



DRAFT CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)



Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Draft	Statutory Permission	EIA Specialists	T McNally	A Barr	2-07-19

Approval for issue

Alan Barr



2 July 2019

Prepared by:

RPS

 Ruth Barr
 Senior Associate - Water Environment and Flood Risk
 Management

 Elmwood House
 74 Boucher Road, Belfast
 Co. Antrim BT12 6RZ

T +44 2890 667 914
E ruth.barr@rpsgroup.com

Prepared for:

Dublin Port Company

 Eamonn O'Reilly
 CEO

 Dublin Port Centre
 Alexandra Road
 Dublin 1, D01 H4C6

T 01 8876000
E info@dublinport.ie

Contents

1	INTRODUCTION	1
1.1	Objectives of the Construction Environmental Management Plan (CEMP)	1
2	SUMMARY OF MITIGATION MEASURES	2
2.1	Mitigation Measures arising from the EIAR	2
2.2	Conditions on Planning as Specified by An Bord Pleanála	27
2.3	Conditions on Foreshore as Specified by DHPLG	27
2.4	Conditions on Dumping at Sea as Specified by the EPA	27
3	MANAGEMENT OF ENVIRONMENTAL IMPACT	28
3.1	Roles and Responsibilities	28
3.2	Hours of Working	28
3.3	Environmental Management System	29
3.3.1	Background	29
3.3.2	Existing EMS Certification	29
3.3.3	EMS Purpose	32
3.3.4	Environmental Facilities Manager	32
3.3.5	MP2 Project - EMS Implementation	32
3.3.6	EMS Scope	33
3.3.7	EMS Implementation and Operation	33
3.3.8	EMS Documentation	34
3.3.9	EDEN	34
3.4	Approach to Community Engagement	36
3.4.1	Existing Arrangements to Engage with Neighbouring Communities	36
3.4.2	Future Arrangements to Engage with Neighbouring Communities	36
3.4.3	MP2 Project Liaison Group	36
3.4.4	Dublin Port Website	37
3.5	Environmental Management Plans	38
3.5.1	Draft Construction Traffic Management Plan (dCTMP)	39
3.5.2	Draft Invasive Alien Species Management Plan	42
3.5.3	Draft Construction Waste Management Plan	51
3.5.4	Draft Noise Management Plan	62
3.5.5	Draft Dust & Odour Management Plan	65
3.5.6	Draft Marine Mammals Management Plan	69
3.5.7	Draft Birds and Marine Ecology Management Plan	73
3.5.8	Draft Archaeology and Cultural Heritage Management Plan	78
3.5.9	Draft Water Quality Management Plan	82
3.5.10	Draft Dredging Management Plan	91
3.5.11	Draft Pollution Incident Response Plan	95
4	SITE SAFETY	98
5	SUMMARY OF ENVIRONMENTAL MANAGEMENT PLANS	100
6	TABLE 19-3 SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMMES	103

Appendices

Appendix A	DPC Emergency Management Plan	105
Appendix B	Dublin Port Ship's Waste Management Plan	106

1 INTRODUCTION

1.1 Objectives of the Construction Environmental Management Plan (CEMP)

This document comprises a draft Construction Environmental Management Plan (CEMP) for the MP2 Project. It is a 'live' document and will be updated as the project progresses, including incorporating the requirements of conditions attached to statutory consents granted in respect of the MP2 Project.

This draft CEMP sets out the **minimum requirements** which will be adhered to during the construction phase of the MP2 Project.

Dublin Port Company (DPC) is the promoter of the MP2 Project. DPC seeks to achieve the highest possible standards of environmental management during both the construction and operation of the proposed port infrastructure redevelopment.

The CEMP comprises two main parts

Summary of Mitigation Measures (Chapter 2)

All mitigation measures and monitoring requirements proposed within the Environmental Impact Assessment Report (EIAR) and the Natura Impact Statement (NIS) are contained in this Section. In addition, the requirements of conditions attached to statutory consents granted in respect of the MP2 Project, including the Foreshore Licence/Lease/Ministerial Consent and the Dumping at Sea Permit, will also be inserted post consent.

This part of the CEMP will form part of the Contract Documents for the construction stage to ensure that the Contractor undertakes the works required to implement the mitigation measures.

Management of Environmental Impact (Chapter 3)

The objective of this part of the CEMP is to prepare a suite of Construction Phase Management Plans which will be finalised upon the grant of development consents. The content of these Management Plans is presented in draft form in the application documentation and will be finalised through discussion and agreement of Dublin City Council.

2 SUMMARY OF MITIGATION MEASURES

2.1 Mitigation Measures arising from the EIAR

The EIAR assesses the likely significant impacts arising from the MP2 Project. Integration of the engineering design team with the planning and environmental team from an early stage in the Project has enabled mitigation by design to be used, causing many likely significant impacts to be eliminated or reduced to an acceptable level during the preliminary design stage.

Table 2-1 summarises the mitigation measures and monitoring recommended within the EIAR. All mitigation measures proposed within the NIS have been captured by the EIAR.

Table 2-1 Mitigation measures and monitoring recommended within the EIAR

Potential Impact	Summary of Proposed Mitigation
Chapter 6 RISKS OF MAJOR ACCIDENTS & DISASTERS	
Potential for loss of life or injury to employees, Contractors, visitors and local residents.	<ul style="list-style-type: none"> The design of the MP2 Project has been informed by a COMAH land use planning assessment, the purpose of which was to examine the development in the context of the Health and Safety Authority’s COMAH land use planning guidance, and to identify the types of development that may be compatible with the COMAH risk zones around the Calor (and other COMAH) establishments. Based on this conservative assessment, it is considered that the final design layout of the MP2 Project would satisfy the HSA’s criteria under its land use planning guidelines. The MP2 Project will therefore not increase the risk of major accidents and disasters. To remain vigilant, DPC has developed a comprehensive Emergency Management Plan (see Appendix 6 of this EIAR) that caters for the range of accident and emergency events that may occur within its estate (or that may occur outside of the estate and that are likely to have a direct, knock on effect). In the event of an incident, DPC would activate its plan accordingly, in which case people would be directed away from the source of the hazard. DPC’s Emergency Management Plan competencies are continuously enhanced through participation in training and exercises at different levels.
Potential for damage to the environment.	
Potential for damage to the facilities, plant and equipment of DPC, its commercial partners, tenant companies and neighbours.	
Chapter 7 BIODIVERSITY, FLORA & FAUNA	
No regulated invasive plant species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, as	<ul style="list-style-type: none"> An Invasive Alien Species (IAS) Management Plan will be implemented for the duration of the proposed construction works. A draft IAS Management Plan which includes an initial IAS Assessment is presented in Section 3.5.2 of this CEMP. The IAS Management Plan

Potential Impact	Summary of Proposed Mitigation
<p>amended, were identified on site during baseline habitat surveys of the site in 2018 and 2019. Nevertheless, a precautionary approach will be undertaken to prevent the importation and spread of Invasive Alien Species</p>	<p>links into the Construction Waste Management Plan and Construction Traffic Management Plan to prevent the introduction or spread of IAS. The Plan outlines containment and eradication measures to be implemented if any IAS are identified.</p> <p><u>Prevention</u></p> <ul style="list-style-type: none"> • Prevention measures will range from raising awareness of IAS and the potential for their dispersal, to ensuring best practice in relation to the movement of materials into, within or out of the operations area. Measures to be implemented shall include: <ul style="list-style-type: none"> – Ensuring that rock armour, gravels, sand or soils to be imported to the site are sourced from authorised/licensed quarry operators; – Specifying that such material should be free of invasive plant species and their propagules; – Implementing a waste management plan for the proper storage and controlled movement of waste materials; – Implementing a materials handling plan for the proper storage and controlled movement of materials; – Implementing a construction traffic management plan for control of vehicle and plant access and movements, including wheel wash and plant inspection at site entrance; – Ensuring that all vehicles and construction plant arriving on site are reasonably clean and free of significant deposits of mud and plant debris (particularly tyres, wheel arches, excavator buckets and tracks) that might be a vector for spread of IAS; – Cordoning off any IAS locations on site identified and mapped in the initial IAS assessment; – Washing down machinery that has operated in IAS infested areas in designated locations before moving within the site or leaving the site; – Inclusion of IAS awareness in toolbox talks using visual aids to identification for the most likely species to be encountered prepared by the initial IAS assessment; – Notification of any suspected new occurrences of IAS to the Environmental Facilities Manager. <p><u>Containment / Treatment</u></p> <ul style="list-style-type: none"> • If any IAS is identified on the construction site, the management plan will contain its spread in the first instance and subsequently eradicate it if possible from the site. This will include implementation of the following measures:

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> – Cordoning off any invasive species infestations to limit movement of people / machinery in infested area and relevant buffer zones; – Confirmation of the identification of the species concerned, and collation of relevant information; – Selection of the most appropriate best practice methods for control / treatment; – Prioritisation of treatment areas; – Undertaking physical or chemical control measures as appropriate in line with best practice guidance and in compliance with health and safety requirements; – Ensuring control measures are undertaken by suitably qualified personnel; – Handling and disposal of treated material appropriately to prevent further spread.
<p>Precautionary measures will be undertaken to minimise the risk of injury or disturbance to birds in the area of operations</p>	<ul style="list-style-type: none"> • A Bird Management Plan will be implemented for the duration of the proposed construction works. A draft Bird Management Plan is presented in Section 3.5.7 of this CEMP.. • The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to nesting and breeding birds in the area of operations <ul style="list-style-type: none"> – Black Guillemots –nest-boxes and other artificial nest sites will be provided prior to construction; – Breeding Terns – the capital dredging scheme will be confined to the winter months (October – March) when the terns have migrated from the site. • The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to non-breeding waterbirds in the area of operations <ul style="list-style-type: none"> – Construction of Berth 53 and heritage installations will temporarily cease during periods of greatest low spring tides when bird feeding grounds adjacent to Berth 53 in the Tolka Estuary are exposed to avoid disturbance of birds; – Gates will be used at the site of the Greenway to control the movement of people during the periods of low spring tides above, again, to avoid disturbance at feeding grounds within the Tolka Estuary. <p><u>Monitoring</u></p> <ul style="list-style-type: none"> • DPC is committed to continuing a programme to monitor Black Guillemots, Common Tern and Arctic Tern in Dublin Port throughout the construction phase of the MP2 Project and for a period of two years

Potential Impact	Summary of Proposed Mitigation
	<p>after the completion of such works. The results of this monitoring programme will be submitted to Dublin City Council at 12-monthly intervals to maintain a public record.</p> <ul style="list-style-type: none"> • DPC will also continue to undertake a programme to monitor winter wetland birds in the adjacent European Sites at the South Dublin Bay and River Tolka Estuary Special Protection Area. This monitoring programme will continue throughout the construction phase and for a period of two years after the completion of such works, with monthly surveys from October to March. The results of this monitoring programme will be submitted to Dublin City Council at 12-monthly intervals to maintain a public record.
<p>Precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine ecology and fisheries in the area of operations</p>	<ul style="list-style-type: none"> • A Marine Ecology Management Plan will be implemented for the duration of the proposed construction works. A draft Marine Ecology Management Plan is presented in Section 3.5.7 of this CEMP. • A Dredging Management Plan will also be implemented for the duration of the proposed construction works. A draft Dredging Management Plan is presented in Section 3.5.10 of this CEMP. • The following key mitigation measures apply to the Capital Dredging Scheme to minimise the impact of the proposed works on marine ecology <ul style="list-style-type: none"> – No over-spilling at the surface of the dredger for all dredging activities within the inner Liffey Channel will be permitted; – The dredger will work on one half of the channel at a time within the inner Liffey channel to prevent the formation of a silt curtain across the River Liffey; – The dredging of sediments within the navigation channel will be carried out during the winter months (October – March) to negate any potential impact on salmonid migration (particularly smolts) and summer bird feeding, notably terns, in the vicinity of the dredging operations; – A trailer suction head dredger (TSHD) or Back-hoe dredger will be used for the capital dredging works. When operating in the River Liffey Channel, the TSHD pumps will be switched off when the drag head is being lifted and returned from the bottom as the dredger turns between successive lines of dredging to minimise the risk of fish entrainment; – A maximum of 4,100m³ of sediment and entrained water will be loaded into the dredger's hopper for each loading/dumping cycle, equivalent to approximately of 2,030 tonnes (wet weight). • The following key mitigation measures apply to piling activities to

Potential Impact	Summary of Proposed Mitigation
	<p>minimise the impact of the proposed works on fisheries:</p> <ul style="list-style-type: none"> - No piling will take place along the riverside of the Liffey channel during the three months of the year when smolts are likely to run in their highest numbers (i.e. March to May inclusive). This recognises the smaller size of smolts compared to returning adults and lamprey. It also takes account of the fact that smolts have a swim bladder which likely makes them more susceptible than lamprey to pressure trauma due to piling noise.
<p>Precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine mammals in the area of operations</p>	<ul style="list-style-type: none"> • A Marine Mammals Management Plan will be implemented for the duration of the proposed construction works. A draft Marine Mammals Management Plan is presented in Section 3.5.6 of this CEMP. • The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine mammals in the area of operations in line with National Parks and Wildlife Service (NPWS) Guidelines (2014) <ul style="list-style-type: none"> - A trained and experienced Marine Mammal Observer (MMO) will be put in place during piling, dredging, demolition and dumping operations. The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations. The NPWS exclusion zone is 500m for dredging and demolition works and 1,000m for piling activities. - Noise-producing activities will only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring is not possible, the sound-producing activities will be postponed until effective visual monitoring is possible. Visual scanning for marine mammals (in particular harbour porpoise) will only be effective during daylight hours and if the sea state is WMO Sea State 4 (≈Beaufort Force 4 conditions) or less. - For piling activities, where the output peak sound pressure level (in water) exceeds 170 dB re: 1μPa @ 1m, a ramp-up procedure will be employed following the pre-start monitoring. Underwater acoustic energy output will commence from a lower energy start-up and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20-40 minutes. - If there is a break in piling / dredging activity for a period greater than 30 minutes then all pre-activity monitoring measures and ramp-up (where this is possible) will recommence as for start-up. - Once normal operations commence (including appropriate ramp-up procedures), there is no requirement to halt or discontinue the

Potential Impact	Summary of Proposed Mitigation
	<p>activity at night-time, nor if weather or visibility conditions deteriorate, nor if marine mammals occur within a radial distance of the sound source that is 500m for dredging and demolition works, and 1,000m for piling activities.</p> <ul style="list-style-type: none"> – Any approach by marine mammals into the immediate (<50m) works area will be reported to the National Parks and Wildlife Service. • The MMO will keep a record of the monitoring using a ‘MMO form location and effort (coastal works)’ available from the National Parks and Wildlife Service (NPWS) and submit to the NPWS on completion of the works. • In line with best international practice, a combination of visual and acoustic mitigation techniques will be used to ensure there are no significant impacts on all Annex II marine species, including harbour porpoise, grey seal and harbour seal. Static Acoustic Monitoring (SAM) through the deployment of CPODs will be used. SAM monitoring sites will be established and maintained throughout the project and for two years post-construction. This technique is to complement and not replace visual techniques. • The deployment of a SAM system will complement and extend the extensive database currently being collected as part of the ABR Project environmental monitoring programme.
Chapter 8 SOILS, GEOLOGY, HYDROGEOLOGY	
<p>The potential risk to construction workers from contaminants during the earthworks is low.</p>	<ul style="list-style-type: none"> • Fill material will be sourced from authorised quarries and will have minimal potential to introduce contamination onto the site.
Chapter 9 WATER QUALITY and FLOOD RISK	
<p>Mobilised suspended sediment and cement release through construction and demolition activities are the principal potential sources of water quality impact during the construction phase of the works.</p>	<ul style="list-style-type: none"> • A Water Quality Management Plan will be implemented for the duration of the proposed construction works. A draft Water Quality Management Plan is presented in Section 3.5.9 of this CEMP. • The following precautionary measures will be undertaken to minimise the risk of impacting on water quality within the receiving environment: <ul style="list-style-type: none"> – sound design principles will be followed to adhere to relevant Irish guidelines and recognised international guidelines for best practice; – appropriate erosion and sediment controls during construction to prevent sediment pollution will be implemented; – Where preferential surface flow paths occur, silt fencing or other suitable barriers will be used to ensure silt laden or contaminated

Potential Impact	Summary of Proposed Mitigation
	<p>surface runoff from the site does not discharge directly to a water body or surface water drain.</p> <ul style="list-style-type: none"> – In the event that dewatering of foundations or drainage trenches is required during construction and/or discharge of surface water from sumps, a treatment system prior to the discharge will be used; silt traps, settlement skips etc. This measure will allow additional settlement of any suspended solids within storm water arising from the construction areas. • Management and auditing procedures, including tool box talks to personnel will be put in place to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions. • Existing and proposed surface water drainage and discharge points will be mapped on the Drainage layout. These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants. • A draft project specific Pollution Incident Response Plan has been prepared and suitable training will be provided to relevant personnel detailed within the Pollution Incident Response Plan (see Section 3.5.11 of this CEMP).
<p>Accidental release of highly alkaline contaminants from concrete and cement may arise during the demolition of buildings and structures and the construction of hardstand areas, waterside berths, quay walls, jetties, bridging structures, etc.</p> <p>Concrete and cement pollution may give rise to significant impacts on water quality in the absence of mitigation.</p>	<ul style="list-style-type: none"> • The following precautionary measures will be undertaken to minimise the risk of impacting on water quality within the receiving environment <ul style="list-style-type: none"> – Breaking of concrete (associated with structure demolition) has the potential to emit alkaline dust into the receiving environment. Where necessary a barrier between the dust source and the sensitive receptor (the water body in this case) will be erected to limit the possibility of dust contacting the receptor; – Concrete use and production shall adhere to control measures outlined in Guidance for Pollution Prevention (GPP5): Works and maintenance in or near water (2017). Any on-site concrete production will have the following mitigation measures: bunded designated concrete washout area; closed circuit wheel wash etc.; and initial siting of any concrete mixing facilities such that there is no production within a minimum of 10 metres from the aquatic zone; – The use of wet concrete and cement in or close to any water body will be carefully controlled so as to minimise the risk of any material entering the water, particularly from shuttered structures or the washing of equipment.

