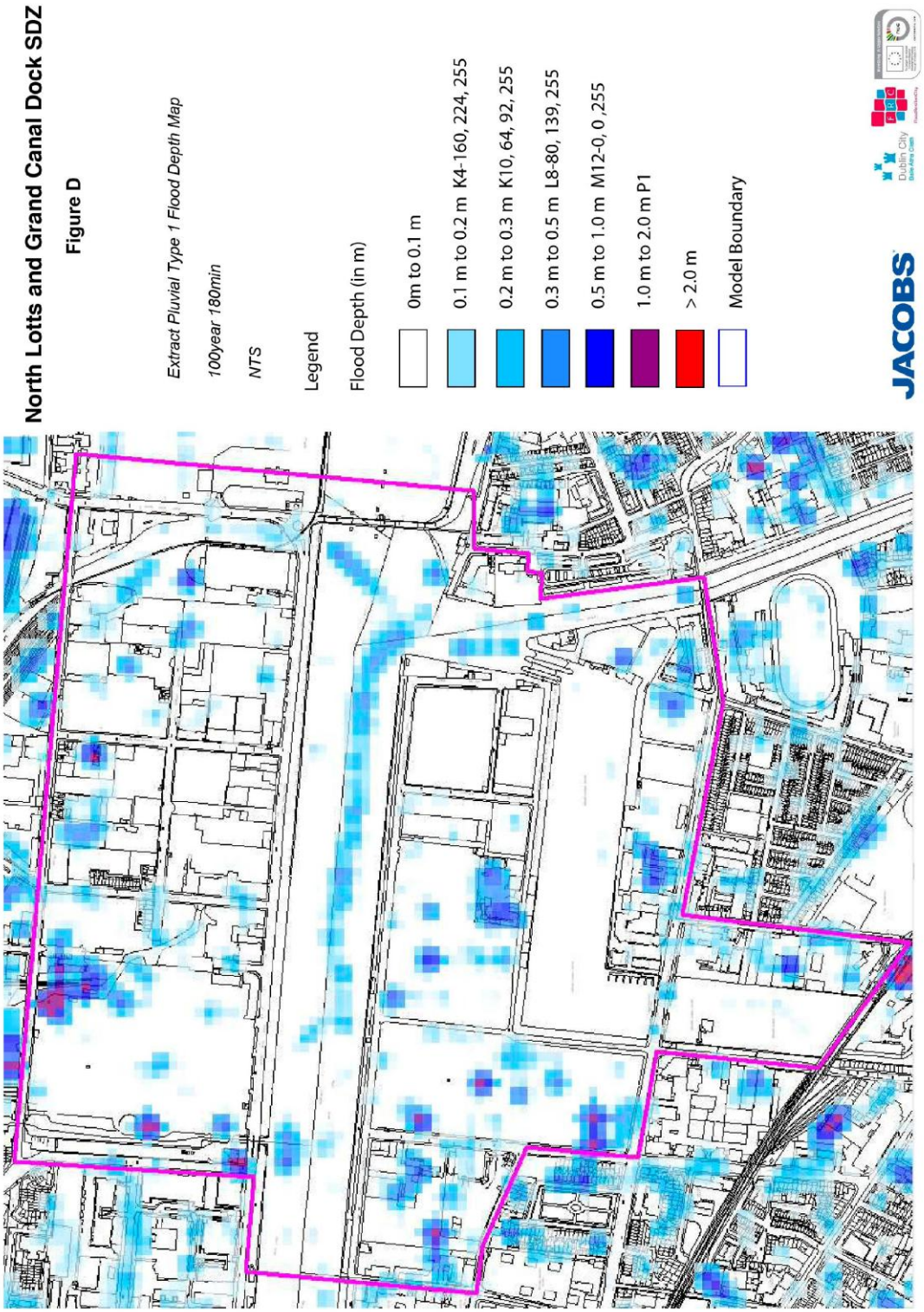


Figure D – North Lotts and Grand Canal Dock SDZ – Extract Pluvial Type 1 Flood Depth Map



Bibliography

Greater Dublin Strategic Drainage Study, Regional Drainage Policies, Technical Document (March 2005)

DoEHLG Guidelines for Planning Authorities (DoEHLG & OPW), The Planning System and Flood Risk Management (2009)

Dublin Coastal Flooding Protection (April 2005)

River Dodder Catchment Flood Risk Assessment and Management Study (Dodder CFRAMS) 2012

Assessment of Potentially Contaminated Undeveloped Sites within North Lotts & Grand Canal Dock, Flannery Nagel Environmental Ltd., November 2012

Flood Emergency Plan – A sub-plan of Dublin City Council Major Emergency Plan, January 2013

Easter Catchment Flood Risk Assessment Management Study (Eastern CFRAMS) (Ongoing)