

## MITIGATION

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This section of the Environmental Report outlines the mitigation measures that have been developed in order to address any significant negative environmental impacts arising from the Master Plan 2008. The measures aim to prevent negative impacts, reduce their magnitude, remedy adverse effects or compensate for negative impacts by providing environmental benefits elsewhere.

The mitigation measures outlined were developed during the course of the Master Plan and SEA process. The steps involved in devising the mitigation measures were as follows:

- Proposed Master Plan policies developed by the Master Plan team were assessed for their environmental impact (Section 7 and Appendix VI)
- A Mitigation Workshop was conducted where mitigation measures were devised by the Master Plan and the SEA teams following on from the environmental assessment of proposed policies. The mitigation measures took the form of new, replacement and amended Master Plan policies
- The mitigation measures were brought to the DDDA Executive Steering Group and DDDA Board by the Master Plan and SEA teams and further refined
- The mitigation measures were agreed with the Council of the Authority in the form of new, amended or replacement policies and were incorporated into the Master Plan 2008
- Dublin City Council was consulted in relation to mitigation measures, in particular those devised in relation to water, material assets and climate. Proposed Master Plan Infrastructure Policies in particular were the subject of consultation. The wording of some policies was amended following this consultation

The incorporation of mitigation measures into the Master Plan 2008 in the form of policies has the advantage of formalising mitigation, fully integrating it into the Master Plan process, and reflects the iterative nature of SEA.

Whereas the assessment of Master Plan policies against the environmental protection objectives is largely positive, the SEA process identified that certain actions are necessary to mitigate anticipated or potential negative environmental impacts. Appendix VI identifies all mitigation measures in the form of new, replacement and amended policies devised in the course of the SEA process.

Mitigation measures were devised in relation to the following environmental receptors; biodiversity, flora and fauna, population and human health, water, air, climatic factors, material assets, cultural heritage and landscape. No additional mitigation measures were considered necessary in relation to soil.

## 8.1 BIODIVERSITY, FLORA AND FAUNA

The environmental protection objective identified in relation to biodiversity, flora and fauna seeks to:

- Protect and enhance biodiversity, flora and fauna.

Any potential contamination of water bodies (surface and coastal) in and adjoining the Area could have adverse consequences on the biodiversity of Dublin Bay which has several designations for nature conservation.

Four mitigation measures in relation to biodiversity, flora and fauna are recommended in the form of additional Urban Design Master Plan policies:

- 1) Any Planning Scheme or any Amended Planning Scheme to be implemented in a manner that protects the integrity of the designated nature areas (SPA, cSAC and pNHA).
- 2) Prevent contamination of waters (surface, ground and coastal) arising from disturbance of existing contaminated lands.
- 3) Minimise potential negative impacts on waters (surface, ground and coastal) during construction reflecting best practice.
- 4) Cooperate with Dublin City Council in the achievements of the objectives of the Dublin City Biodiversity Action Plan 2008-2012.

## 8.2 POPULATION AND HUMAN HEALTH

The environmental protection objectives identified in relation to population seeks to:

- Protect and enhance human health

All of the mitigation measures proposed in this section of the report are relevant to the population residing, working and visiting the Docklands Area. Two specific additional mitigation measures are recommended in the form of one additional Urban Design and one additional Land Use Master Plan policy:

- 5) All relevant Section 25 applications to be assessed for daylight, sunlight and shadow impact on existing and proposed residential development and on existing and proposed open spaces.
- 6) Develop, promote and implement Sustainability Appraisal as a requirement for all future applications for Section 25 consent in the Docklands Area. The features to be incorporated into Sustainability Appraisal to be established and included in Section 25 Planning Schemes.

### 8.3 WATER

The environmental protection objectives identified in relation to water seek to:

- Protect and enhance surface water quality
- Protect and enhance groundwater
- Provide water supply infrastructure

Potential negative impacts in relation to surface and coastal water quality and water supply infrastructure reflect existing deficiencies in both wastewater and water supply infrastructure in the Greater Dublin Area which impact on development throughout the Dublin Region. Any Land-use Policy which seeks to promote high density development throughout the Docklands Area has the potential to have negative impacts on water. Proposed Master Plan Infrastructure Policies seek to mitigate against potential negative impacts. However, three additional mitigation measures in relation to water are recommended in the form of either amended or new Infrastructure Policies:

- 7) Require the use of water saving devices and measures in new buildings to support city-wide water conservation measures, in compliance with Dublin City Council's Bye laws for the Management of Water Services and the Conservation of Drinking Water 2003.
- 8) Promote an awareness of water usage in the Docklands Area.
- 9) Require all new development to integrate Sustainable Drainage Systems (SuDS) to minimise flood risk and enhance the quality of stormwater runoff. Encourage the retrofitting of SUDS where possible to remove storm water from the existing sewerage system and enhance water quality in the Liffey/Dublin Bay.