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> - Where concrete is to be placed under water or in tidal conditions, specific fast-setting mix is required to limit segregation and washout of fine material / cement. This will normally be achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures.
<p>General water quality impacts may arise associated with works machinery, infrastructure and on-land operations including the temporary storage of construction materials, oils, fuels and chemicals.</p> <p>There is the potential for spillage or release of fuel oil and other dangerous substances to result in moderate to significant impacts on water quality in the absence of mitigation.</p>	<ul style="list-style-type: none"> • The following precautionary measures will be undertaken to minimise the risk of impacting on water quality within the receiving environment <ul style="list-style-type: none"> - The risk of water quality impacts associated with works machinery, infrastructure and on-land operations (for example leakages/spillages of fuels, oils, other chemicals and waste water) will be controlled through good site management and the adherence to codes and practices, - Management and auditing procedures, including tool box talks to personnel, will be put in place to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions; - Existing and proposed surface water drainage and discharge points will be mapped on the Drainage layout. These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants, - Fuel, oil and chemical storage will be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. The control measures in GPP2: Above Ground Oil Storage Tanks and PPG 26 “Safe storage – drums and intermediate bulk containers” (Environment Agency, 2011) shall be implemented to ensure safe storage of oils and chemicals; - The safe operation of refuelling activities shall be in accordance with PPG 7 “Safe Storage – The safe operation of refuelling facilities” (Environment Agency, 2011).
<p>Drainage systems need to be designed to prevent the release of polluted water to the receiving waters.</p>	<ul style="list-style-type: none"> • The following precautionary measures will be undertaken to minimise the risk of impacting on water quality within the receiving environment <ul style="list-style-type: none"> - Storm water runoff will be collected in a dedicated storm water drainage system and will not be permitted to discharge directly into the marine environment from new jetties and hardstanding areas. The surface water drainage system will consist, inter alia, of heavy duty gullies cast into the reinforced concrete deck, with concrete pipes cast into the in-situ concrete deck structure. These pipes will carry the storm water into an appropriate full retention oil

Potential Impact	Summary of Proposed Mitigation
	<p>separator which will trap oils and silts prior to being discharges into the harbour waters through a non-return flap valve. A readily and safely accessible monitoring chamber will be provided on the storm water pipeline as appropriate to allow for inspection and sampling of the storm water being discharged,</p> <ul style="list-style-type: none"> - The oil interceptors on the surface water drainage network will be selected and sized based on the pollution prevention guideline: "Use and design of oil separators in surface water drainage systems: PPG3" (Environment Agency, 2006) and BS EN 858 which is the European Standard for the design, performance, testing, marking and quality control of separators within the EU. All separators must comply with this standard. In accordance with PPG3 a class 1 bypass separator will be required for general and car parking areas of the site whilst a class 1 full retention separator will be required for the HGV parking and loading area. Notwithstanding this, full retention separators are proposed for each phase of the development and will be sized in accordance with a design flow of 590l/s for a six hour duration storm and the drainage area to be serviced.
Monitoring Measures	<ul style="list-style-type: none"> • A water quality monitoring system has been designed to ensure robust protection of the marine environment and for users of the inner Liffey channel during the construction phase of the MP2 Project. <ul style="list-style-type: none"> - It is proposed to maintain the four water quality monitoring stations already in position for the ABR Project - The specification is based on state of the art 24/7 real time monitoring with water quality monitoring sensors giving high resolution data with respect to the following parameters <ul style="list-style-type: none"> ○ Turbidity ○ -Dissolved Oxygen ○ Temperature ○ Salinity ○ - pH (additional proposed parameter) - Water level is also measured at one monitoring station to provide information on tidal state. Turbidity is measured as a surrogate for suspended solids. Site specific tests have previously been undertaken by the ABR Project to define the relationship between Turbidity and suspended solids, - A data acquisition and transfer system is being used to enable the transmission of high resolution data at approximately 15 minute intervals.

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> - The following trigger levels that will prompt investigation are proposed: <ul style="list-style-type: none"> o Dissolved Oxygen level falling below 6 mg/l. o Peak Suspended Solids level rising more than 100mg/l above background (Based on the Turbidity v Suspended Solids relationship previously established this is equivalent to an Turbidity increase of 40 NTU above background) - The Dissolved Oxygen trigger level has been selected to safeguard fish-life. - The monitoring network infrastructure has been in place since 2016 and will continue for the duration of the construction phase of the MP2 Project. - This monitoring system has already generated a robust water quality baseline within the inner Liffey channel with the ability to identify water quality trends. The continuation of the monitoring system will serve to further strengthen the knowledge of water quality trends, a key indicator of the health of the marine environment. - The water quality data currently being collected is circulated to Dublin City Council on a monthly basis. It is proposed that this transfer of information continues for the duration of the construction phase of the MP2 Project - The data collected is also being shared with research organisations (Dublin City University, Maynooth University and University College Cork).
Chapter 10 AIR QUALITY & CLIMATE	
<p>Construction works have the potential to result in local impacts through dust nuisance at the nearest sensitive receptors and also to sensitive ecosystems</p>	<ul style="list-style-type: none"> • A draft dust minimisation plan has been prepared based upon the industry guidelines in the Building Research Establishment document entitled 'Control of Dust from Construction and Demolition Activities' (Section 3.5.5 of this CEMP). • The following precautionary measures will be undertaken to minimise the potential nuisance caused by dust at the nearest sensitive receptors and on sensitive ecosystems <ul style="list-style-type: none"> - Site roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface while any un-surfaced roads shall be restricted to essential traffic only; - Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust

Potential Impact	Summary of Proposed Mitigation
	<p>potential);</p> <ul style="list-style-type: none"> - All HGVs and other site vehicles exiting the site will make use of a wheel wash facility prior to entering onto Dublin Port estate roads and public roads, to ensure mud and other wastes are not tracked onto the roads. Wheel washes will be self-contained systems that do not require discharge of the wastewater to water bodies. - Wheel washes shall be self-contained systems that do not require discharge of the wastewater to water bodies; - Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary; - Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind; - Water misting, or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods; - All vehicles which present a risk of spillage of materials, while either delivering or removing materials, will be loaded in such a way as to prevent spillage on the public road; - It will be required that all vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum; and - Monthly monitoring of dust deposition levels each month for the duration of construction for comparison with the guideline of 350mg/m²/day (for non-hazardous dusts). This monitoring will be carried out at a minimum of four locations at sensitive receptors around the proposed works. Where dust levels are measured to be above this guideline, the mitigation measures in the area will be reviewed as part of a Dust Minimisation Plan.
<p>The potential exists for odour generation and nuisance to occur during the construction phase.</p>	<ul style="list-style-type: none"> • A draft Odour Management Plan (OMP) has been prepared and follows the guidance presented in the Environment Agency of England and Wales “Odour Management Guidance” (H4 Guidance, 2011) (see Section 3.5.5 of this CEMP). The odour monitoring and investigation aspects of the OMP will follow the EPA “Odour Impact Assessment Guidance for EPA Licenced Sites”. The OMP will achieve the following: <ul style="list-style-type: none"> - Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution; - Prevent unacceptable odour releasing incidents or accidents by anticipating them and planning accordingly. • The plan considers sources, releases and impacts of odour and uses these to identify opportunities for odour management. The OMP will also include a periodic odour audit of the facility by a suitably qualified

Potential Impact	Summary of Proposed Mitigation
	<p>expert to identify all sources on site together with nature and scale of the odour release and associated construction details. In addition, the plan includes for complaint recording and investigation to ensure that all complaints received at the site are suitably addressed.</p>
<p>Emissions of construction generated Green House Gases (GHG) will arise from embodied emissions in site material, direct emissions from plant machinery /equipment as well as emissions from vehicles delivering material and personnel to the construction site.</p>	<ul style="list-style-type: none"> • Mitigation measures to minimise CO₂ emissions from the construction phase include the following: <ul style="list-style-type: none"> – Consultation with a wider variety of internal and external stakeholders to ensure all relevant information is included in the development of the plans; – Implementation of a Traffic Management Plan which will form part of the specification for the construction works. This will outline measures to minimise congestion and queuing, reduce distances of deliveries and eliminate unnecessary loads; – Reducing the idle times by providing an efficient material handling plan that minimizes the waiting time for loads and unloads. Reducing idle times could save up to 10% of total emissions during construction phase; – Turning off vehicular engines when not in use for more than five minutes. This restriction will be enforced strictly unless the idle function is necessary for security or functionality reasons; – Regular maintenance of plant and equipment. Technical inspection of vehicles to ensure they will perform the most efficiently. • Materials with a reduced environmental impact will be incorporated into the construction design through re-use of materials or incorporation of recycled materials in place of conventional building materials. The following materials will be considered for the construction phase:- <ul style="list-style-type: none"> – Ground Granulated Blast Furnace Slag (GGBS) & Pulverised Fuel Ash - Used as replacements for Portland cements to increase sustainability and carbon footprint of civil and structural works; – Steel - The recovery rates associated with using recycled steel are high and research exists which shows that 99% of structural steel arising from demolition sites is recycled or re-used. The carbon emissions emitted during the production of virgin steel can be higher than some other structural materials on a tonne by tonne basis, and recycled steel will be used where possible. • An The Energy Management system will include the following measures as:- <ul style="list-style-type: none"> – The use of thermostatic controls on all space heating systems in site buildings to maintain optimum comfort at minimum energy

Potential Impact	Summary of Proposed Mitigation
	<p>use;</p> <ul style="list-style-type: none"> – The use of sensors on light fittings in all site buildings and low energy lighting systems; – The use of adequately insulated temporary building structures for the construction compound fitted with suitable vents; – The use of low energy equipment and “power saving” functions on all PCs and monitors in the site offices; – The use of low flow showers and tap fittings; – The use of solar/thermal power to heat water for the on-site welfare facilities and contamination unit (sinks and showers).
Chapter 11 NOISE & VIBRATION	
<p>There is the potential for noise impacts associated with the construction phase of the proposed development at the nearest noise sensitive receptors.</p>	<ul style="list-style-type: none"> • A Noise Management Plan will be implemented for the duration of the proposed construction works. A draft Noise Management Plan is presented in Section 3.5.4 of this CEMP. • <i>British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites: Part 1 - Noise</i> outlines a range of measures that will be used to reduce noise impacts at the nearest noise sensitive receptors. The measures, which will be applied, include: <ul style="list-style-type: none"> – Ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order, – Careful selection of quiet plant and machinery to undertake the required work where available, – All major compressors will be ‘sound reduced’ models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, – Any ancillary pneumatic percussive tools will be fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, – Any ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers, – Machines in intermittent use will be shut down in the intervening periods between work, – Ancillary plant such as generators, compressors and pumps will be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines will be placed away from sensitive locations, in order to cause minimum noise disturbance,

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> - Handling of all materials will take place in a manner which minimises noise emissions, - Audible warning systems will be switched to the minimum setting required by the Health and Safety Authority, - A complaints procedure will be operated by the Contractor throughout the construction phase and all efforts will be made to address any noise issues at the nearest noise sensitive properties.
<p>There is potential for underwater noise as a result of piling activities.</p>	<ul style="list-style-type: none"> • The use of vibratory piles for a substantial portion of the piling requirements will reduce impact driving. • Pile driving activity will be carried out as efficiently as possible to reduce the duration of the piling activity. Piling will only take place for a portion of each working day and will not be carried out at night.
<p>Monitoring Measures</p>	<ul style="list-style-type: none"> • Continuous terrestrial noise monitoring will be undertaken for the duration of the construction works in accordance with BS7445: Description and Measurement of Environmental Noise. <ul style="list-style-type: none"> - All measurements will be made using Type 1 precision digital sound levels meters and associated hardware. The following parameters will be recorded as a minimum: LAeq, LAm_{ax}, LAm_{in}, LA10 & LA90. - The number and location of noise meters will be agreed with Dublin City Council. These will operate for the entire duration of the construction phase. A permanent secure noise monitoring station has previously been established at the marina adjacent to Pigeon House Road as part of the ABR Project. It is representative of nearest sensitive noise receptors and may prove to be an appropriate location for the MP2 Project subject to approval as above. A second monitoring station is proposed at Clontarf, representative of nearest sensitive noise receptors to the north of the MP2 Project site. - All data will be collected and analysed on a weekly basis and the analysed data will be fed back to DPC and the Contractors with a view to reviewing the compliance of construction phase activities in the context of any relevant conditions in planning approval if granted, and the thresholds/requirements included in the draft Noise Management Plan. This will also include any liaison requirement with Dublin City Council in this regard. - Any noise nuisance issues associated with the construction phase activities will be immediately assessed and analysed in relation to the recorded noise levels and all correspondence with DPC, the Contractor, Dublin City Council and the residents will be

Potential Impact	Summary of Proposed Mitigation
	<p>conducted with the appropriate level of urgency. This will include the appropriate liaison with DPC and the Contractor to control activities to ensure that the construction phase activities are in line with any relevant planning conditions and the CEMP.</p> <ul style="list-style-type: none"> – Interim synoptic reports will be produced on a regular basis, usually calendar months, and submitted to Dublin City Council and the project liaison group. – Summary data and graphical outputs for each year of the construction phase will form part of an Annual Environmental Report. The data will be prepared in an analytical output that will aim to provide a concise representation of the construction phase noise levels from the port and will aim to avoid presentation of lengthy datasets. • Underwater noise surveys will be undertaken during the construction phase of the works: <ul style="list-style-type: none"> – The underwater noise surveys will complement the existing underwater noise level measurements which have been recorded during the impact piling carried out inside Alexandra Basin West for the ABR Project. This will provide additional validation of the underwater noise modelling and to ensure the underwater noise levels are contained within the operations area of the port, – Underwater noise surveys will be undertaken during the construction period at a minimum of 2 locations upriver and two locations downstream of the works when being carried out in the navigation channel. Monitoring will be carried out at the commencement of the piling activity.
Chapter 12 COASTAL PROCESSES	
<p>Potential impact of Berth 53 upon tidal current speeds resulting in erosion of bed levels and a localised modification of the lowest astronomical tide mark. This has the potential to impact upon the winter foraging areas within the South Dublin Bay and Tolka Estuary SPA.</p>	<ul style="list-style-type: none"> • The potential impact of Berth 53 on tidal currents and the movement of sediments was modelled and this process informed the final open piled berth design to mitigate any impact on the morphology of the South Dublin Bay and Tolka Estuary SPA. • A wash protection structure has been designed to reduce high thruster jet velocities associated with manoeuvring vessels, again to mitigate any impact on the morphology of the South Dublin Bay and Tolka Estuary SPA. • This mitigation by design has reduced the potential impact of the MP2 Project on coastal processes to an imperceptible level.
Chapter 13 TRAFFIC & TRANSPORT	
<p>There will be an increase in construction traffic during the</p>	<ul style="list-style-type: none"> • A Construction Traffic Management Plan will be implemented for the duration of the proposed construction works. A draft Construction

Potential Impact	Summary of Proposed Mitigation
<p>construction phase of the development.</p>	<p>Traffic Management Plan.is presented in Section 3.5.1 of this CEMP. The following mitigation measures will be applied:</p> <ul style="list-style-type: none"> – Adhering to the Dublin City Council HGV Management Strategy; – A pre-defined haulage route will be agreed with Dublin City Council to avoid construction traffic through sensitive road networks at critical times; – Time restrictions will be implemented relating to construction vehicles on the adopted road network, – Temporary warning signage will be installed, as necessary, – Wheel washing, roadside cleaning, load checking and general maintenance of larger vehicles will be in place, – Appropriate parking facilities for site operatives and visitors within the site will be provided with all parking areas clearly signed and monitored.
<p>Chapter 14 CULTURAL HERITAGE (including Industrial & Archaeological)</p>	
<p>There is a need for an overarching Archaeology and Cultural Heritage Management Plan to be implemented during the construction phase</p>	<ul style="list-style-type: none"> • An Archaeology and Cultural Heritage Management Plan will be implemented for the duration of the proposed construction works. A draft Archaeology and Cultural Heritage Management Plan.is presented in Section 3.5.8 of this CEMP.
<p>Ground disturbance activities have the potential to expose elements of the 19th Century Breakwater which are assumed to remain undisturbed beneath Breakwater Road.</p>	<ul style="list-style-type: none"> • Archaeological monitoring licensed by the National Monument Service will be conducted of all ground disturbance activities, including site investigations, with the proviso to resolve fully any archaeological material observed at that point.
<p>The construction of Oil Berth 3 will necessitate the reclamation of the sea pocket that accommodates the Pilot Boat pontoon, and the five ship’s timber and one metal piece that are in temporary storage under the pontoon.</p>	<ul style="list-style-type: none"> • There are five ship’s timbers and one metal piece located in temporary wet storage under the Pilot Boat pontoon which will be removed to the secure Heritage Zone area for the ABR Project, where they will be placed in water-filled tanks.
<p>It is necessary to demolish the Breakwater terminus or Pier Head to facilitate the construction of Berth 50A.</p>	<ul style="list-style-type: none"> • Prior to demolition works commencing, the 3D record of existing structure and associated features will be amended where necessary to ensure that the permanent outputs can produce metrically accurate plan, elevation and section drawing information at 1:20 scale. • Archaeological monitoring licensed by the National Monuments Service will be conducted of all ground disturbances, with the proviso to resolve fully any archaeological material observed at that point. The archaeologist will be facilitated by DPC to complete a comprehensive record of any archaeological features that become exposed in the

Potential Impact	Summary of Proposed Mitigation
	<p>course of the construction works.</p>
<ul style="list-style-type: none"> The extension of capital dredging into the south side of the localised channel widening area represents direct and permanent impacts on what appears to be previously undredged locations. It is an area of high archaeological potential and the recovery of shipping debris and/or shipwreck must be anticipated. 	<ul style="list-style-type: none"> Archaeological monitoring licensed by the National Monument Service will be conducted of all seabed disturbances that might take place prior to construction, including site investigation, with the proviso to resolve fully any archaeological material observed at that point. Archaeological monitoring of all dredging activities and associated seabed disturbance activities conducted within the berth pockets and the localised channel widening area will be carried out, with the proviso to resolve full any material of archaeological significance observed at that point.
<p>Monitoring Measures</p>	<ul style="list-style-type: none"> Retaining an Archaeologist: <ul style="list-style-type: none"> An archaeologist experienced in maritime archaeology will be retained for the duration of the relevant works. Retaining a Heritage Architect: <ul style="list-style-type: none"> A heritage architect experienced in maritime and industrial heritage will be retained for the duration of the relevant works, to advise specifically in relation to works associated with the Breakwater terminus Pier Head. Archaeological Licences: <ul style="list-style-type: none"> Archaeological licences will be required to conduct the on-site archaeological works. Licence applications require the inclusion of detailed method statements, which outline the rationale for the works, and the means by which the works will be resolved. Archaeological Monitoring: <ul style="list-style-type: none"> Monitoring will be carried out by suitably qualified and experienced maritime archaeological personnel licensed by the Department of Culture, Heritage and the Gaeltacht. Archaeological monitoring will be conducted during all terrestrial, inter-tidal/foreshore and seabed disturbances associated with the development. The monitoring will be undertaken in a safe working environment that will facilitate archaeological observations and the retrieval of objects that may be observed and that require consideration during the course of works. The monitoring will include a finds retrieval strategy that is in compliance with the requirements of the National Museum of Ireland. Time Scale: <ul style="list-style-type: none"> The time scale for the construction phase will be made available

Potential Impact	Summary of Proposed Mitigation
	<p>to the archaeologist, with information on where and when ground disturbances will take place.</p> <ul style="list-style-type: none"> • Discovery of Archaeological Material: <ul style="list-style-type: none"> – In the event of archaeologically significant features or material being uncovered during the construction phase, machine works will cease in the immediate area to allow the archaeologist/s to inspect any such material. • Archaeological Material: <ul style="list-style-type: none"> – Once the presence of archaeologically significant material is established, full archaeological recording of such material will be recommended. If it is not possible for the construction works to avoid the material, full excavation will be recommended. The extent and duration of excavation will be a matter for discussion between DPC and the licensing authorities. • Archaeological team: <ul style="list-style-type: none"> – It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complimented in the event of a full excavation. • Archaeological Dive Team: <ul style="list-style-type: none"> – It is recommended that an archaeological dive team is retained on standby for the duration of any in-water disturbance works on the basis of a twenty-four or forty-eight hour call-out response schedule, to deal with any archaeologically significant/potential material that is identified in the course of the seabed disturbance activities. • A Site Office: <ul style="list-style-type: none"> – A site office and facilities will be provided by DPC on site for use by archaeologists. • Secure Wet Storage: <ul style="list-style-type: none"> – Secure wet storage facilities will be provided on site by DPC to facilitate the temporary storage of artefacts that may be recorded during the course of the site work. • Buoying/Fencing: <ul style="list-style-type: none"> – Buoying/fencing of any such areas of discovery will be necessary if discovered and during excavation. • Machinery Traffic: <ul style="list-style-type: none"> – Machinery traffic during construction will be restricted to avoid any identified archaeological site/s and their environs. • Spoil:

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> – Spoil will not be dumped on any of the selected sites or their environs. • Post-construction Project Report and Archive: <ul style="list-style-type: none"> – It is a condition of archaeological licensing that a detailed project report is lodged with the DCHG within 12 months of completion of site works. The report should be to publication standard and should include a full account, suitably illustrated, of all archaeological features, finds and stratigraphy, along with a discussion and specialist reports. Artefacts recovered during the works need to meet the requirements of the National Museum of Ireland.
Chapter 15 LANDSCAPE & VISUAL	
<p>There are no significant landscape or visual impacts predicted for the MP2 Project.</p>	<ul style="list-style-type: none"> • The following measures have been incorporated within the engineering design to offset the landscape and visual impact: <ul style="list-style-type: none"> – Integration of constructed elements with existing elements such as existing roads and building sites; – Appropriate colour of fencing and structures; – Use of directional lighting.
Chapter 16 POPULATION & HUMAN HEALTH	
<p>Embedded mitigation measures</p>	<ul style="list-style-type: none"> • Monitoring of dust, odour and noise during the construction phase will act as precursors to any health impact, thereby enabling a monitoring regime that enables intervention before any manifest adverse health outcome. • As part of annual reporting, DPC already monitors numbers of employees and several financial Key Performance Indicators (KPIs) (such as turnover, profit, tax contributions) to measure year-on-year progress. The continued measurement of these will ensure that financial socio-economic benefits of the MP2 Project construction phase are captured.
Chapter 17 WASTE	
<p>Waste will be generated during the demolition phase of the works</p>	<p><u>Main Works Contractor</u></p> <ul style="list-style-type: none"> • A Main Works Contractor (MWC) Environmental Co-ordinator/Waste Manager will be appointed. The MWC will ensure that demolition wastes will be collected by an appropriately licensed waste management Contractor and that all proposed management routes comply with the European waste hierarchy of prevention, preparing for reuse, recycling, and recovery with disposal being the last and final option and with other legal requirements. All waste materials leaving

Potential Impact	Summary of Proposed Mitigation
	<p>the site will be transported and disposed or recovered through licenced operators and in accordance with national waste legislation.</p> <p><u>Demolition Survey</u></p> <ul style="list-style-type: none"> • A Demolition Survey is required prior to any demolition work being undertaken. The Demolition Survey will set out all high value waste materials, such as metals, that will be removed from buildings and segregated for possible onward reuse or recycling to maximise recovery. The Demolition Survey will also include intrusive surveying with sampling which will identify the exact extent and location of any asbestos containing materials (ACMs) in the building. Removal offsite of any ACMs from the buildings to be demolished will be required prior to demolition. <p><u>Segregation & Storage of demolition materials</u></p> <ul style="list-style-type: none"> • Demolition debris will be separated into five waste streams on-site: <ul style="list-style-type: none"> – Construction debris (i.e. ceramics, tiles, plasterboard), – Masonry materials (i.e. brick, concrete blocks) – Metals, – Timber, – Universal waste (i.e. fluorescent bulbs, ballast and mercury containing switches). • On-site segregation of all hazardous waste materials into appropriate categories will be undertaken: <ul style="list-style-type: none"> – Waste oils and fuels; – Paints, glues, adhesives and other known hazardous substances. • The storage and reuse of demolition or excavation wastes on site may be subject to a number of waste licensing requirements. If these wastes are to be stored on site, prior to potential reuse or recovery during construction, this activity will be subject to a Waste Management Licence Exemption with a limited tonnage of material permitted to be stored on site. Storage will take place in a secure area on-site and the Contractor will monitor the amount of waste stored to ensure that the permitted limits of the Exemption are not exceeded. DPC and its appointed Contractor will consult with the EPA prior to construction to ensure that the appropriate Waste Management Licence or Exemption is in place. <p><u>Reuse of demolished material on-site</u></p> <ul style="list-style-type: none"> • In order to divert waste from landfill, possibilities for reuse of inert demolition material as fill on site will be considered, following appropriate testing to ensure materials are suitable for their proposed end purpose.

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> • Under certain circumstances and in order that uncontaminated excavated soil and stone is beneficially used on-site, DPC and its MWC may decide in accordance with the conditions of article 27 of the European Communities (Waste Directive) Regulations 2011, S.I. No. 126 of 2011 that such material is a by-product and not a waste and will notify the Environmental Protection Agency for a determination. • It is proposed the following areas will be infilled using engineered fill material and suitable CDW arising from demolition works within the footprint of the development: <ul style="list-style-type: none"> – Basin of Oil Berth 4, – Void between the existing Oil Berth 3 and the proposed new sheet pile wall, – Bridging structure in Berth 50A. • A waste permit will be required for the infilling of <50,000 tonnes of CDW into Oil Berth 4. • CDW may be subject to treatment at the site prior to recovery in Oil Berth 4. Mobile plant may be installed to crush and screen suitable CDW. The operations will be as follows: <ul style="list-style-type: none"> – Loading; – Crushing and grinding; – Screening; – Unloading; – On-site off-site transfer of CDW; – Stockpiles; and – Recovery of waste into Oil Berth 4. • A permit for the recovery operation will be required which is subject to planning. • Masonry units from the 19th Century Eastern Breakwater which currently supports the Port Operations Centre are of industrial heritage importance and will be carefully removed and salvaged for relocation elsewhere on site for future heritage gain projects. The quantity of masonry units is estimated to be approximately 7,000m³. • DPC and its appointed Contractor will consult with the EPA prior to construction to ensure that the appropriate licences, permits and exemptions are in place prior to initiation.
<p>There is likely to be an increase in the amount of waste produced during the construction phase of the works.</p>	<ul style="list-style-type: none"> • The current Dublin Port Ship's Waste Management Plan (see Appendix 17 of this EIAR) underpins all waste related operations at Dublin Port. DPC will continue to review and implement any required changes in the waste management plan in order to avoid and minimise the potential

Potential Impact	Summary of Proposed Mitigation
	<p>effects of vessel generated wastes.</p> <ul style="list-style-type: none"> • DPC will continue to provide adequate reception facilities and remove, as far as is practicable, any disincentives to landing waste in the port. DPC will continue to encourage the responsible management of waste, including minimisation and recycling, at the point of generation on ships, reception in ports/harbours, transportation and disposal, and ensure that port and harbour employees and users dispose of wastes responsibly in facilities provided. • The Ship's Waste Management Plan will continuously evolve to effectively capture materials generated to help ensure that recyclable materials are handled and diverted accordingly. Developing a clear waste management plan that incorporates a customer-facing recycling and organics collection program will help divert materials from landfill. • A draft MP2 Project specific Construction Waste Management Plan (CWMP) has been prepared (see Section 3.5.3 of this CEMP) and includes the following specific requirements: <ul style="list-style-type: none"> – Building materials will be chosen with an aim to 'design out waste'. – Control measures and attention to materials quantity requirements will avoid over-ordering and generation of waste materials. – Agreements with materials suppliers will reduce the amount of packaging or to participate in a packaging take-back Scheme where possible. – A 'just in time' materials delivery system will be implemented where possible to avoid materials being stockpiled, which increases the risk of the damage and disposal as waste. – Waste arisings will be managed appropriately in line with the Port's waste management hierarchy in accordance with best practice in order to achieve good recycling performance and high landfill diversion. – Waste materials will be segregated on-site into appropriate categories. In addition to recyclable items such as paper and drinks bottles, separation of food and food contaminated packaging and consumable items for composting will be implemented, as well as the requirement for more specialist streams (for example, electrical items, hazardous materials). – Appropriate receptacles and recycling bins will be clearly labelled for the collection and segregation of each of these waste materials and will be provided throughout the development and open space areas, as appropriate. Wastes will be stored in these receptacles in a designated, easily accessible area of the site until collection by an appropriately licensed waste management Contractor.

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> – All waste types and amounts will be recorded and reviewed at regular intervals, to allow for continuous analysis and review of procedures that will be made to reduce waste to landfill, increase the percentage of recycling and reduce waste overall as much as possible. • All wastes generated will be managed in accordance with appropriate waste management legislation and policy, and will be transported and recovered / disposed of by licensed waste management Contractors. • In order to ensure that these operations are carried out effectively, all staff will receive training as part of their induction to the site including: instructions on the appropriate segregation, handling, recycling and reuse methods to be employed by all parties on-site for wastes generated. Furthermore, the waste management strategy and relevant environmental procedures will be communicated to staff, Contractors and suppliers and it will be a requirement that suppliers, and Contractors promote the adoption of environmentally sound practices. <p><u>On-site waste management</u></p> <ul style="list-style-type: none"> • The MP2 Project design will incorporate adequate dedicated space to cater for the segregation and storage of all various waste streams within the site. This waste storage compound will allow for waste segregation, handling activities such as bailing of cardboard and plastic and sufficient waste storage. • All waste materials will be stored in skips or other suitable receptacles in designated areas of the site. The waste storage area(s) will be assigned and all staff will be provided with training regarding the waste management procedures on commencement of the project. • Construction waste materials shall be segregated on-site for recycling into the following categories: <ul style="list-style-type: none"> – Timber – Metal – Cardboard & paper – Glass – Rubble – General waste • Adequate security measures will be put in place. • DPC will continue to implement its Environmental Policy and update its Environmental Management System for the development consistent with best practice.

Potential Impact	Summary of Proposed Mitigation
	<p><u>Duty of care in relation to correct waste authorisations</u></p> <ul style="list-style-type: none"> Contractors working on site during the works will be responsible for the collection, control and disposal of all wastes generated by the works. DPC and its appointed MWC will ensure that waste it is handled only by a body authorised under the Waste Management Act to manage it. This duty implies, at the very least, checking to see that the required authorisation is in place, has not expired and is appropriate for the waste types that are to be handled. DPC and its appointed MWC will ensure that all waste materials leaving the site will be transported via a licensed carrier and disposed or recovered through licenced operators and in accordance with national waste legislation. Monitoring and updating of records will be implemented.
Monitoring Requirements	<ul style="list-style-type: none"> All waste types and amounts generated will be recorded and reviewed at regular intervals to allow for continuous analysis and review of procedures that will be made to reduce waste to landfill, increase the percentage of recycling and reduce waste overall as much as possible. Waste storage will take place in a secure area on-site and the Contractor will monitor the amount of waste stored to ensure that permitted limits of any Exemption are not exceeded. Measures and procedures to monitor waste flows on site and update records will be clearly set out. An Environmental Co-ordinator/Waste Manager will be appointed who will set up and maintain a record keeping system, perform audits and establish targets for waste management on site. The Environmental Co-ordinator/Waste Manager will also implement best practice methods for segregation and storage of recyclable materials, and for reuse of appropriate materials on-site in accordance with the MP2 Project's CWMP. The Environmental Co-ordinator/Waste Manager will be responsible for organising and delivering a waste training programme to staff on site. This will provide basic awareness for all staff of the CWMP and the requirement to segregate waste at source. Training may be incorporated with other training needs (e.g. general site induction, safety training etc.). This basic course will describe the materials to be segregated, the storage methods and the location of waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained. A system will be put in place to record the waste arising on site during demolition and construction phases, and all waste material that leaves the site. The Environmental Co-ordinator/Waste Manager will record the following:

Potential Impact	Summary of Proposed Mitigation
	<ul style="list-style-type: none"> – Waste taken off-site for reuse – Waste taken off-site for recovery – Waste taken off-site for recycling – Waste taken off-site for disposal <ul style="list-style-type: none"> • For each movement of waste off-site a signed waste collection docket will be obtained by the Environmental Co-ordinator/Waste Manager from the Contractor. This will be carried out for each material type. This system will also be linked with the delivery records. A signed waste acceptance docket will be issued for each movement of waste on-site. Periodic audits will ensure completeness of records and compliance with the established system. • Each material type will be examined in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how waste can be minimized. • The Environmental Co-ordinator/Waste Manager will be responsible for conducting a waste audit at the site during the construction phase of the development. A review of all records for waste generated and transported off-site, will be undertaken mid-way through the construction phase. • Upon completion of the construction phase a final report will be prepared summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development. <p><u>Waste arising from wash down facility</u></p> <ul style="list-style-type: none"> • Solid waste in the form of sediments will arise from the wheel wash unit settlement tank. The unit will be inspected regularly (for example, to check automated features are working and settlement content) and emptied in accordance with manufacturer's instructions. The solid residues will be analysed and the disposal route appropriately selected based on the results of this analysis. A gully emptier tanker will be used to remove settlement tank waste which will be disposed of at an approved waste disposal site. <p><u>Fuels and hydraulic oils/lubricants</u></p> <ul style="list-style-type: none"> • Contractors will ensure all plant is inspected and serviced in accordance with its schedule. A bunded disposal area will be provided. Contractors will provide staff training on the waste management strategy. Disposal/recovery under licence.

2.2 Conditions on Planning as Specified by An Bord Pleanála

This Section will be populated with any and all additional requirements under conditions imposed by An Bord Pleanála (ABP) should the Board decide to grant development consent for the MP2 Project.

2.3 Conditions on Foreshore as Specified by DHPLG

Foreshore Lease/License/Ministerial Consent conditions set by the Foreshore Unit of Department of Housing, Planning and Local Government (DHPLG) will be inserted here should DHPLG decide to grant foreshore consent for the MP2 Project.

2.4 Conditions on Dumping at Sea as Specified by the EPA

Dumping at Sea Permit conditions set by the EPA will be inserted here should the EPA decide to grant Dumping at Sea consent for the MP2 Project.

3 MANAGEMENT OF ENVIRONMENTAL IMPACT

3.1 Roles and Responsibilities

DPC intends to appoint a Contractor(s) to undertake each phase of the works. Mitigation measures set out in the CEMP will form part of the Contract Documents for the construction stage to ensure that the Contractor undertakes the works required to implement the mitigation measures.

DPC has an established liaison group for the ABR Project which includes representatives of DPC, the Contractor, Dublin City Council (DCC) and The Department of Housing, Planning and Local Government (DHPLG) Foreshore Unit. The group meets at quarterly intervals each year with an agenda and minutes taken of the meetings. It is proposed that this liaison group will also provide environmental oversight of the construction phase of the MP2 Project.

DPC will appoint a suitably qualified person to the role of Environmental Facilities Manager (Environmental Clerk of Works) to monitor the MP2 Project construction works. The Environmental Facilities Manager will provide monthly reports to the members of the liaison group. The Environmental Facilities Manager will work closely with the Contractor's site supervisors to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the CEMP are implemented. The Environmental Facilities Manager will have the authority to review method statements, oversee works and instruct action, as appropriate, including the authority to require the temporary cessation of works, where necessary.

3.2 Hours of Working

Where construction activity takes place for the development in the vicinity of residential properties, the activities will operate between the hours of 08:00 and 18:00 on Monday to Fridays, between 08:00 and 13:00 on Saturdays and there will be no activity on Sundays or Bank Holidays in accordance with the requirements of the EIAR.

Where additional or alternative working hours are required, a request for derogations to work outside the permitted working hours will be submitted to Dublin City Council at least five working days in advance. The request will be supported by a detailed case including an Engineering report explaining the requirement to work outside the permitted working hours and listing proposed dates with commencement and finishing times.

All affected residents and stakeholders shall be notified on receipt of any approved derogations including the rationale for the extended working hours.

Capital Dredging works are remote from residential properties and are proposed to be undertaken on a 24 hour / 7 days per week basis.

3.3 Environmental Management System

3.3.1 Background

In order to safeguard local amenities and protect the environment, the MP2 Project will be operated and managed in accordance with a comprehensive Environmental Management System (EMS). An annual audit report for the EMS will be made publicly available.

An EMS is already in operation for the ABR Project and it will be extended to incorporate the MP2 Project. This section sets out the systems already in place.

3.3.2 Existing EMS Certification

DPC has a comprehensive Environmental Management System (EMS) in place which is certified to international standard ISO 14001. A copy of the current certification is provided in Figure 3-3-I. An EMS Manager oversees the implementation of the system.

The EMS is comprised of the following elements:

- DPC Environmental Policy: a statement of intent to improve and sustain environmental performance Figure 3-3-2;
- Planning: identification of legal requirements, objectives and targets and establishment of management programme;
- Implementation and operation: training of appropriate personnel, record keeping and establishment of emergency planning;
- Checking and Corrective action: auditing EMS, implementing corrective actions;
- Management review: assessment of EMS (i.e. objectives and targets) relevant to operations and defined policy.

The MP2 Project will be incorporated into the scope of the EMS.

In addition, DPC is a member of the Ecoports network and is a certified user of the 'Ports Environmental Review System' (PERS) since 2008.



Figure 3-3-1 Dublin Port Company Current ISO 14001 Certification



ENVIRONMENTAL POLICY

The principal activities of Dublin Port Company (DPC) are to facilitate the efficient flow of goods and passengers through the port. The company provides the infrastructure, facilities, services and hard standing areas to meet with the needs of their customers and to allow the transfer of goods and passengers between sea and land.

"It is our policy to manage our obligations to the environment in a responsible manner and to take a sustainable approach to developing the port's business"

As part of this policy we aim to:

1. Comply with all relevant environmental legislation and Best Environmental Management Practices in line with the certification to ISO14001:2015 and PERS Certification.
2. Having regard to DPC's commitment to the concept of Corporate, Social Responsibility, work shall continue in developing and building partnerships with Dublin City Council, Regulator's, Non Governmental Organisations and local resident groups.
3. Promote best practise on environmental issues in the planning, design and implementation of projects in consultation with our tenants, customers and wider stakeholders.
4. DPC recognises the sensitivity of its location in close proximity to designated conservation sites and the corresponding significant aspects and impacts of Port operations. DPC will ensure a continued positive focus on nature conservation.
5. Follow best environmental practice in regard to our own activities, ensuring that pollution prevention is a major consideration in all-operational activities.
6. Having regard to protecting DPC's assets, work shall continue with both DPC staff and Port tenants in improving management of the potential environmental consequences of Port activities.
7. Seek to minimise significant environmental impacts of our activities especially in the areas of waste generation, pollution control and energy usage through the progressive development of environmental management procedures as determined by our business needs.
8. Establishing objectives and measurable targets against which improvements in environmental performance will be monitored.
9. Raise staff awareness of the environmental issues and the environmental effects of DPC's activities through communication and training.
10. Review annually our environmental policy and consider the need for any amendments in the light of changing circumstances.
11. Make the environmental policy statement available to our stakeholders and the public and consult with local communities on relevant matters.
12. Build on the environmental standards we have achieved through a process of continuous improvement in environmental performance.
13. Publish an annual Sustainability Report.
14. Ensure the availability of necessary resources to implement this policy.

Signature: 
Eamonn O'Reilly
Chief Executive Officer

Date: 2/5/2019

REF-DPC-ENV-002 Revision 13

Figure 3-2-2 Dublin Port Company Environmental Policy

3.3.3 EMS Purpose

The ISO 14001 internationally certified Environmental Management System operated by DPC provides a comprehensive framework within which DPC carries out its operations and activities to the highest environmental standards and in a sustainable manner. It is a systematic framework to manage the immediate and long term environmental impacts of DPC's products, services and processes. Its ongoing implementation ensures that DPC's environmental footprint is minimised, the risk of pollution incidents is diminished, and ensures compliance with relevant environmental legislation.