### 8.4 AIR

The Environmental Protection Objective identified in the relation to air seeks to:

- Limit adverse impact on air quality

The main impact on air quality arising from the Master Plan 2008 relates to transport. New development areas created under the Master Plan 2008 will generate associated traffic movement and hence will impact on air quality. The level of impact relates to the level of development proposed, the land use mix and the modal split between public and private transport. The implementation of Transport 21 will mean that large parts of the Docklands Area will be very well served with public transport. It is anticipated that the positive modal split which characterises Docklands development will continue.

Uncertainty regarding impacts on air arises from those Master Plan policies which seek to promote development throughout the Docklands Area. Additional mitigation measures are however considered necessary in relation to the proposed Poolbeg Planning Scheme Area which is currently not well served with public transport.

Commercial development creates demands for higher level of transport infrastructure provision than residential development. At the same time, the creation of employment opportunities adjacent to residences can reduce the need to travel. It is important that an appropriate land-use mix is adopted in the Poolbeg Planning Scheme and that development and infrastructure are developed in tandem. In addition, it is considered important that retail development on the Poolbeg peninsula takes place in tandem with other development and is sustainable in terms of impact on air.

In order to minimise the impact on air quality the following mitigation measures are proposed in the form of additional, amended or replacement Land Use policies:

- 10) A land use mix in the order of 60-70% residential / 30-40% commercial floorspace to be adopted in the Poolbeg Planning Scheme Area.
- 11) The Poolbeg Planning Scheme to include a strategy for the phasing of development in tandem with the delivery of high capacity public transport line(s), such as BRT and LUAS
- 12) Require an appropriate provision of supporting retail facilities up to District Centre level, which are served mainly by public transport, to be developed within the Poolbeg Area in tandem with the roll-out of development, in order to serve new residential and workforce populations, and the surrounding area. The scale, location and phased development of the retail facilities to be identified within the Section 25 Planning Scheme for Poolbeg, having regard to the latest Retail Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan.

## 8.5 CLIMATIC FACTORS

The environmental protection objective identified in relation to climatic factors seek to:

- Minimise greenhouse gas emissions
- Reduce flood risk

Flood protection will be necessary for new development in the Docklands Area. Various proposed Infrastructure Policies deal with flood protection and support the minimisation of greenhouse gas emissions. Additional measures are recommended to enhance flood protection as follows in the form of additional Urban Design and Infrastructure Master Plan Policies:

- 13) Create a landscape network as part of the Master Plan that not only acts as a flood protection measure but also enhances the potential for biodiversity and movement.
- 14) Flood risk impact assessment to be a requirement for all Section 25 applications. Any flood defences proposed must meet national standards.
- 15) Ensure that, in their design and operation, canals, waterways, locks and other infrastructure do not compromise flood protection for the city.

## 8.6 MATERIAL ASSETS

The environmental protection objectives identified in the relation to material assets seek to:

- Provide wastewater infrastructure
- Provide public transport infrastructure

Potential negative impacts reflect existing deficiencies in wastewater infrastructure in the Greater Dublin Area which impact on development throughout the region. Any Land-use Policy which seeks to promote high density development throughout the Docklands Area has the potential to have negative impacts on water.

Proposed Infrastructure Policies seek to mitigate deficiencies. However, further mitigation is considered necessary. Additional wastewater infrastructure is to be provided to facilitate intensification of development in the North Lotts Area. The exact nature of this infrastructure has to be determined but is likely to include a new pumping station and rising main and possibly a new Liffey Tunnel. The extent of additional infrastructure required will be examined in detail in the Amended North Lotts Planning Scheme and accompanying EIS.

Although located in direct proximity to the Ringsend wastewater treatment plant, development under the Poolbeg Planning Scheme and other Planning Schemes in the Docklands Area may have to provide local wastewater infrastructure until such time as capacity becomes available at regional level. The Master Plan acknowledges that temporary treatment facilities may be required to serve short to medium term needs (S.5.2.2). This issue will be addressed in the relevant Planning Schemes and accompanying EISs.

If adequate wastewater capacity at regional level is unavailable at the time of the roll out of further development in the Docklands Area e.g. should the Authority decide to extend the North Lotts, Grand Canal Docks and Custom House Docks Planning Scheme Areas, local wastewater treatment may be required for development in these areas. This will be addressed in the relevant Planning Schemes and accompanying Environmental Impact Statements, in agreement with Dublin City Council.