DPC's Environmental Management Manual (EMM) describes in detail how the EMS identifies and manages significant environmental issues associated with DPC's activities, and will include the MP2 Project, and consequently how it applies environmental awareness and responsible decision making in all its procedures. The EMM and associated documented procedures are intended to facilitate effective and efficient management of the environmental aspects and any potential impacts of the Dublin Port operations. DPC is committed to implementing this EMS in relation to all its activities so as to prevent any significant adverse environmental effects.

3.3.4 Environmental Facilities Manager

DPC will appoint an Environmental Facilities Manager (Environmental Clerk of Works) to monitor and to assess the environmental implications of all construction works associated with the MP2 Project. The Environmental Facilities Manager will work closely with the Contractors' site supervisors to monitor activities and ensure that all relevant environmental legislation and EMS protocols are complied with, and that the requirements of the CEMP are implemented. The Environmental Facilities Manager will review method statements, oversee works and instruct action, as appropriate, and has the authority to require the temporary cessation of works, where necessary.

3.3.5 MP2 Project - EMS Implementation

The DPC EMS Manager will provide EMS induction to the Environmental Facilities Manager once appointed. Relevant documentation will be provided including:

- EMS Manual MAN-DPC-ENV-001
- Environmental Aspects Register AR-DPC-ENV-001
- Internal EMS Audits SOP-DPC-ENV-004
- PC Legal Index/Register REF-DPC-ENV-001
- Initial Environmental Assessment SOP-DPC ENV-003
- Monitoring & Measurement of Environmental Aspects SOP-DPC-ENV-006
- Environmental Aspects Monitoring Log REF-DPC-ENV-012
- Emergency Management Plan REF: MAN-DPC-OPS-002 DPC
- Preparation, Revision & Control of SOPs SOP-DPC-QUAL-001
- Document Control System SOP-DPC-ENV-015
- Roles and Responsibilities REF-DPC-ENV-010
- Corrective Actions/ Preventive Actions SOP-DPC-ENV-008

- Internal Communication SOP-DPC-ENV-007
- External Communication SOP-DPC-ENV-011

Relevant documents will be reviewed by the Environment Facilities Manager in the context of the MP2 Project. This review will identify further new environmental considerations to be considered arising from the MP2 Project. The objective is to identify additional aspects and controls for inclusion in the Environmental Aspects register, and revise the environmental audit checklist to ensure comprehensive coverage of the MP2 Project scope of work. The environmental legal register will be reviewed and additional legislative instruments germane to the MP2 Project identified.

As part of the ongoing implementation of the EMS in relation to the MP2 Project, the Environmental Facilities Manager will participate in DPC's Capital Projects Internal Audit and will fully implement the EMS and engage in all EMS procedures and protocols as required.

3.3.6 EMS Scope

The Environmental Management Manual sets out the scope of the EMS and specifically includes management, maintenance and development of port infrastructure: including roads, ramps, drainage system, selected utilities under the roads alignment (mains water supply), buildings, piles, hydrographical surveys and dredging.

Key relevant provisions of the existing DPC ISO 14001 Environmental Management System include:

- the requirement for all Contractors to be assessed/audited at procurement stage and throughout the project in accordance with SOP-DPC-ENV-018 Environmental Performance in Procurement;
- awareness raising in MP2 Project specific environmental issues to be provided to Contractors during the project;
- ongoing auditing and monitoring as programmed in the EMS and CEMP;
- identification and documentation of environmental non-conformances and corrective actions/preventative actions using the EMS QPulse document control system;
- data storage and reporting as required by the EMS and CEMP.

3.3.7 EMS Implementation and Operation

The EMS is managed by the Environment, Health and Safety Specialist and relevant management personnel. The Environmental Management Manual sets out the overall structure for implementation and defines the roles and responsibilities of personnel in relation to the EMS.

The MP2 Project will be supported by its own dedicated Environmental Management Team. Additional expertise will be available as required when phased project elements come on-stream over the lifetime of the project.

The Environmental Facilities Manager will be the designated point of contact with the EMS Management Team. An Environmental Compliance Process Flow Diagram will be prepared by DPC's Programme Management Office for the MP2 Project. It will outline the stages in the process of environmental planning, assessment and reporting for MP2 Project construction activities.

The process begins at the procurement tendering stage, and covers the process of environmental management plan development and approval, the audit and inspection schedule roles, and reporting mechanisms. All Contractors will be made aware of DPC’s environmental policy, the EMS and DPC environmental point of contacts. This information will be made available within tender documentation as per SOP-DPC-ENV-018 – Environmental Performance in Procurement. The Environmental Facilities Manager will provide reports to the competent authorities, and to identified stakeholders at the agreed frequency.

The Environment, Health and Safety Specialist will conduct an internal environmental audit of the MP2 Project every six months. Additional audits of MP2 Project construction activities will be completed by the Environmental Facilities Manager every three months initially. However, if a large number of non-conformances are identified, this frequency will be increased in consultation with the EHS Specialist.

3.3.8 EMS Documentation

EMS specific documentation is maintained by the EMS Manager. This documentation is subject to periodical review and amendments to reflect new operations or activities carried out by DPC, changes in legal requirements and development of the system. Such a review process will be undertaken at the beginning of the MP2 Project and will be ongoing throughout the life of the project.

The preparation, revision and control of documents related to the EMS is outlined in SOP-DPC-ENV-015. DPC uses a document control system called Q- Pulse and an associated procedure SOP- DPC-ENV-009 combined with hard copy control to meet the ISO standard requirements for document control.

A list of documentation comprising the DPC EMS is provided in Table 3-3-1. It is a key requirement of the Dublin Port Masterplan 2040, reviewed 2018, that all future DPC activities (including the MP2 Project) are undertaken in accordance with the requirements of the company’s accredited EMS as set out in the documents in Table 3-3-1.

3.3.9 EDEN

DPC are registered on Environmental Data Exchange Network (EDEN) portal. All correspondence and reporting in relation to the requirements of the Dumping at Sea Permit will be made to the EPA via the EDEN System. DPC are aware that all information submitted via the Eden system can be viewed by members of the public on request at any EPA office. Some information such as environmental reporting is made available on the EPA licensing web page. The EPA will be informed if any information submitted is deemed to be confidential.

Table 3-3-1 Documents comprising the DPC EMS System

Document Reference	Description of Contents
AR-DPC-ENV-001	DPC Aspects Register
MAN-DPC-ENV-001	DPC Environmental Management System Manual
OBJ-DPC-ENV-001	DPC Objectives and Targets
REF-DPC-ENV-001	DPC Legal Index
REF-DPC-ENV-002	DPC Environmental Policy

Document Reference	Description of Contents
REF-DPC-ENV-004	DPC Environmental Management Review
REF-DPC-ENV-008	Distribution List for Environmental Policy
REF-DPC-ENV-010	Environmental Roles and Responsibilities
REF-DPC-ENV-011	EMS Documentation Map
REF-DPC-ENV-006-F1	Environmental Aspects Monitoring Log
REF-DPC-ENV-014	DPC Environmental Awareness Training
SOP-DPC-ENV-001	Environmental Inspection Procedure
SOP-DPC-ENV-002	Identify and Update Environmental Legal Index
SOP-DPC-ENV-003	Initial Environmental Assessment
SOP-DPC-ENV-004	Internal EMS Audits
SOP-DPC-ENV-005	Environmental Awareness and Training Procedure
SOP-DPC-ENV-006	Monitoring & Measurement of Environmental Aspects
SOP-DPC-ENV-007	Internal Communication
SOP-DPC-ENV-008	Corrective Actions/ Preventive Actions
SOP-DPC-ENV-009	Q Pulse Document Control System
SOP-DPC-ENV-010	Control of Records
SOP-DPC-ENV-011	External Communication
SOP-DPC-ENV-013	Control of Measuring and Monitoring Devices
SOP-DPC-ENV-014	Marine Oil Spill Response
SOP-DPC-ENV-014-A1	Pollution Equipment Table
SOP-DPC-ENV-014-A2	Location of Pollution response equipment
SOP-DPC-ENV-015	Doc Control
SOP-DPC-ENV-016	Environmental Management Review
SOP-DPC-ENV-017	Setting, Communicating & Monitoring DPC Obj & Tar
SOP-DPC-ENV-018	Environmental Performance in Procurement
SOP-DPC-ENV-018-A1	Standard EMS Requirements in tendering for DPC
SOP-DPC-ENV-019	Audit of Compliance
SOP-DPC-ENV-020	Environmental Site Audits
SOP-DPC-ENV-021	Environmental Clause for Dublin Port Tenants lease and agreement
SOP-DPC-ENV-022	Galley Waste Management
SOP-DPC-ENV-030	Waste Handling Procedures, LEAD ACID BATTERIES
SOP-DPC-ENV-031	Waste Handling Procedures, CARDBOARD
SOP-DPC-ENV-034	Waste Handling Procedures: Drain Cleaning Waste
SOP-DPC-ENV-035	Waste Handling Procedures: Fluorescent Light Bulbs

3.4 Approach to Community Engagement

This section sets out DPC's approach to community engagement with respect to the MP2 Project.

3.4.1 Existing Arrangements to Engage with Neighbouring Communities

A Community Liaison Committee (CLC) has been engaging with the neighbouring communities since 1997, operating under the umbrella of the Dublin Docklands Development Authority (DDDA). The CLC is currently chaired by Charlie Murphy, DPC. Minutes of CLC meetings are taken by officials of Dublin City Council. The CLC provides an opportunity to inform the neighbouring communities of the MP2 Project, to communicate work programmes and to engage with community representatives to resolve any potential concerns or issues arising.

A separate River Users Group is also in place to co-ordinate activities and to resolve any potential issues arising between DPC and other users of the River Liffey, comprising rowing clubs, Poolbeg marina and fishermen.

Both of the above forums are well established, are working to the satisfaction of the local communities and provide strong lines of communication between DPC and the neighbouring communities to the MP2 Project.

3.4.2 Future Arrangements to Engage with Neighbouring Communities

In response to the formation of the North & South Lotts and Poolbeg Strategic Development Zones (SDZs), a Dublin Docklands Oversight & Consultative Forum is currently being established and expressions of interest are being sought from organisations to participate on the Forum within the following categories:

- Organisations engaged in the promotion or carrying out of community development and/or engaged in the promotion of the social, economic or general interest of communities in the Dublin Docklands Area;
- Organisations representative of persons engaged in the promotion or carrying out of economic activity (including employment) in the Dublin Docklands Area; and
- Organisations representative of persons involved in the promotion or carrying out of educational activities in the Dublin Docklands Area.

This Forum will have two representatives from DPC. It is likely that a sub-committee will be formed to continue the work of the existing CLC.

3.4.3 MP2 Project Liaison Group

DPC has an established liaison group for the ABR Project which will be extended to also cover the MP2 Project. It comprises the following representatives:

- DPC;
- Dublin City Council;
- Foreshore Unit, DHPLG;

- Main Contractor;
- Environmental Facilities Manager; and
- DPC Environment, Health & Safety Manager.

The objective of the liaison group is to provide a forum to discuss the progress of the construction works, programme and any issues arising.

The group meets quarterly with an agenda and minutes taken of the meetings.

Port users are kept informed of the outcome of the meetings through established lines of communication within the Port.

3.4.4 Dublin Port Website

The existing Dublin Port Website will be used to keep local communities informed of construction progress and programme, highlighting the extent of the works scheduled over a three month rolling period.

3.5 Environmental Management Plans

A suite of draft Construction Environmental Management Plans (CEMP) have been prepared for the construction phase of the MP2 Project and are presented below. These draft CEMPs will be finalised as required prior to the commencement of development and will incorporate the mitigation measures outlined in the documentation submitted with the application for permission, and will include any additional requirements pursuant to conditions attached to statutory consents. In addition, regular audits of the CEMP will be undertaken during the construction phase of the works by the Environmental Facilities Manager.

3.5.1 Draft Construction Traffic Management Plan (dCTMP)

This draft Construction Traffic Management Plan (dCTMP) outlines minimum requirements for safe management of pedestrian traffic and vehicular movements to, from and within the MP2 Project site during construction. The traffic management plan will ensure uninterrupted access to essential DPC facilities, and will also ensure compliance with obligations set out in the following legislation:

- Guidelines For Working On Roads Guide To The Safety, Health And Welfare At Work (Construction) (Amendment) (No. 2) Regulations 2008 (S.I. No. 423 Of 2008)
- S.I. No. 366 of 2008 of the Road Traffic (Construction And Use Of Vehicles) (Amendment) Regulations 2008
- Safety, Health and Welfare at Work (Construction) (Amendment) Regulations 2008 (S.I. No. 130 of 2008).

When finalising this dCTMP a design specific risk assessment will be carried out by a Chartered Engineer with extensive experience in the design of traffic management system and works within a port environment.

Existing environment

Dublin Port operates on a 24 hour, 7 days per week basis, 365 days per year. The MP2 Project site is an area of the port that is extremely busy in particular between the hours of 05:00 & 23:00. The main access to the site is along Tolka Quay Road and Alexandra Road which incorporate public transport, cargo rail, car traffic and a high percentage of HGV traffic at peak times. The rail link on Alexandra Road operates approximately 10 times per day. Alexandra Road is also a main route on the DPC emergency evacuation plan

Dublin Port operates at security level 1 as per International Ship and Port Facility Security (ISPS) Code and national statutory requirements. The MP2 Project site is adjacent to a number of Seveso sites.

The dCTMP should be read in conjunction with the other Construction Management Plans. Implementation of this plan will require engagement with relevant stakeholders and operators in the Port during the MP2 Project construction phases. Project construction stages will be assessed to identify possible constraints and allow mitigation to be identified.

Resources

Sufficient resources will be allocated to deliver the traffic management plan. These will include a Traffic Manager Design Engineer, Traffic Manager Coordinator, Gate Man to control site access and egress, and Traffic Management Operatives as required.

Plant required will include self-contained wheel wash facility, lifting gate access barriers, road-sweeper, and signage as necessary.

Standards

The Construction Traffic Management Plan will ensure compliance with the following reference documents:

- Dublin City Council's HGV Management Strategy;

- HSA Code of Practice for Health and safety in Dock Work
- HSA Hazard in Port and Dock Operations Information Sheet
- Guidance for the Control and Management of Traffic at Road Works, 2010
- Chapter 8 of the Traffic Signs Manual issued by the Department of Transport in December 2008

CTMP Key Requirements

A project specific construction phase traffic management plan will be compiled by the Traffic Manager Design Engineer in accordance with the standards set out above and all additional requirements under conditions imposed by An Bord Pleanála (ABP) should the Board decide to grant development consent for the MP2 Project.

A Traffic Management Coordinator will oversee and maintain all traffic management on the site. Traffic access and layout will be detailed in technical drawings that take into consideration the coordination of works activities with the ongoing port operations including sailing schedules. The layout will be based on a detailed risk assessment prepared by the Traffic Manager Design Engineer in accordance with Chapter 8 of the Traffic Signs Manual. The traffic management plan drawings will show the key site access points and storage areas, visitor and operative access routes and parking areas, welfare, workshops and storage areas.

The traffic management and access layout plan will be kept under constant review. The Traffic Management Coordinator and site management will collate feedback from all stakeholders in the port and externally from Dublin City Council, Traffic Infrastructure Ireland and Dublin Port Tunnel as part of the review process. A Construction Traffic Management Strategy for the Dublin Port Tunnel will be provided for the duration of the works which will include details in relation to the timing and routing of construction traffic to and from the construction sites and associated directional signage;

The Traffic Management Coordinator will liaise closely with Port Operations and relevant stakeholders to ensure that the CTMP remains current and reflects the evolving needs of the project and the Port. The CTMP will be included in regular toolbox talks to ensure personnel are kept up to date with any changes.

All drivers will receive a site induction on the traffic management plan. All drivers will receive a toolbox talk on the use of the Dublin Port Tunnel and the requirement to cover loads. All drivers will receive a toolbox talk on cleaning of trucks as they leave the site.

The CTMP will consider scheduling management of construction traffic regarding availability of access routes and peak traffic volumes. This will include measures for the staggering of various shift start and finish times to take account of the main ship arrival and departure times, movement of all construction plant, particularly large plant and wide loads requiring specialised transport. Large deliveries will be subject to a task specific risk assessment and method statement. Lift plans will be prepared for key lifting operations as per Safety, Health and Welfare at Work (General Application) Regulations 2007. Coordination of all such activities will take place with stakeholders through the Traffic Management Coordinator and site management.

All efforts will be made to limit the number of vehicle movements associated with the MP2 Project to and from the port. Where economically viable and more environmentally sustainable than transport by land, materials

for the project will be delivered by sea to minimise truck movements on and off site and to ensure the port activities are not hindered.

As part of the project enabling works, secure fencing will be erected to clearly separate the construction works and general port activities, allowing that port access to the site will be required. This fencing will be reviewed at commencement and supplemented where necessary. The site boundary will be adequately maintained through safety audits. Specific details of fencing will be provided in the final CTMP.

In order to prevent nuisance and possible safety issues a self-contained wheel wash facility will be provided at the site exit. All loads to and from the site will be appropriately covered. Trailers will also be inspected prior to use to ensure trailer boards create a good quality seal. Trailers will not be overloaded. Site access roads will be kept clean and road sweeps will ensure dirt or debris arising from the site are promptly removed as necessary.

The car park and access ways to site welfare and works areas will be clearly delineated, sign posted and lit. All cars and passengers will be required to sign in and out at gate security. Gate security will also monitor the use of the parking areas.

Strategic contingencies will be prepared to deal with any unscheduled closures of the Dublin Port Tunnel or congestion or disruption of local road networks. Strategic options will be reviewed on a case by case basis taking into consideration the likely duration of any closures and the current construction programme.

The CTMP will prevent the introduction or dispersal of invasive alien species in accordance with the MP2 Project Construction Invasive Alien Species Management Plan. All imports to the site will be from an approved supplier's database and sourced from quality controlled environments that are consistently screened for the presence of invasives. All plant arriving to the site will be washed off site prior to entering the site. The site security attendant will check all plant at the gate and turn away unwashed plant. All plant exiting the site will be wheel washed and debris free.

Should invasive species be identified within the site the mitigation listed in the invasive species management plan will be enacted. This will include such measures as physical separation of the area, treatment by chemical treatment or excavation as appropriate.

The CTMP will take cognisance of other construction activities that may be active within the Port Estate in relation to the rolling out of the Dublin Port Masterplan 2040, revised 2018.

3.5.2 Draft Invasive Alien Species Management Plan

Introduction

This Invasive Alien Species Management Plan (IASMP) sets out measures that will be implemented during the construction phase of the MP2 Project to control the introduction or dispersal of invasive alien species (IAS), including early detection so that effective management may be applied.

IAS are taken to mean all species and the vectors implicated in their dispersal, as set out in the Third Schedule (Non-native species subject to restrictions under Regulations 49 and 50) to S.I. No. 477/2011 - The European Communities (Birds and Natural Habitats) Regulations 2011.

DPC is very aware of the fundamental importance of biodiversity in maintaining robust and sustainable ecosystems. In recent years the widespread occurrence and continual dispersal of invasive alien species poses a growing threat to native flora and fauna and the ecosystems that support them. Species of concern are listed in the Third Schedule of the Birds and Natural Habitats Regulations 2011 (Non-native species subject to restrictions under Regulations 49 and 50) which prohibits their introduction and dispersal.

The importance of the threat posed by Invasive Alien Species (IAS) is reflected in a suite of international, European and national policy and legislation. These include:-

- Convention on Biological Diversity
- EU Biodiversity Strategy to 2020
- Regulation of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species
- Actions for Biodiversity 2011-2016, Ireland's 2nd National Biodiversity Plan
- European Communities (Birds and Natural Habitats) Regulations 2011, as amended

IAS can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. They can be extremely difficult and costly to control and eradicate. In some instances the latter may be impossible and adverse effects are irreversible. Early detection of IAS and preventing new introductions are effective management strategies.

Negative impacts of IAS on biodiversity can occur through a range of mechanisms such as competition, herbivory, predation, alteration of habitats and food webs, introduction of parasites and pathogens and through the dilution of native gene pools. On the island of Ireland the most prominent negative impact appears to be direct competition with native biota, whilst alteration to habitats and the influence of parasites and pathogens are also important. A range of specific habitat types, and a variety of native species are currently under threat, including freshwater rivers and lakes; coastal floodplains, saltmarsh and sand dunes; tidal mudflats and sandflats.

The total number of alien animal and plant species on the island of Ireland has been estimated at over 1,200. Not all of these are 'invasive' or have an impact i.e. given to vigorous dispersal and displacement of natives. A group of 163 of the worst IAS threatening biodiversity in Europe has been compiled and the island of Ireland has over 40 of this group.

Key Irish legislation with provision for control of invasive species is the Wildlife Acts and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), both of which prohibit the spreading of invasive species. Specifically, Regulation 49.(2) of S.I No. 477/2011 makes it an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place specified plants listed in the Third Schedule save in accordance with a licence. Regulation 49(3) allows proof that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence as a defence.

The schedule also refers to vector materials that may occasion the dispersal of IAS. For the MP2 Project particular relevance is attached to 'soil or spoil taken from places infested with Japanese knotweed (*Fallopia japonica*), giant knotweed (*Fallopia sachalinensis*) or their hybrid Bohemian knotweed (*Fallopia xbohemica*)'.

The species and vectors for their dispersal as set out in the Third Schedule to S.I. No. 477/2011 are listed in Table 3-5-1 and Table 3-5-2 along with an assessment of the risk posed for introduction or dispersal through the MP2 Project.

Three distinct types of measures are envisaged, which follow an internationally agreed hierarchical approach to combating IAS (European Union Regulation (EU) NO 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species). These include:

- **Prevention:** a number of robust measures aimed at preventing the intentional or unintentional introduction of IAS of Union concern into the MP2 Project Site.
- **Early detection and rapid eradication:** a surveillance system will be put in place to detect the presence of IAS of concern as early as possible to allow rapid eradication measures to be implemented where possible to prevent them from establishing.
- **Management:** some IAS may already be established. In this case concerted management action will be taken to prevent them from spreading any further and to minimize the harm they may cause.

The measures identified in this Invasive Alien Species Management Plan will be implemented for the duration of the proposed construction works.

An initial Invasive Alien Species (IAS) Risk Assessment of the MP2 Project Site has been completed to inform the Invasive Alien Species Management Plan. This will also link into the Construction Waste Management Plan and Construction Traffic Management Plan to prevent the introduction or spread of IAS.

IAS Management in Dublin Port

This management strategy is informed by best practice guidance, advice on mitigation methods, and aids to identification provided in a range of sources including:

- National Roads Authority (2010). Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads Revision 1, December 2010
- Invasive Species Ireland Project (2009). Field Guide to Invasive Species in Ireland. 2nd Edition.
- Invasive Species Ireland website: <http://invasivespeciesireland.com>
- GB Non-Native Species Secretariat website: www.nonnativespecies.org

Initial IAS Risk Assessment

The implementation of biosecurity measures in relation to IAS must be based on a risk based approach. To inform this approach an initial IAS risk assessment has been undertaken to identify those IAS that are likely to be relevant and present risks of introduction or dispersal during the MP2 Project. This initial risk assessment will facilitate implementation of appropriate mitigation measures, including preparation of guides to aid species identification for use by contractors.

Not all non-native or alien species are invasive. Some species may only be invasive in certain contexts. This risk assessment considers all species, and the vectors implicated in their dispersal, as set out in the Third Schedule (Non-native species subject to restrictions under Regulations 49 and 50) to The Birds and Natural Habitats Regulations (S.I. No. 477/2011). The assessment also considers individual IAS as set out in the Draft Invasive Species Action Plan for Dublin City 2016 - 2020 prepared by Dublin City Council, and the invasive non-native species listed in *Ireland's invasive and non-native species – trends in introductions* (O'Flynn, C., Kelly, J. and Lysaght, L. (2014) National Biodiversity Data Centre Series No. 2. Ireland).

The risk assessment includes:-

- an appraisal of the key IAS that are most likely to pose a threat based on
 - habitat availability at the construction site
 - known occurrence of IAS in the likely region of influence
 - available pathways for dispersal to and within the construction site
 - extent of risk presented by an individual IAS (considering potential economic, operational, and environmental impacts, and presence of resident vulnerable or threatened native species)
- a visual survey of the construction site for the presence IAS
- mapping and photographic record of any IAS detected
- compilation of visual identification aids for shortlisted key IAS

Method

The National Biodiversity Data Centre (NBDC) IAS dataset has been used to support a preliminary assessment of invasive species issues when considering the MP2 Project. All invasive species records at the MP2 site and in proximity to the site were extracted to compile a list of IAS in an area of 48 km² centred on the MP2 site.

Surveys of the MP2 site were carried out in May 2018 and April 2019. All areas of the site were visited and searches were undertaken for invasive species. The suitability of habitats throughout the MP2 site for invasive species was also assessed using expert judgement in combination with results of habitat surveys previously undertaken at the site in 2018 as part of the MP2 EIA.

The risk assessment is based on the presence or absence of species at the MP2 site, the distribution of the species in the surrounding region, and the availability of suitable habitats at the MP2 site. Consideration is also given to available pathways for dispersal and the impact/invasiveness of the species in question.

Site Characteristics

The MP2 site lies at the eastern extreme of the Dublin Port Estate on the northern side of the Liffey channel. It is comprised largely of artificial surfaces (BL3¹), sea walls, piers and jetties (CC1) some areas of which support patches of ruderal plant communities recolonising bare ground (ED3).

A narrow coastal fringe along the eastern and northern margins of the site has some small planted areas of ornamental/non-native shrubs (WS3) and mixed broadleaved/conifer woodland (WD2).

Narrow strips of amenity grassland (GA2) occur along the road network and are regularly mown. All of these plant communities are comprised of both native and introduced non-native species.

No freshwater habitats exist within the curtilage of the site.

IAS Occurrence On-Site

No regulated invasive plant species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, were identified on site during the surveys in May 2018 or April 2019.

The following non-regulated 'medium impact species' listed in O'Flynn, C. et al (2014) were recorded on site:

- butterfly bush *Buddleja davidii*
- narrow leaved ragwort *Senecio inaequidens*
- sycamore *Acer pseudoplatanus*
- traveller's-joy *Clematis vitalba*

A search of NBDC records for the MP2 site and all adjacent 2x2km grid squares (a total area of 48km²) shows the presence of 28 non-native invasive species. Thirteen of these are regulated invasive species listed in the Third Schedule to S.I. No. 477/2011, of which three are mammals and ten are plants. Of the three mammals, regulation only applies to the Brown Rat in the case of off-shore islands and is therefore not relevant to this site.

Risk Assessment

The risk assessment undertaken here relates to the MP2 site only. An assessment of the overall risk of future introduction or dispersal associated with all species in the Third Schedule is provided in Table 3-5-1 and Table 3-5-2. Overall risk is based on a combination of species presence on the MP2 site, occurrence locally i.e. recorded in the surrounding 48km², and habitat availability at the construction site. Consideration is also given to available pathways for dispersal and the impact/invasiveness of the species in question. Where an IAS risk assessment has been published, the overall potential impact is considered and may result in downgrading risk as computed (e.g. Three-cornered Leek and Spanish Bluebell). Also where MP2 project activities do not provide likely pathways for introduction or dispersal the risk has been reduced (mammals

¹ Habitat categories are as in Fossitt, 2000, A Guide to the Habitats of Ireland. The Heritage Council.

including the mink and grey squirrel). Finally, where species are not considered highly invasive in this geographical region (e.g. Giant Rhubarb species), the risk has also been reduced.

Due to their presence in the surrounding region, the availability of dispersal pathways, and suitable habitat at the construction site, three species of flowering plants are considered to pose a high risk of introduction and future dispersal. These include Japanese Knotweed, Giant Hogweed, and Himalayan/Indian Balsam. Note that while these species are identified as the most likely to disperse to the construction site, they do not all have the same impact potential or pose the same degree of management difficulties.

A further four plant species are ranked as medium risk. These include the Cord Grasses, Sea-buckthorn, Spanish Bluebell and Three-cornered Leek. Both of the latter 2 species are garden escapes (horticultural pathways) with relatively less impact.

Two mammals have been assigned medium risk, the American Mink and the Grey Squirrel. These species have been recorded in the surrounding area and are considered 'high impact' invasive species. However, they are highly mobile species and it is considered unlikely that operations of the MP2 project will provide any additional significant pathways for introduction or dispersal.

Soil contaminated with knotweed material (in particular stem fragments, or rhizomes) is also identified as a high risk vector for these invasive species.

Table 3-5-1 Risk Assessment for Third Schedule IAS in relation to MP2 site

Common name	Scientific name	IAS Present on MP2 Site	IAS Occurs Locally (48km ²)	Suitable habitat present	Overall Risk
<i>Note: Overall risk is presented as high (red), medium (amber) or low (green).</i>					
American skunk-cabbage	<i>Lysichiton americanus</i>	x	x	-	Low
A red alga	<i>Grateloupia doryphora</i>	x	x	-	Low
Brazilian giant-rhubarb	<i>Gunnera manicata</i>	x	x	-	Low
Broad-leaved rush	<i>Juncus planifolius</i>	x	x	x	Low
Canadian Waterweed	<i>Elodea canadensis</i>	x	y	x	Low
Cape pondweed	<i>Aponogeton distachyos</i>	x	x	-	Low
Cord-grasses	<i>Spartina</i> (all species and hybrids)	x	y	x/y	Medium
Curly waterweed	<i>Lagarosiphon major</i>	x	x	-	Low
Dwarf eel-grass	<i>Zostera japonica</i>	x	x	-	Low
Fanwort	<i>Cabomba caroliniana</i>	x	x	-	Low
Floating pennywort	<i>Hydrocotyle ranunculoides</i>	x	x	-	Low
Fringed water-lily	<i>Nymphoides peltata</i>	x	x	-	Low
Giant hogweed	<i>Heraclium mantegazzianum</i>	x	y	y	High
Giant knotweed	<i>Fallopia sachalinensis</i>	x	x	-	Low
Giant-rhubarb	<i>Gunnera tinctoria</i>	x	x	-	Low
Giant salvinia	<i>Salvinia molesta</i>	x	x	-	Low
Himalayan/Indian balsam	<i>Impatiens glandulifera</i>	x	y	y	High
Himalayan knotweed	<i>Persicaria wallichii</i>	x	x	-	Low
Hottentot-fig	<i>Carpobrotus edulis</i>	x	x	-	Low

Common name	Scientific name	IAS Present on MP2 Site	IAS Occurs Locally (48km ²)	Suitable habitat present	Overall Risk
<i>Note: Overall risk is presented as high (red), medium (amber) or low (green).</i>					
Japanese knotweed	<i>Fallopia japonica</i>	x	y	y	High
Large-flowered waterweed	<i>Egeria densa</i>	x	x	-	Low
Mile-a-minute weed	<i>Persicaria perfoliata</i>	x	x	-	Low
New Zealand pigmyweed	<i>Crassula helmsii</i>	x	x	-	Low
Nuttall's Waterweed	<i>Elodea nutalli</i>	x	y	x	Low
Parrots feather	<i>Myriophyllum aquaticum</i>	x	x	-	Low
Rhododendron	<i>Rhododendron ponticum</i>	x	x	-	Low
Salmonberry	<i>Rubus spectabilis</i>	x	x	-	Low
Sea-buckthorn	<i>Hippophae rhamnoides</i>	x	y	x/y	Medium
Spanish bluebell	<i>Hyacinthoides hispanica</i>	x	y	y	Medium
Three-cornered leek	<i>Allium triquetrum</i>	x	y	y	Medium
Wakame	<i>Undaria pinnatifida</i>	x	x	-	Low
Water chestnut	<i>Trapa natans</i>	x	x	-	Low
Water fern	<i>Azolla filiculoides</i>	x	y	x	Low
Water lettuce	<i>Pistia stratiotes</i>	x	x	-	Low
Water-primrose	<i>Ludwigia</i> (all species)	x	x	-	Low
Wireweed	<i>Sargassum muticum</i>	x	x	-	Low
A colonial sea squirt	<i>Didemnum spp.</i>	x	x	-	Low
A colonial sea squirt	<i>Perophora japonica</i>	x	x	-	Low
All freshwater crayfish species except the white-clawed crayfish	<i>All freshwater crayfish species except Austropotamobius pallipes</i>	x	x	-	Low
American bullfrog	<i>Rana catesbeiana</i>	x	x	-	Low
American mink	<i>Neovison vison</i>	x	y	y	Medium
American oyster drill	<i>Urosalpinx cinerea</i>	x	x	-	Low
Asian oyster drill	<i>Ceratostoma inornatum</i>	x	x	-	Low
Asian rapa whelk	<i>Rapana venosa</i>	x	x	-	Low
Asian river clam	<i>Corbicula fluminea</i>	x	x	-	Low
Bay barnacle	<i>Balanus improvisus</i>	x	x	-	Low
Black rat	<i>Rattus rattus</i> *	N/A			
Brown hare	<i>Lepus europaeus</i>	x	x	-	Low
Brown rat	<i>Rattus norvegicus</i> *	N/A			
Canada goose	<i>Branta canadensis</i>	x	x	-	Low
Carp	<i>Cyprinus carpio</i>	x	x	-	Low
Chinese mitten crab	<i>Eriocheir sinensis</i>	x	x	-	Low
Chinese water deer	<i>Hydropotes inermis</i>	x	x	-	Low
Chub	<i>Leuciscus cephalus</i>	x	x	-	Low
Common toad	<i>Bufo bufo</i>	x	x	-	Low
Coypu	<i>Myocastor coypus</i>	x	x	-	Low
Dace	<i>Leuciscus leuciscus</i>	x	x	-	Low
Freshwater shrimp	<i>Dikerogammarus villosus</i>	x	x	-	Low
Fox	<i>Vulpes vulpes</i> *	N/A			
Grey squirrel	<i>Sciurus carolinensis</i>	x	y	y	Medium

Common name	Scientific name	IAS Present on MP2 Site	IAS Occurs Locally (48km ²)	Suitable habitat present	Overall Risk
<i>Note: Overall risk is presented as high (red), medium (amber) or low (green).</i>					
Greylag goose	<i>Anser anser</i>	x	x	-	Low
Harlequin Ladybird	<i>Harmonia axyridis</i>	x	x	-	Low
Hedgehog	<i>Erinaceus europaeus*</i>	N/A			
Irish stoat	<i>Mustela erminea hibernicus*</i>	N/A			
Japanese skeleton shrimp	<i>Caprella mutica</i>	x	x	-	Low
Muntjac deer	<i>Muntiacus reevesi</i>	x	x	-	Low
Muskrat	<i>Ondatra zibethicus</i>	x	x	-	Low
Quagga Mussel	<i>Dreissena rostriformis</i>	x	x	-	Low
Roach	<i>Rutilus rutilus</i>	x	y	-	Low
Roe deer	<i>Capreolus capreolus</i>	x	x	-	Low
Ruddy duck	<i>Oxyura jamaicensis</i>	x	x	-	Low
Siberian chipmunk	<i>Tamias sibiricus</i>	x	x	-	Low
Slipper limpet	<i>Crepidula fornicata</i>	x	x	-	Low
Stalked sea squirt	<i>Styela clava</i>	x	x	-	Low
Tawny owl	<i>Strix aluco</i>	x	x	-	Low
Wild boar	<i>Sus scrofa</i>	x	x	-	Low
Zebra mussel	<i>Dreissena polymorpha</i>	x	x	-	Low
Fallow deer	<i>Dama dama</i>	x	x	-	Low
Sika deer	<i>Cervus nippon</i>	x	x	-	Low

Table 3-5-2 Vectors for IAS dispersion considered at MP2 Site

Vector material	Species referred to	IAS Present on MP2 Site	IAS Occurs Locally (48km ²)	Suitable habitat present	Overall Risk
<i>Note: Overall risk is presented as high (red), medium (amber) or low (green).</i>					
Blue mussel (<i>Mytilus edulis</i>) seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet (<i>Crepidula fornicata</i>) or from places within 50 km. of such places	Mussel (<i>Mytilus edulis</i>) Slipper limpet (<i>Crepidula fornicata</i>)	N/A			
Soil or spoil taken from places infested with Japanese knotweed (<i>Fallopia japonica</i>), giant knotweed (<i>Fallopia sachalinensis</i>) or their hybrid Bohemian	Japanese knotweed (<i>Fallopia japonica</i>) Giant knotweed (<i>Fallopia sachalinensis</i>) Bohemian knotweed (<i>Fallopia x bohemica</i>)	x	y	y	High

knotweed (<i>Fallopia xbohemica</i>)					
-------------------------------------------	--	--	--	--	--

Mitigation Measures

Biosecurity measures are a series of precautionary steps designed to reduce the risk of dispersal / introduction of IAS. The management approach taken will prioritise prevention of IAS introduction to, or dispersal from Dublin Port. Mitigation measures will be implemented if required to contain, eradicate or control as appropriate any IAS found to be present in the areas of project operations.

Prevention

Prevention measures will range from raising awareness of IAS and the potential for their dispersal, to ensuring best practice in relation to the movement of materials into, within or out of the operations area. Measures which will be implemented include:

- Ensuring that rock armour, gravels, sand or soils to be imported to the site are sourced from authorised/licensed quarry operators
- Specifying that such material should be free of invasive plant species and their propagules
- Implementing a waste management plan for the proper storage and controlled movement of waste materials
- Implementing a materials handling plan for the proper storage and controlled movement of materials
- Implementing a construction traffic management plan for control of vehicle and plant access and movements, including wheel wash and plant inspection at site entrance
- Ensuring that all vehicles and construction plant arriving on site are reasonably clean and free of significant deposits of mud and plant debris (particularly tyres, wheel arches, excavator buckets and tracks) that might be a vector for spread of IAS
- Cordoning off any IAS locations on site identified and mapped in the initial IAS assessment
- Washing down machinery that has operated in IAS infested areas in designated locations before moving within the site or leaving the site
- Inclusion of IAS awareness in toolbox talks using visual aids to identification for the most likely species to be encountered based on the initial IAS risk assessment
- Notification of any suspected new occurrences of IAS to the Environmental Facilities Manager

Early detection and rapid eradication

A surveillance system will be put in place to detect the presence of IAS of concern as early as possible to allow rapid eradication measures to be implemented where possible to prevent them from establishing. The Environmental Facilities Manager will undertake regular inspections of the site to detect any new IAS occurrences or colonies. Measures which will be implemented will include:

- Ongoing monitoring of the MP2 Project site for IAS and updating the Initial IAS Assessment as necessary
- mapping of distribution of existing and new IAS colonies and occurrences throughout the MP2 Project site
- confirmation of identification of any IAS and collation of relevant best practice management and eradication methods
- cordoning off of IAS infested area to limit movement of people / machinery in the area and relevant buffer zones, and appropriate signage
- Implementation of recommended control/eradication measures by qualified and experienced personnel
- monitoring of treated area to determine effectiveness of measures or need for further actions
- Handling and disposal of treated material appropriately to prevent further spread.