Additional measures are recommended in the form of additional Infrastructure Master Plan Policies:

- 16) Co-operate and liaise with Dublin City Council as Water Services Authority in ensuring that the potable and fire water supply, together with the foul sewer and storm water drainage systems are upgraded to meet the demands arising from the additional physical development in advance of, or in parallel with, the carrying out of the development, while protecting the environment and also having regard to the Greater Dublin Regional water and drainage infrastructural constraints. Measures to include the full integration of SuDS into new development, as well as the separation of foul and storm water and retrofit of SuDS where practical.
- 17) Actively support Dublin City Council in the upgrading of the wastewater treatment plant at Ringsend as part of the Greater Dublin Strategic Drainage Strategy.
- 18) Additional wastewater infrastructure to facilitate intensification of development in the North Lotts Planning Scheme Area to be identified in the Amended North Lotts Planning Scheme and developed in tandem with the carrying out of development in the Area.
- 19) The roll out and phasing of development under the Poolbeg Planning Scheme and other amendments and extensions to Planning Scheme Areas within the Docklands Area to be subject to the provision of adequate wastewater infrastructure provided, in consultation with Dublin City Council and other relevant authorities, at regional and/or local level to serve that development.

## 8.7 CULTURAL HERITAGE

The environmental protection objective identified in relation to cultural heritage seek to:

- Protect and enhance architectural and archaeological heritage.

Although the impact of the Master Plan 2008 on cultural heritage is largely positive, the proposed Amended North Lotts Planning Scheme will potentially impact negatively on the quay wall at North Wall. This is a Protected Structure and a recorded archaeological monument. The extension into the River Liffey is to be supported on piles allowing the historic wall to remain in place without significant intervention. Nevertheless a specific policy in relation to the protection of archaeological material in-situ is considered appropriate.

It is proposed to compensate for this impact by the creation of additional positive impacts elsewhere in the Docklands Area. For example, studies carried out as part of the Master Plan 2008 indicate that it may be possible to excavate and restore that part of the South Wall presently under ground. All mitigation measures take the form of additional or amended Urban Design Master Plan policies:

- 20) Seek to retain and incorporate sensitively into new development all Protected Structures in the Docklands Area, other than in exceptional circumstances.
- 21) Archaeological material to be protected in-situ by ensuring that only minimal impact on archaeological layers is permitted. In particular, any proposed development at River Liffey quay walls and canal quay walls to minimise interference with the quay wall and keep the historic fabric in-situ.
- 22) Site specific mitigation strategies to be formulated by the Authority in conjunction with the Dublin City archaeologist, the National Museum of Ireland, and the National Monuments Section and Underwater Unit of the DoEHLG for development in any Planning Scheme or Amended Planning Scheme Area.
- 23) Any proposed developments that may have implications for underwater archaeology to be the subject of underwater archaeological assessment in advance of works. In particular, in areas where disturbance of the River Liffey bed is necessary as part of construction of any Planning Scheme and any Amended Planning Scheme, an inter-tidal and underwater assessment to be carried out by a suitably qualified underwater archaeologist licensed by the DoEHLG.
- 24) Archaeological monitoring during geological investigations and the construction phase of any Planning Scheme and any Amended Planning Scheme to be undertaken by an archaeologist licensed by the DoEHLG.
- 25) Explore the possibility of exposing and restoring that part of the South Bull Wall currently underground, possibly as a waterfront edge.
- 26) Promote the creation of public access to Pigeon House Harbour and investigate the feasibility of developing the harbour for recreational and boating purposes.
- 27) An individual specific approach, which reflects emerging best practice, to be taken in addressing flood risk in Protected Structures.



## 8.8 LANDSCAPE

The environmental protection objectives identified in relation to landscape seeks to:

- Protect, enhance and develop streetscape and enhance views
- Protect, enhance and develop new open space areas

The impact of the Master Plan 2008 on landscape will be positive. A strengthening of policy in relation to views is recommended in addition to the enhancement of the use of open space areas for sustainable drainage and biodiversity. All mitigation measures take the form of additional or amended Urban Design Master Plan policies:

- 28) Carry out a views study to inform consideration of the impact of development on city views.
- 29) Require all new development carried out under any Planning Scheme and any Amended Planning Scheme to have consideration for the impact of the development on city views.
- 30) Create an urban design and architectural panel to evaluate new development and proposals within the Docklands Area, including an evaluation of the impact of the development on city views.
- 31) Maximise the use of green open spaces to facilitate sustainable drainage systems and enhance the potential for biodiversity.