Management - Containment / Treatment

If any established IAS is identified on the construction site, the management plan will aim to contain its spread in the first instance and subsequently eradicate it if possible from the site. This will include implementation of the following measures:

- Cordoning off any invasive species infestations to limit movement of people / machinery in infested area and relevant buffer zones, and appropriate signage
- Confirmation of the identification of the species concerned, and collation of relevant best practice management and eradication information
- Selection of the most appropriate best practice methods for control / treatment
- Prioritisation of treatment areas
- Undertaking physical or chemical control measures as appropriate in line with best practice guidance and in compliance with health and safety requirements
- Ensuring control measures are undertaken by suitably qualified personnel
- Handling and disposal of treated material appropriately to prevent further spread.

The Environmental Facilities Manager will be responsible for ensuring that appropriate mitigation is in place as part of the Construction Environmental Management Plan during the implementation of the MP2 Project.

3.5.3 Draft Construction Waste Management Plan

Introduction

This draft Construction Waste Management Plan (CWMP) provides an assessment of the potential impacts arising from the generation of waste materials during demolition and construction of the MP2 Project and measures for ensuring that all construction and demolition wastes associated with the MP2 Project are managed and controlled to prevent the risk of environmental pollution or ecological damage.

The draft CWMP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

Objectives of the CWMP

In line with the objectives of the Waste Framework directive (WFD) (2008/98/EC) of 19 November 2008, this document prescribes a proactive approach to the management of construction and demolition waste during the MP2 Project and promotes sustainable development, environmental protection and optimum use of resources. The CWMP is based on the fundamental waste management prioritisation principles i.e. prevent, reduce, reuse, recycle. The following definitions are given in the WFD:

- Prevention – means measures taken before a substance, material or product has become waste, that reduce:
 - (a) The quantity of waste, including through the re-use of products or the extension of the life span of products;
 - (b) The adverse impacts of the generated waste on the environment and human health; or
 - (c) The content of harmful substances in materials and products.
- Preparing for re-use – means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.
- Recycling - means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
- Other recovery e.g. energy recovery - means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II (to the WFD) sets out a non-exhaustive list of recovery operations.
- Disposal - means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I sets out a non-exhaustive list of disposal operations.

This waste management hierarchy will be applied wherever possible as part of this waste management process.

The objectives of this CWMP are as follows:

- Compliance with requirements for waste management during all works.

- Minimisation of the risk of environmental pollution or ecological damage during the works.
- Application of best environmental practices in relation to waste management on site.

Definition of Waste

Waste is defined as ‘any substance or object the holder discards, intends to discard or is required to discard’ under the Waste Framework Directive (European Directive 2006/12/EC as amended by Directive 2008/98/EC). Materials become wastes when deemed surplus to the needs of a development project and are about to be discarded. Once a substance has become waste it will remain waste until it has been fully recovered and no longer poses a potential risk to the environment or human health. From that moment onwards, the material ceases to be waste.

This applies to waste used as aggregate or construction material in civil engineering applications and to excess top soils and sub-soils which need to be moved off-site.

Waste recovery can be achieved when such waste is incorporated into a road, building or other infrastructure works, or in the case of inert waste, after processing if such a process is conducted following the criteria specified in the relevant quality protocols². All wastes must be handled by permitted collectors and brought to authorised facilities.

All wastes are either inert, non-hazardous or hazardous. Laboratory testing of representative samples is required to characterise waste materials. The waste acceptance criteria test is established and reliable, the results providing certainty of treatment. The ultimate classification of material dictates the destination facility where waste materials can be sent.

Anticipated Waste Arisings

The proposed works will generate construction and demolition (C&D) waste through removal of existing buildings and roads to create an additional three hectares of terminal area and construction of additional berthing facilities. Detailed estimates of all predicted waste generation will be produced before commencement of the construction phase. These estimates will indicate the type and the predicted quantities of wastes classified by EWC Code. The waste generation document will be a live document and updated throughout the project.

Demolition Works

C&D waste will arise from the following demolition works to be undertaken as part of the MP2 project:

- Terminal 2 Building
- Terminal 2 Check in
- Terminal 5 Building
- Terminal 5 Check In
- Terminal 5 Sheds (3 no.)

² Quality Protocols have been developed by Waste and Resources Action Programme (WRAP) and the Environment Agency (EA) to encourage the recovery of waste materials while at the same time increasing confidence in quality of products made from waste.

- Terminal 5 Substations (2no.)
- Terminal 1 Car Check-In
- Port Operations Centre building is to be demolished along with ancillary structures
- The Pier Head, located at the terminus of Breakwater Road, which currently supports the Port Operations Centre, is to be demolished. This includes part of the 19th Century Eastern Breakwater which demarcated the end of Dublin Port in the Victorian era. The masonry units making up the facing of the Pier Head will be carefully removed and salvaged for relocation elsewhere on site for heritage gain projects and amenity value
- Southern end of the Eastern Oil Jetty
- Internal roads and fences.

Construction Works

Waste may arise from the following construction works to be undertaken as part of the MP2 Project:

- Infilling of the basin at Oil Berth 4 with engineered fill material and suitable CDW arising from the proposed demolition works within the footprint of the MP2 Project development area. The void between the existing Oil Berth 3 and the proposed new sheet pile wall will also be filled with engineered fill material. The quantity of fill material required is estimated to be approximately 145,000 m³.
- Backfilling of bridging structure in Berth 50A with engineered fill material and/or construction and demolition waste.
- General waste generated from the various construction works.

MWC Roles & Responsibilities

A Main Works Contractor (MWC) Environmental Co-ordinator/Waste Manager will be appointed to ensure commitment, operational efficiency and accountability during the construction and demolition phase with regard to waste management, including the procedures that will be followed for ensuring implementation of the CWMP through the onsite management structure but also across all members of the construction team.

Records Keeping

The Environmental Co-ordinator/Waste Manager will obtain and maintain hard copies of:

- all waste collection permits, waste facility permits, waste licences, industrial emission licences and certificates of registration for all facilities to be used throughout the project.
- all waste classification tests carried out on materials, where applicable
- sign-off all Waste Transfer Forms for empty/full skips
- maintain a Waste Tracking Register for all hazardous and non-hazardous waste movements off-site
- All waste types and amounts generated will be recorded and reviewed at regular intervals, to allow for continuous analysis and review of procedures that will be made to reduce waste to landfill, increase the percentage of recycling and reduce waste overall as much as possible.

Records will be kept for all waste material that leaves the site, whether for reuse on another site, recovery, recycling or disposal. A system will be put in place to record the construction waste arising on site. The MWC Environmental Co-ordinator/Waste Manager or delegate will record the following:

- Waste taken off-site for reuse
- Waste taken off-site for recovery
- Waste taken off-site for recycling
- Waste taken off-site for disposal

For each movement of waste off-site a signed waste collection docket will be obtained by the MWC Environmental Co-ordinator/Waste Manager from the Contractor. This will be carried out for each material type. This system will also be linked with the delivery records. A signed waste acceptance docket will be issued for each movement of waste on-site.

Monitoring

The appointed MWC Environmental Co-ordinator/Waste Manager will be responsible for conducting waste audits and checks during the C&D phase of the development and monitoring CWMP implementation including:

- regular waste audits to ensure full adherence to this waste management plan and agreed procedures
- confirming that each waste facility being used during the project is operating in accordance with its licence or permit conditions and is managing waste in accordance with the agreed method set out at the start of the project
- ensuring that all non-hazardous waste materials being placed in skips/other receptacles are being fully de-labelled
- Requesting skip/bin exchanges from the non-hazardous waste Contractor and acting as spotter when the collection vehicle is on site.

A review of all records for the waste generated and transported off-site, will be undertaken mid-way through the C&D phase.

Storage/Reuse of Demolition/Excavation Wastes

The storage and reuse of demolition or excavation wastes on site may be subject to a number of waste licensing requirements. If these wastes are to be stored on site, prior to potential reuse or recovery during construction, this activity will be subject to a Waste Management Licence Exemption with a limited tonnage of material permitted to be stored on site. Storage will take place in a secure area on-site and the MWC Environmental Co-ordinator/Waste Manager will monitor the amount of waste stored to ensure that the permitted limits of the Exemption are not exceeded. DPC and its appointed Contractor will consult with the EPA prior to construction to ensure that the appropriate Waste Management Licence or Exemption is in place.

Under certain circumstances and in order that uncontaminated excavated soil and stone is beneficially used on-site, DPC and its MWC may decide in accordance with the conditions of article 27 of the European Communities (Waste Directive) Regulations 2011, S.I. No. 126 of 2011 that such material is a by-product and not a waste and will notify the Environmental Protection Agency for a determination.

Corrective Actions

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. Each material type will be examined in order to see where the largest percentage of waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Reporting

Upon completion of the C&D phase a final report will be prepared summarising the outcomes of the waste management processes adopted and the total recycling / reuse / recovery figures for the development. To that end a method to calculate the difference between expected waste quantities prior to commencement of the project and actual waste quantities after project completion will be provided.

Training

The MWC Environmental Co-ordinator/Waste Manager will be given responsibility and authority to select a waste team if required i.e. members of the site crew that will aid them in the organisation, operation and recording the waste management system implemented on-site.

The MWC Environmental Co-ordinator/Waste Manager will have overall responsibility to oversee records and provide feedback to DPC on everyday waste management on the site. Authority will be given to MWC Environmental Co-ordinator/Waste Manager to delegate responsibility to sub-Contractors where necessary and to co-ordinate with suppliers, service providers and sub-Contractors to prioritise waste prevention and salvage.

The MWC Environmental Co-ordinator/Waste Manager will be trained in how to set up and maintain a record keeping system, how to perform, audit and how to establish targets for waste management on site. The Environmental Co-ordinator/Waste Manager will also be trained in the best method for segregation and storage of recyclable materials, have information on the materials that can be reused on-site and implement the CWMP.

Training of staff on site is the responsibility of the MWC Environmental Co-ordinator/Waste Manager and as such, a waste training programme will be organised. A basic awareness course will be held for all crew to outline the CWMP and to detail the segregation of waste at source. This may be incorporated with other training needs (e.g. general site induction, safety training etc.). This basic course will describe the materials to be segregated, the storage methods and the location of waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained.

The Environmental Co-ordinator/Waste Manager will provide daily support to the site crews on waste segregation, storage and decontamination, and provide weekly input at toolbox talks on waste related subjects.

Environmental Mitigation Measures

Construction waste will be managed in line with the requirements of this CWMP which will be implemented by the appointed Contractor for the duration of the construction works. The CWMP identifies how waste will be

dealt with (i.e. disposal, re-use on/off site etc.). The Contractor will also choose building materials to 'design out waste' to the maximum extent possible. This will include agreements with materials suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme. The Contractor will implement 'just in time' materials delivery systems where possible to avoid materials being stockpiled, which increases the risk of the damage and disposal as waste.

Table 3-5-1-1 below summarises the potential impacts identified and the mitigation measures required, where necessary.

Table 3-5-1-1 Proposed Mitigation Measures

Potential Impact (Waste Management)	Summary of Proposed Mitigation (Waste Management)
<p>Demolition Phase</p> <ul style="list-style-type: none"> ▪ Waste materials will be generated as a results of the demolition of the following existing buildings in various states of repair: <ul style="list-style-type: none"> - Terminal 2 Building - Terminal 2 Check in - Terminal 5 Building - Terminal 5 Check In - Terminal 5 Sheds (3 no.) - Terminal 5 Substations (2no.) - Terminal 1 Car Check-In - Port Operations Centre building is to be demolished along with ancillary structures - The Pier Head, located at the terminus of Breakwater Road, which currently supports the Port Operations Centre, is to be demolished. This includes part of the 19th Century Eastern Breakwater which demarcated the end of Dublin Port in the Victorian era. The masonry units making up the facing of the Pier Head will be carefully removed and salvaged for relocation elsewhere on site for heritage gain projects and amenity value - Southern end of the Eastern Oil Jetty - Internal roads and fences. ▪ The estimated quantities of C&D waste from demolition works are as follows: <ul style="list-style-type: none"> - Buildings (7,900m³) - Concrete & inert (4,740 m³) - Made ground (28,000m³) - Masonry (7,000m³) 	<ul style="list-style-type: none"> ▪ A MWC will be appointed. Contractors working on site during the works will have a duty of care and be responsible for the collection, control and disposal of all wastes generated by the works. DPC and their appointed MWC will ensure that all waste materials leaving the site will be transported via a licensed carrier and disposed or recovered through licenced operators and in accordance with national waste legislation. The Contractor will ensure that all proposed waste management routes comply with the European waste hierarchy of prevention, preparing for reuse, recycling, and recovery with disposal being the last and final option. Monitoring and updating of records will be implemented under Duty of Care requirements. ▪ A Demolition Survey is required prior to any demolition work undertaken. The Demolition Survey will set out all high value waste materials, such as metals, that will be removed from buildings and segregated for possible onward reuse or recycling to maximise recovery. ▪ In order to divert waste from landfill, possibilities for reuse of inert demolition material as fill on site will be considered, following appropriate testing to ensure materials are suitable for their proposed end purpose. It is proposed the following areas will be infilled using engineered fill material and suitable CDW arising from demolition works within the footprint of the development: <ul style="list-style-type: none"> - Basin of Oil Berth 4 - Void between the existing Oil Berth 3 and the proposed new sheet pile wall - Bridging structure in Berth 50A ▪ C&D waste may be subject to treatment at the site prior to recovery in Oil Berth 4. Mobile plant may be installed to crush and screen suitable CDW. A permit for the recovery operation will be required. ▪ Storage of demolition or excavation wastes onsite for reuse will take place in a secure area on-site and the Contractor will monitor the amount of

Potential Impact (Waste Management)	Summary of Proposed Mitigation (Waste Management)
<ul style="list-style-type: none"> - Concrete (5,000m³) ▪ Poor management of demolition waste could lead to the potential for quantities of materials to be deposited in landfill sites rather than reused or recycled. 	<p>waste stored to ensure that the permitted limits of any Exemption are not exceeded.</p> <ul style="list-style-type: none"> ▪ Masonry units (estimated 7,000m³) from the 19th Century Eastern Breakwater are of industrial heritage importance and will be carefully removed and salvaged for relocation elsewhere on site for future heritage gain projects. ▪ Correct segregation, storage, handling and transport of all waste will be required to ensure there are no adverse effects on human health and that litter is not generated. ▪ Demolition debris will be separated into five waste streams on-site: <ul style="list-style-type: none"> - Construction debris (i.e. ceramics, tiles, plasterboard) - Masonry materials (i.e. brick, concrete blocks) - Metals - Timber - Universal waste (i.e. fluorescent bulbs, ballast and mercury containing switches) ▪ On-site segregation of all hazardous waste materials into appropriate categories: <ul style="list-style-type: none"> - Waste oils and fuels; - Paints, glues, adhesives and other known hazardous substances ▪ The storage and reuse of demolition or excavation wastes on site may be subject to a number of waste licensing requirements. DPC and their appointed MWC will consult with the EPA prior to construction to ensure that the appropriate licences, permits and exemptions are in place prior to initiation.
<ul style="list-style-type: none"> ▪ Demolition waste can also contain hazardous substances such as Asbestos Containing Materials (ACMs) that are present in buildings when demolished or renovated. 	<ul style="list-style-type: none"> ▪ The Demolition Survey will include intrusive surveying with sampling which will identify the exact extent and location of any ACMs in the building. Removal offsite of any ACMs from the buildings to be demolished will be required prior to demolition. ▪ The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 as amended (S.I. No. 386 of 2006) and The Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) provides the legislative backdrop to all aspects of asbestos control in construction. Any actions related to ACMs must be in accordance with these regulations.
<p>Construction Phase</p> <ul style="list-style-type: none"> ▪ There is the potential for quantities of materials to be deposited in landfill sites rather than reused or recycled. ▪ Waste materials will arise from site 	<ul style="list-style-type: none"> ▪ Contractors working on site during the works will have a duty of care and be responsible for the collection, control and disposal of all wastes generated by the works. DPC and their appointed MMC will ensure that all waste materials leaving

Potential Impact (Waste Management)	Summary of Proposed Mitigation (Waste Management)
<p>management practices during the construction phase, for example, excess materials and packaging, over-ordering materials, off-cuts, damaged materials and poor storage during the construction phase.</p> <ul style="list-style-type: none"> ▪ Waste materials generated as a result of excavations, typically consisting of materials, for example, soil, made ground and existing foundations removed as a function of design or from excavations for new construction. Depending upon the previous use of the site, this may, or may not be contaminated. ▪ Fuels and hydraulic oils/lubricants that will be used during the construction phase are classed as hazardous. There will be fuel stores on site for machinery and construction vehicles along with oils and lubricants. Should any spillages, waste or surplus liquids be disposed of incorrectly it could cause serious harm to the surrounding environment. 	<p>the site will be transported via a licensed carrier and disposed or recovered through licenced operators and in accordance with national waste legislation. The Contractor will ensure that all proposed waste management routes comply with the European waste hierarchy of prevention, preparing for reuse, recycling, and recovery with disposal being the last and final option. Monitoring and updating of records will be implemented under Duty of Care requirements.</p> <ul style="list-style-type: none"> ▪ Every effort will be made in the management of the site to minimise the oversupply of construction materials. ▪ Correct segregation, storage, handling and transport of all waste will be required to ensure there are no adverse effects on human health and that litter is not generated. ▪ Construction waste materials shall be segregated on-site for recycling into the following categories: <ul style="list-style-type: none"> - Timber - Metal - Cardboard & paper - Glass - Rubble - General waste ▪ Waste gypsum can be recycled therefore a skip will be provided for the separate collection of waste plasterboard and collected as necessary. ▪ Cardboard packaging will be flattened and placed in a covered skip to prevent it getting wet prior to collection by a waste Contractor. ▪ Plastic will be segregated at source and kept as clean as possible and stored in a dedicated skip prior to collection by a waste Contractor. ▪ Project design will incorporate adequate dedicated space to cater for the segregation and storage of all various waste streams during construction. The waste storage compound will be fully enclosed within the development and will allow for waste segregation and handling activities. ▪ All waste materials will be stored in skips or other suitable receptacles in designated areas of the site. The waste storage area(s) will be assigned and all construction staff provided with training regarding the waste management procedures on commencement of the project. Adequate security measures will be put in place. ▪ A bunded disposal area will be provided for all waste fuels and hydraulic oils/lubricants.
<ul style="list-style-type: none"> ▪ The use of non-permitted waste Contractors or unlicensed facilities could give rise to inappropriate management of waste and 	<ul style="list-style-type: none"> ▪ Contractors working on site during the works will have a duty of care and be responsible for the collection, control and disposal of all wastes

Potential Impact (Waste Management)	Summary of Proposed Mitigation (Waste Management)
<p>result in environmental impacts/pollution.</p>	<p>generated by the works. DPC and their appointed MWC will ensure that all waste materials leaving the site will be transported via a licensed carrier and disposed or recovered through licenced operators and in accordance with national waste legislation. Monitoring and updating of records will be implemented under Duty of Care requirements.</p>
<ul style="list-style-type: none"> ▪ Waste arising from wash down facility 	<ul style="list-style-type: none"> ▪ Solid waste in the form of sediments will arise from the wheel wash unit settlement tank. The unit will be inspected regularly (for example, to check automated features are working and settlement content) and emptied in accordance with manufacturer's instructions. The solid residues will be analysed and the disposal route appropriately selected based on the results of this analysis. A gully emptier tanker will be used to remove settlement tank waste which will be disposed of at an approved waste disposal site.
<ul style="list-style-type: none"> ▪ If asbestos materials are not correctly identified, segregated and appropriately managed, there may be incorrect handling of the material which could have negative impacts on workers as well as environments both onsite and offsite. 	<ul style="list-style-type: none"> ▪ The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 as amended (S.I. No. 386 of 2006) and The Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) provides the legislative backdrop to all aspects of asbestos control in construction. Any actions related to ACMs must be in accordance with these regulations.
<ul style="list-style-type: none"> ▪ Waste will be arising from the construction compound. 	<ul style="list-style-type: none"> ▪ Recyclable waste such as paper, cardboard packaging and canteen waste will be segregated on site in covered skips for recycling. ▪ Regular housekeeping of the temporary canteen, office and construction compound will be carried out by a permitted waste Contractor.
<ul style="list-style-type: none"> ▪ Sewage from the temporary site toilets will be emptied under contract for disposal at an appropriate facility. 	<ul style="list-style-type: none"> ▪ Any temporary W/C utilities used on site during the construction phase will be maintained by an approved and permitted Contractor.

Guidance

The requirements for best practice and adherence to the following relevant Irish policies, strategies, legislation, and guidelines, or recognised international guidelines where Irish guidelines are not available will be required:

National and Regional Policies and Strategies

- Changing Our Ways; A Policy Statement on Waste Management, Department of Environment, Heritage and Local Government, 1998;

- Preventing and Recycling Waste – Delivering Change, Department of Environment, Heritage and Local Government, 2002;
- Taking Stock and Moving Forward, Department of Environment, Heritage and Local Government, 2004;
- National Strategy on Biodegradable Waste, Department of Environment, Heritage and Local Government, 2006;
- A Resource Opportunity – Waste Management Policy in Ireland, Department of the Environment, Community and Local Government (DECLG), 2012;
- National Hazardous Waste Management Plan 2014 – 2020, EPA, 2014;
- The Eastern-Midlands Region Waste Management Plan 2015-2021, Twelve Local Authorities including Dublin City Council., 2015

National and European Legislation

- Waste Framework Directive (2008/98/EC).
- Waste Management Act 1996 (as amended);
- Waste Management (Facility Permit and Registration) Regulations, S.I No. 821 of 2007 (as amended);
- Waste Management (Collection Permit) Regulations (as amended) 2008 (S.I. No 87 of 2008);
- Waste Management (Packaging) Regulations 2003 (as amended) (S.I. No. 61 of 2003);
- Waste Management (Planning) Regulations 1997 (S.I. 137 of 1997);
- Waste Management (Hazardous Waste) Regulations 1998 (S.I. 163 of 1998);
- Waste Management (Landfill Levy) Regulations 2011 (S.I. No. 434 of 2011) as amended 2012 (S.I. No. 221 of 2012);
- European Communities (Waste Electrical Electronic Equipment) Regulations 2011;
- Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009);
- Local Government Act 1994 (and Amendments) and Regulations (S.I. No. 8 of 1994);
- Litter Pollution Act 1997 (S.I. No. 12 of 1997);
- Protection of the Environment Act 2003 (No. 27 of 2003);
- Industrial Emissions Directive (2010/75/EU);
- European Communities (Waste Directive) Regulations, 2011;

Specifically in relation to the waste management requirements at Port facilities

- EU Directive 2000/59/EC on port reception facilities for ship generated wastes and cargo residues
- S.I. No. 117 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003
- Directive 2002/84/EC amending the Directives on maritime safety and the prevention of pollution from ships
- S.I. No. 659 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2003
- Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues

- S.I. No. 376 of 2009: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2009
- Commission Directive (EU) 2015/2087 amending Annex II to Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues
- S.I. No. 550 of 2016: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2016
- Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- S.I. No. 542 of 2010: European Communities (Ship-Source Pollution) Regulations 2010
- MARPOL 73/78, International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
- A guide to good practice – IMO Consolidated Guidance for port Reception Facility Providers and Users.

3.5.4 Draft Noise Management Plan

Introduction

This draft Noise Management Plan (NMP) details the environmental monitoring and noise mitigation measures that will be implemented during the works to minimise the effects of the site operations on environmental receptors. The draft NMP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

This NMP will be fully in accordance with the following documents;

- MP2 Project EIAR Chapter 11.1 Terrestrial Noise & Vibration and mitigation measures therein;
- British Standard BS5228:2009+A1:2014 Noise & vibration control on construction and open sites;
- NRA Guidelines for the Treatment of Noise and Vibration in National Road Schemes (2004);
- NRA Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (2014)

The purpose and aims of the NMP are to:

- Establish noise guidance criteria to be used;
- Detailed outline of monitoring programme to be adopted including information on instrumentation, monitoring locations, monitoring procedure/methodology;
- Detailed outline of all proposed mitigation measures to control and minimise noise from all phases and areas of construction activity;
- Outline of management procedures for ensuring that the appropriate mitigation measures are appropriately managed;
- Outline of procedures for liaising with the public and Dublin City Council.

The proposals for noise monitoring and noise mitigation measures included in this document relate to the entire duration of construction works associated with the MP2 Project.

The draft Noise Management Plan will be finalised when Contractors are appointed, and liaison with Dublin City Council has taken place with regard to approval of the updated NMP. The updated NMP will detail the specific roles and responsibilities of personnel related to the implementation of the NMP.

Mitigation Measures

Mitigation measures will include the requirements for best practice and adherence to the following relevant Irish policies, strategies, legislation, and guidelines, or recognised international guidelines where Irish guidelines are not available:

- (a) The construction noise and vibration levels arising from the proposed development shall not exceed Noise and Vibration Threshold Limits in NRA Guidelines (2004) and BS5229:2009, set out in Table 3-5-4-1.
- (b) The following mitigation measures, presented in the EIAR (Chapter 11), shall be adhered to, in compliance with British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites.

- Ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order;
- Careful selection of quiet plant and machinery to undertake the required work where available;
- All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use;
- Any ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- Machines in intermittent use will be shut down in the intervening periods between work;
- Ancillary plant such as generators, compressors and pumps will be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines will be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers or enclosures will be utilised around noisy plant and equipment.
- Handling of all materials will take place in a manner which minimises noise emissions;
- Audible warning systems will be switched to the minimum setting required by the Health & Safety Authority.

A complaints procedure shall be operated by DPC throughout the construction phase and the Contractor will be instructed to make all efforts to address any noise issues at the nearest noise sensitive properties.

DPC will engage in a neighbour notification exercise prior to the commencement of the construction phase. The extent of residents to be notified of construction activities will be determined by a noise modelling exercise which will determine what residents are likely to hear the construction phase activities.

Table 3-5-4-1 Noise Threshold Limits at Nearest Sensitive Receptors for Construction Activities

	Threshold Limits [dB(A)]		
	Category A	Category B	Category C
Night-time (23:00 - 07:00)	45	50	55
Evening and Weekends (19:00 - 23:00 Weekdays, 13:00-23:00 Saturdays, 07:00-23:00 Sundays)	55	60	65
Weekday daytime (07:00-19:00) and Saturdays (07:00-13:00)	65	70	75

Noise Monitoring Programme

Noise surveys will be conducted in accordance with BS7445: Description and Measurement of Environmental Noise. All measurements will be made using Type 1 precision digital sound levels meters and associated hardware. The following parameters will be recorded as a minimum: LAeq, LAm_{ax}, LA_{min}, LA₁₀ & LA₉₀.

All data will be collected and analysed on a weekly basis and the analysed data will be fed back to DPC and the Contractors on a weekly basis with a view to reviewing the compliance of construction phase activities in the context of any relevant conditions in planning approval if granted, and the thresholds/requirements included in this CEMP. This will also include any liaison requirement with Dublin City Council in this regard.

Any noise nuisance issues associated with the construction phase activities will be immediately assessed and analysed in relation to the recorded noise levels and all correspondence with DPC, the Contractor, Dublin City Council and the residents will be conducted with the appropriate level of urgency. This will include the appropriate liaison with DPC and the Contractor to control activities to ensure that the construction phase activities are in line with any relevant planning conditions and the CEMP.

Reporting

Interim synoptic reports will be produced on a regular basis, usually calendar months, and submitted to Dublin City Council and the project liaison group.

Summary data and graphical outputs for each year of the construction phase will form part of an Annual Environmental Report. The data will be prepared in an analytical output that will aim to provide a concise representation of the construction phase noise levels from the port and will aim to avoid presentation of lengthy datasets.

Equipment

The number and location of noise meters will be agreed with Dublin City Council. These will operate for the entire duration of the construction phase. A permanent secure noise monitoring station has previously been established at the marina adjacent to Pigeon House Road as part of the ABR Project. It is representative of nearest sensitive noise receptors and may prove to be an appropriate location for the MP2 Project subject to approval as above. A second monitoring station is proposed at Clontarf, representative of nearest sensitive noise receptors to the north of the MP2 Project site.

The noise meters used will conform to the description of a Type 1 precision digital sound level meters as described in the relevant noise guidance documentation. All equipment will be calibrated at regular intervals.

3.5.5 Draft Dust & Odour Management Plan

Dust Minimisation Plan

Dust emissions from the proposed works have the potential to impact on neighbouring areas in the absence of mitigation. This section outlines the mitigation measures that will be employed to reduce the dust impact on sensitive receptors. These measures are the minimum required and will form the basis of a detailed Dust Management Plan to be prepared by the Contractor when appointed.

The Dust Minimisation Plan is based upon the industry guidelines in the Building Research Establishment document entitled 'Control of Dust from Construction and Demolition Activities' (BRE 2003). In order to ensure that any dust nuisance is minimised, a series of mitigation measures have been listed below, which will be implemented in the event that development consent is granted:

- Any construction compound will be located as far as practicable from sensitive receptors such as residential dwellings but also at a sufficient distance from ecological receptors such as the Tolka estuary.
- Site roads will be regularly cleaned and maintained as appropriate. Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic only.
- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential).
- All HGVs and other site vehicles exiting the site will make use of a wheel wash facility prior to entering onto Dublin Port estate roads and public roads, to ensure mud and other wastes are not tracked onto the roads. Wheel washes will be self-contained systems that do not require discharge of the wastewater to water bodies.
- Public roads outside the site will be regularly inspected for cleanliness, and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind.
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- Site traffic will be restricted to 20km/hr to minimise dust re-suspension

The level of mitigation (water misting, use of bowsers, etc.) will be dictated by the monitoring results and the levels of rainfall experienced in a given period. This will prevent the excessive use of water for dust suppression on site when not required to minimise secondary drainage impacts.

As part of a broader audit of the works under the CEMP, the application of the above measures will be assessed and recorded. Where required, corrective actions will be identified and presented to the Contractor to fully implement the above measures to minimise dust.

Independent Consultants will monitor dust deposition levels each month for the duration of construction. The monitoring procedure employed will be the German Standard Method VDI 2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute). The dust deposition rate will be measured by positioning a series of Bergerhoff Dust Deposit Gauges at strategic

locations at key receptor points which will be tested on a monthly basis. The selection of sampling point locations will be completed after consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. The locations will be proposed to Dublin City Council for approval and will be based on the potential risk to sensitive receptors in the area.

The results of the monitoring will be compared against the guideline of 350mg/m²/day. This is the standard German TA Luft guideline which is widely applied in Ireland to determine dust nuisance.

This guideline will be used as a trigger to determine dust nuisance. Where any monthly dust level exceeds the trigger value the Environmental Facilities Manager will carry out an investigation to determine the cause. Recent operations within the site, possible external dust sources and meteorological data will be considered to determine the potential cause of any exceedance. Where the works are identified as the cause the Contractor will be obliged to increase mitigation, modify the proposed works or provide alternative means of dust minimisation measures. All exceedances of the trigger value and subsequent investigations will be recorded and available for review.

Monthly dust monitoring using the methods above has been carried out at Poolbeg Marina Pigeon House Road, the location of the nearest sensitive receptors to the MP2 Project site, since July 2016 as part of the ABR Project. The mean dust deposition level over this 32 month period is 121mg/m²/d. This is well below the nuisance dust level of 350mg/m²/d and establishes a background level for dust deposition in this area. The nearest sensitive noise receptors to the north of the MP2 Project site are in Clontarf, and slightly more distant from the MP2 Project site.

Odour Management Plan

This Odour Management Plan (OMP) has been prepared in accordance with the following guidance documents:

- Odour Management Plans for Waste Handling Facilities (Environment Agency, 2011)
- Odour Management Guidance" (Environment Agency, 2011).
- Odour Impact Assessment Guidance for EPA Licensed Sites" (EPA Guidance Note AG5, 2010).

The OMP has been designed to:-

- Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Prevent unacceptable odour pollution at all times; and
- Reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

Odour Risk

The risk of odour from the proposed work has been assessed based on the standard source-pathway-receptor model. Each area is outlined in the following section to provide an assessment of overall risk.

Source

The potential sources of odour during the construction works relate to the dredging operation where decayed organic material has the potential to release sulphurous compounds (such as hydrogen sulphide) or where solvent contamination is uncovered.

Hydrogen sulphide (H₂S) is partially water soluble so a portion of any H₂S released during dredging will dissolve in the water to form sulphuric acid at trace concentrations which will rapidly dilute and disperse in the water column. Previous dredging operations in the same area have released no hydrogen sulphide to the atmosphere.

Very low levels of organic solvents have been recorded in the dredge material in some areas of the channel equating to less than 0.02% of the total material. Volumes of any solvent vapour released during dredging are therefore likely to be extremely low and will quickly condense into the liquid phase and either dissolve in the water (e.g. water soluble solvents such as alcohols) or form a residue on the water surface if not water soluble (such as aromatics).

Pathway

In the event that any odours become airborne the odours will dilute and disperse in the air. The direction of dispersion and extent of dilution is largely dictated by the wind speed and direction. Higher winds will lead to greater dilution than lower winds, and calm days (such as temperature inversion) will restrict dilution/dispersion and increase odour risk. Wind direction in the Dublin area is predominately westerly-south westerly (circa 60% of the year) which will direct odours away from the nearest residential areas which are to the south and west. Northerly and north easterly winds in the direction of these residential areas are very infrequent (circa 10%) as are calms (2.2% of the time).

Receptor

The nearest sensitive residential receptors to the proposed dredging operation are the residential dwellings on York Road, Pigeon House Road, Ringsend Park and Pembroke Cottages. Further north there are a number of residential areas along Clontarf Road which lie over 1.5km to the north of the proposed dredging operations.

The nearest commercial receptors to the proposed development include the various operations along Alexandra Road predominantly to the northwest of the site. In addition the 3Arena Theatre and the Gibson Hotel are the closest operations to the west of the site. To the south of the site there are a number of office developments on York Road and Thorncastle Road.

Ecological receptors can be affected by deposition of air pollutants such as nitrogen oxides and sulphur dioxide. The nearest sensitive ecological sites to the proposed development are the Grand Canal pNHA (Site Code 2104), the Royal Canal pNHA (Site Code 2103) and South Dublin Bay and River Tolka Estuary SPA (Site Code 4024). Ecological receptors are less sensitive to odours than human receptors.

Monitoring and Audit

Odour audits of the MP2 Project construction operations will be undertaken by a suitably qualified expert as required in response to complaints or as directed by regulatory authorities. Any such audits will consider the

odour sources listed above coupled with the identification of any new sources and will follow the procedures presented in the EPA "Odour Impact Assessment Guidance for EPA Licensed Sites" (Guidance Note AG5, 2010).

The results of monitoring events and audits will be communicated to the construction manager so that any changes required to working practices or additional abatement measures to mitigate odour risk may be implemented.

Complaint Investigation

As part of the plan, DPC will put in place a system to efficiently manage, record and respond to odour complaints. The relevant information to be recorded includes:

- Date and time of complaint
- Name of complainant
- Location of complainant
- Duration of odour
- Where and when odour was detected
- How strong the odour was/is (Intensity on a scale of 0 to 5 where 0 is not perceptible, 1 is very weak, 2 is weak, 3 is distinct, 4 is strong and 5 is very strong)?
- What did the odour smell like - A number of random descriptors should be proposed by the facility representative or offered by the resident (saying that the odour smells bad is not sufficient).
- Details of the responses made to the complainant.
- Details of the meteorological conditions existing at the time, in particular wind speed. Meteorological data is available on: <http://www.met.ie/latest/reports.asp>

Where possible, the location of the complainant will be visited immediately to verify the nature of the odour. Where the source is confirmed to relate to the works, the construction manager will be contacted immediately to cease or modify the operation causing the odour until suitable mitigation measures are devised.

3.5.6 Draft Marine Mammals Management Plan

The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine mammals in the area of operations in line with National Parks and Wildlife Service (NPWS) Guidelines (2014):

- A trained and experienced Marine Mammal Observer (MMO) will be put in place during piling, dredging and demolition works within the foreshore and dumping operations. The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations. The NPWS exclusion zone is 500m for dredging and demolition works and 1,000m for piling activities.
- Noise-producing activities will only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring is not possible, the sound-producing activities will be postponed until effective visual monitoring is possible. Visual scanning for marine mammals (in particular harbour porpoise) will only be effective during daylight hours and if sea conditions are WMO Sea State 4 (\approx Beaufort Force 4 conditions) or less. The Beaufort scale, which is used in Met Office marine forecasts, is an empirical measure for describing wind intensity based on observed sea conditions.
- For piling activities, where the output peak sound pressure level (in water) exceeds 170 dB re: 1 μ Pa @ 1m, a ramp-up procedure will be employed following the pre-start monitoring. Underwater acoustic energy output will commence from a lower energy start-up and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20-40 minutes.
- If there is a break in piling / dredging activity for a period greater than 30 minutes then all pre-activity monitoring measures and ramp-up (where this is possible) will recommence as for start-up.
- Once normal operations commence (including appropriate ramp-up procedures), there is no requirement to halt or discontinue the activity at night-time, nor if weather or visibility conditions deteriorate, nor if marine mammals occur within a radial distance of the sound source that is 500m for dredging and demolition works, and 1,000m for piling activities.
- Any approach by marine mammals into the immediate (<50m) works area will be reported to the National Parks and Wildlife Service.

The MMO will keep a record of the monitoring using a 'MMO form location and effort (coastal works)' available from the National Parks and Wildlife Service (NPWS) and submit to the NPWS on completion of the works.

In line with best international practice a combination of visual and acoustic mitigation techniques will be used to ensure there are no significant impacts on all Annex II species, including harbour porpoise, grey seal and harbour seal. Static Acoustic Monitoring (SAM) through the deployment of CPODs will be used. SAM monitoring sites will be established and maintained throughout the project and for two years post-construction. This technique is to complement and not replace visual techniques.

The deployment of a SAM system will complement and extend the extensive database currently being collected as part of the ABR Project environmental monitoring programme.

Static Acoustic Monitoring (SAM)

In order to validate the long term effectiveness of mitigation measures for harbour porpoises a static acoustic monitoring programme (SAM) will be established using C-PODS. The C-POD is a fully automated, static acoustic monitoring system which can detect porpoises, dolphins and other toothed whales by recognising the trains of echolocation clicks these species make in order to detect their prey, orientate themselves and interact with one another. These units are accompanied by click train recognition software which produces fully automated, accurate data on the behaviour and identification of cetacean species (see www.chelonia.co.uk).

Once deployed at sea, C-PODs operate in a passive mode and are constantly listening for tonal clicks within a frequency range of 20kHz to 160kHz. When a tonal click is detected, the C-POD records the time of occurrence, centre frequency, intensity, duration, bandwidth and frequency of the click. Internally, the C-POD is equipped with a Secure Digital (SD) flash card, and all data are stored on this card. Dedicated software, CPOD.exe, provided by the manufacturer, is used to process the data from the SD card when connected to a PC via a card-reader. This allows for the extraction of data files under pre-determined parameters as set by the user. Additionally, the C-POD also records temperature over its deployment duration. It must be noted that the C-POD does not record actual sound files, only information about the tonal clicks it detects.

Static acoustic monitoring is independent of weather conditions once deployed and thus ensures high quality data is collected but only at a small spatial scale, typically around 800m radius for dolphins and 250m for porpoise (O'Brien et al. 2013). They can be deployed on a mooring for 4-6 months before recovery and downloading of data. Data will be recovered and analysed three times a year. This data will be analysed as detection positive minutes (DPM) to generate an acoustic index of activity. This technique provides large datasets to enable changes in activity to be identified at high resolutions.

O'Brien et al. (2013) recommended a minimum of four units should be deployed in small inshore study areas to ensure that statistically robust data can be collected. The number of C-PODs required should reflect the parameters to be tested (e.g. fine scale diel or larger scales such as seasonal trends). Using an even number design for replication purposes can allow for parameters such as inshore and offshore trends to be explored in larger areas. The more units that can be deployed in an area, the more an informed evaluation of a site and successful monitoring indices will be generated.

A total of ten units have been purchased on behalf of the ABR Project to enable individual units to be swapped on the moorings and downloaded and maintained ashore between deployments. These units will also be used for the MP2 Project environmental monitoring programme. In line with best practice, a field calibration trial was carried out in the Shannon Estuary during one month from May to June 2016 in order to test the use of the C-PODs for diel/tidal traffic, and to assess any differences in sensitivity. Field calibrations are necessary when introducing new units to an existing study, and calibrations are carried out at the beginning and end of project.

Four SAM stations will be used for the environmental monitoring programme. These stations will be monitored pre-construction, during construction and for a minimum of two years post-construction. This monitoring will determine whether displacement of harbour porpoises has occurred and whether activity returns to pre-

construction levels when construction is completed. This monitoring will provide information to determine if the requirements of the Habitats Directive have been met i.e. to avoid significant disturbance from preferred habitats, and inform future similar developments. This is in line with best international practice. C-PODs will be recovered every four months and analysed for Detection Positive Minutes (DPMs) providing high quality data on seasonal, diel and tidal occurrence. Data will be compared across sites, before during and after construction following the BACI type design similar to Carstensen et al. (2006). This will provide opportunities for adaptive project management through regular feedback to environmental managers and Contractors.

Seal Survey

Monthly monitoring of seal haul out sites at the North Bull Island has been carried out as part of the ABR Project since May 2016. These surveys have established typical seal numbers and seasonal occupancy of the site. Monitoring of seal haul out sites is ongoing and will be continued during the MP2 Project and after construction for a minimum of two years in line with international best practice. The haul out site at Bull Island will be surveyed two hours either side of low water from the same vantage points following the recommended technique by London et al. (2012). Known and suspected haul out sites will be surveyed during low water to record species, maturity stage (relative size), behaviour and vigilance.

In addition to these formal monthly surveys, counts of seals at their haul out site will be carried out regularly as time allows (see Figure 3-5-6-1). In addition, if any new haul out sites are discovered or reported, regular counts will be carried out to explore the numbers and use of these sites.



Figure 3-5-6-1 Examples of different neck patterns of individuals on Bull Island

There are no known haul out sites for seals in the immediate proximity of the proposed works but a small group of resident harbour and grey seals haul out on the North Bull Island around 6km to the northeast, on Lambay Island 15km to the north and Dalkey Island 12km to the south. These sites are considered far enough away from the construction activity to have no negative effect, especially as sensitivity of seals to disturbance is less when hauled out.

The waters surrounding haul out sites are a critical habitat for feeding and/or for navigation to more offshore foraging areas. Seals often haul out on man-made structures and tolerate considerable human activity, which may lead to chronic exposure to man-made noise. In areas with repeated exposure, mammals may become habituated with a decline in avoidance responses and thus become less sensitive to noise and disturbance (Richardson et al. 1995). Besides the local seals from the Howth peninsula, it is likely that Bull Island is also visited by seals from nearby Skerries, Lambay Island, Ireland's Eye, Dalkey islands and possibly further afield. The MP2 Project poses little risk of impact or disturbance to these animals, and is unlikely to cause detectable impacts on seals at the population level.

Reporting

Comprehensive reporting will be on an annual basis. Short reports on specific aspects will be prepared for circulation as required, and to inform the implementation programme as necessary.

3.5.7 Draft Birds and Marine Ecology Management Plan

3.5.7.1 Birds

The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to birds in the area of operations:

- Black Guillemots – provision of nest-boxes and other artificial next sites will be provided prior to construction.
- Breeding Terns – the capital dredging scheme will be confined to the winter months (October – March) when the terns have migrated from the site.
- Non-breeding waterbirds:
 - Construction of Berth 53 and heritage installations will temporarily cease during periods of greatest low spring tides to avoid disturbance at exposed feeding grounds within the Tolka Estuary.
 - Gates will be used at the site of the Greenway to control the movement of people during periods of greatest low spring tides, again, to avoid disturbance at feeding grounds within the Tolka Estuary.

Monitoring

DPC is committed to continuing a programme to monitor the movement of Black Guillemots, Common Tern and Arctic Tern in Dublin Port throughout the construction phase of the MP2 Project and for a period of two years after the completion of such works. The results of this monitoring programme will be submitted to Dublin City Council at 12-monthly intervals to maintain a public record.

DPC will also continue to undertake a programme to monitor winter wetland birds in the adjacent European Site at the South Dublin Bay and River Tolka Estuary Special Protection Area. This monitoring programme will continue throughout the construction phase and for a period of two years after the completion of such works, with monthly surveys from October to March. The results of this monitoring programme will be submitted to Dublin City Council at 12-monthly intervals to maintain a public record.

Black Guillemot Monitoring Programme

Location: Black Guillemots are seabirds that nest in crevices within the quays and other structures of Dublin Port between Poolbeg and Butt Bridge on the River Liffey.

Methods: The population of Black Guillemots nesting within Dublin Port will be monitored on an annual basis. This will be carried out following the methods of Mitchell et al. (2004)³. Two surveyors will carry out the census between 26th March and 15th May and between 05:00 and 09:00 (BST), in winds no stronger than Beaufort force 4 and in calm sea conditions. The census will be conducted from a boat by two surveyors who will visit and survey all quaysides within the port on two separate dates in this period. The count unit will be the number of adult Black Guillemots visible on land or on the sea within 300m of the shore. Any Apparently

³ Mitchell, P.I., Newton, S.F., Ratcliffe, N. and Dunn, T.E. 2004. *Seabird Populations of Britain and Ireland*. Poyser. London.

Occupied Sites (AOS) will be mapped and Black Guillemots associated with such sites will be recorded separately.

Common Tern and Arctic Tern Monitoring Programme

Location: Common Terns and Arctic Terns are seabirds that nest on permanent structures and floating pontoons within Dublin Port.

Methods: The population of Common Terns and Arctic Terns nesting within Dublin Port will be monitored on an annual basis. The monitoring will be limited to a census of Apparently Occupied Nests (AON) on each of these structures following the methods of Mitchell et al. (2004). Two surveyors will carry out walked transects through each subsite of the colony recording the number of egg clutches of each species present (one clutch of eggs is treated as one Apparently Occupied Nest). Access to each of the subsites will be by boat.

Where access to a subsite is restricted for safety or other reasons, an estimate will be made of number of terns in the air over the colony during flushing (flush count). The number of birds counted by this method is divided by 1.5 in order to convert it to AONs. The survey will be timed to coincide with the peak of incubation activity when the maximum number of nests and incubating adults are present for AON counts and when adult attendance for flush counts is most stable. The survey will be carried out by two surveyors on two separate dates in the period 10th June to 15th July, in moderate weather and sea conditions. Surveys will not be undertaken during rainfall to avoid the chilling of eggs.

Winter Wetland Bird Monitoring Programme

Location: The area to be monitored is the South Dublin Bay and River Tolka Estuary SPA. This includes all intertidal areas between Dun Laoghaire West Pier and the Bull Wall.

Methods: A series of six low tide surveys will be carried out at approximately monthly intervals between 1st October and 31st March each year. Survey dates will be selected when low tide occurs in daylight and in good weather conditions. Surveys will be carried out within two hours either side of low tide to ensure that all birds foraging in the census area are present in the intertidal area. The surveys will be undertaken by a team of five experienced observers using binoculars and telescopes with each observer positioned in a suitable vantage point on shore. In each case, bird flocks (giving species codes and estimated numbers present) will be mapped on large scale drawings for later analysis.

Reporting

An annual report on the results of the Bird Monitoring Programme will be prepared and submitted to the Planning Authority not later than 31st July each year. This will cover the results of the monitoring programme for the previous year (i.e. from April to March).

3.5.7.2 Marine Ecology

The following key mitigation measures apply to the Capital Dredging Scheme to minimise the impact of the proposed works on marine ecology

- No over-spilling at the surface of the dredger for all dredging activities within the inner Liffey Channel will be permitted.
- The dredger will work on one half of the channel at a time within the inner Liffey channel to prevent the formation of a silt curtain across the River Liffey.
- The dredging of sediments within the navigation channel will be carried out during the winter months (October – March) to negate any potential impact on salmonid migration (particularly smolts) and summer bird feeding, notably terns, in the vicinity of the dredging operations.
- A trailer suction hopper dredger (TSHD) or Back-hoe dredger will be used for the capital dredging works. When operating in the River Liffey Channel, the TSHD pumps will be switched off when the drag head is being lifted and returned from the bottom as the dredger turns between successive lines of dredging to minimise the risk of fish entrainment.

The following key mitigation measures apply to piling activities to minimise the impact of the proposed works on fisheries

- No piling will take place along the riverside of the Liffey channel during the three months of the year when smolts are likely to run in their highest numbers (i.e. March to May inclusive). This recognises the smaller size of smolts compared to returning adults and lamprey. It also takes account of the fact that smolts have a swim bladder which likely makes them more susceptible than lamprey to pressure trauma due to piling noise.

Benthic Surveys

It is proposed to continue the benthic surveys in the vicinity of the dump site at the entrance to Dublin Bay which are currently being undertaken as part of the ABR Project environmental monitoring programme. It is proposed to undertake a survey prior to commencement of the dredging operations and at 6 months and 12 months post completion of the dredging operations.

Benthic Grab & Video Survey

It is proposed to collect up to 30 drop down video samples at locations within and around the dumpsite. Information gathered from this survey will be used to select infaunal sediment stations, and will be used to provide a snapshot of the seabed prior to sediment disposal at the dumpsite, as well as monitor recovery at the site following disposal. An outline on potential sampling locations is presented in Figure 3-5-7-1. These are subject to change following the video survey. However, it should be noted that the number of samples will remain consistent.

In addition, it is proposed to collect subtidal infaunal sediment samples at 12 locations, 4 within the dumpsite and 8 located outside the dumpsite.

This will allow for a detailed assessment to be made on the communities present in the area whilst maximising the spatial spread in areas of potential impact to the north and south of the disposal area. Each biological grab sample will be taken in the same location as a video drop sample. This will allow for a more detailed assessment to be made on potential impacts from the dredge spoil disposal activities. In addition, blotted wet weight biomass will be measured at each site for each of the major phyla identified.

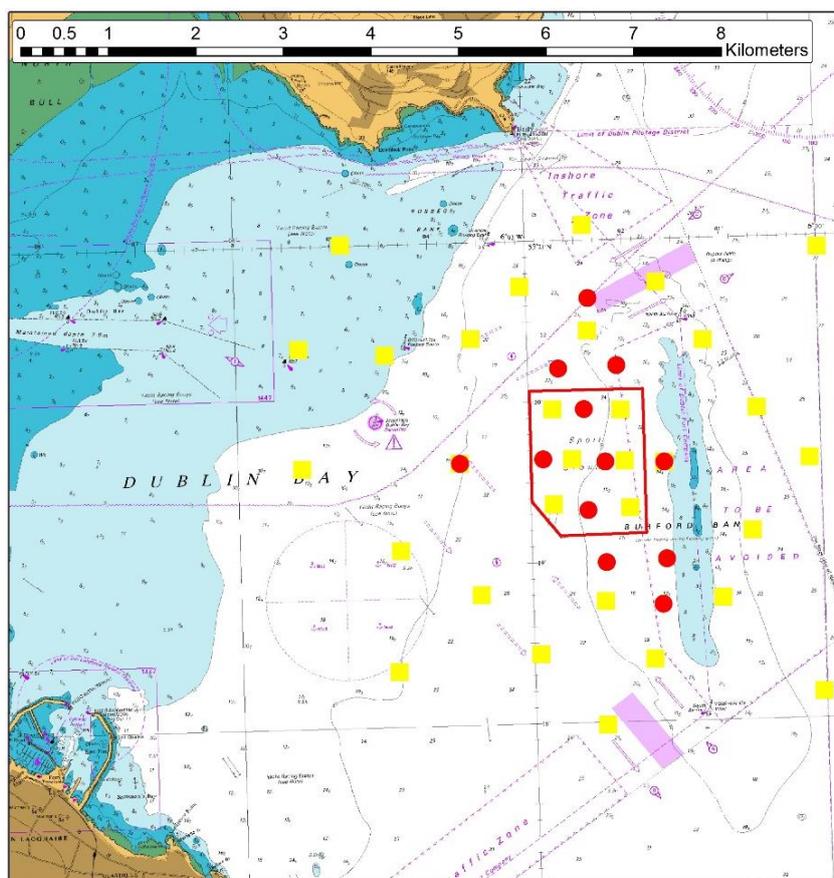


Figure 3-5-7-1 Proposed sampling locations (Biological infaunal samples – Red; Video drops – Yellow). These sites are indicative and subject to change following the video survey

Environmental data for granulometry and organic matter (Loss on Ignition) will also be measured at each site.

Results from these surveys will then be used to assess the community structure in the area using a combination of univariate indices (such as evenness and diversity indices) and multivariate analysis.

Comparisons will be made between the pre- and post-disposal results, and assessments made on community level impacts at the sites, and the spatial distribution of impacts.

Fisheries Management - Beam Trawl Survey

The beam trawl surveys are designed to confirm that the fish community in these areas from year to year remain largely the same, i.e. dominated by the same range of species, across the same general size ranges and broadly the same rank i.e. relative frequency of occurrence.

Replicate 2m beam trawls will be taken roughly in the middle of Dublin Bay one north and one south of the shipping channel with one taken within the channel. In addition one replicate trawl will be taken within the dumpsite and one immediately to the west of the dumpsite. See Figure 3-5-7-2 for the approximate locations of the proposed beam trawls.

The fishery surveys will be undertaken at the same time as the benthic surveys. Comparisons will be made between the pre- and post-disposal results, and assessments made on community level impacts at the sites, and the spatial distribution of impacts.



Figure 3-5-7-2 Approximate location of replicate beam trawl survey tracks

3.5.8 Draft Archaeology and Cultural Heritage Management Plan

3.5.8.1 Landside Works

The impacts on cultural heritage assets on land arising from the MP2 Project focus on works associated with ground disturbance activities that might expose elements of the 19th Century Eastern Breakwater, which are assumed to remain undisturbed beneath Breakwater Road South.

To facilitate the construction of Oil Berth 3, reclamation work is planned along the west side of the Breakwater to build up the quayside of the Oil Berth. This will necessitate the reclamation of the sea pocket that accommodates the Pilot Boat pontoon, and five ship's timber and one metal piece that are in temporary storage under the pontoon.

It is necessary to demolish the Breakwater's Pier Head to facilitate the construction of Berth 50A. This work will remove the existing Port Operations Building, ancillary structures and the Pier Head itself. Masonry elements will be salvaged and stored for heritage gain projects.

The works represent direct and permanent impacts on the historic Pier Head. In anticipation of the steel-work required to tie-in the new quayside, it is anticipated that elements of the nineteenth-century breakwater that currently lie buried will be exposed.

The works provide opportunities to record archaeologically and recover exemplars of Bindon Blood Stoney's work, and to understand more fully the construction process developed to create the deepwater basin.

3.5.8.2 Heritage Gain Proposals

The proposed Greenway that is to follow the perimeter of the Port estate will converge on the north side of the river at the eastern end of the Port operation, and will be a location to celebrate the industrial heritage of the Port in a way that captures sound and vision (see standalone Heritage Gain Report by MOLA). The location will be the most eastern limit of the Port in the twenty-first century, marking its growth and development since the Breakwater Lighthouse defined the eastern limit and entrance to the deep water basin in the nineteenth-century. To celebrate this resonance, Dublin Port will create a public realm visitor experience at the new eastern limit that includes the re-use of the granite blocks and related elements of the Pier Head and the Breakwater Lighthouse (demolished circa 20 years ago), reconceived as an experiential place where walkers and cyclists can learn about the cultural and natural heritage of the Port and can continue to enjoy views of Dublin Bay in all its tidal cycles and weather-induced power and beauty.

3.5.8.3 Marine Works

Capital dredging is required to deepen the seabed at:

- Berth 50A to –11.0m CD;
- Oil Berth 3 to –13m CD,
- Berth 53 to -10.0m CD
- Localised widening of the navigation channel to –10m CD.

The total volume of material to be dredged will be circa 424,844m³. A trailing suction hopper dredger and/or a backhoe dredger will carry out the dredging work. Dredged spoil will be disposed of at the licensed dump site used by DPC on the west side of the Burford Bank.

Where dredging will take place on the north slopes for Berth 53, concrete mattresses or their equivalent will be placed on the dredged slopes to provide stabilisation and scour protection to the Tolka Estuary.

The localised channel widening area crosses the approach channel. The approach channel is permitted through the ABR Project to be deepened to achieve a standard depth of –10m CD.

The extension of capital dredging into the south side of the localised channel widening area represents direct and permanent impacts on what appears to be previously un-dredged locations. As recorded on Rocque's 1757 map, this area was a wider mooring for ships in the eighteenth century before the construction of Pigeon House Harbour. It is a zone of high archaeological potential and the recovery of shipping debris and/or shipwreck must be anticipated.

3.5.8.4 Archaeological monitoring and management measures

The following archaeological monitoring and management measures will be undertaken:

Retaining an Archaeologist/s.

An archaeologist experienced in maritime archaeology will be retained by DPC for the duration of the relevant works.

Retaining a Heritage Architect.

A heritage architect experienced in industrial and maritime architectural heritage will be retained by DPC for the duration of the relevant works, to advise specifically in relation to works associated with the Breakwater Pier Head.

Archaeological Licences

Archaeological licences will be required to conduct the on-site archaeological works. Licence applications require the inclusion of detailed method statements, which outline the rationale for the works, and the means by which the works will be resolved. The following licence types will be required: Excavation, to cover monitoring and investigations works; Detection, to cover the use of metal-detectors; and Dive Survey, to cover the possibility of having to conduct underwater inspections. The Excavation licence applications will be accompanied by a letter from DPC confirming that sufficient funds and other facilities are available to the archaeologist to complete the archaeological excavation, post-excavation, and preliminary and final reports (including specialist reports).

Archaeological Monitoring

Archaeological monitoring will be carried out by suitably qualified and experienced maritime archaeological personnel licensed by DCHG. Archaeological monitoring will be conducted during all terrestrial, inter-tidal/foreshore and seabed disturbances associated with the MP2 Project.

The monitoring will be undertaken in a safe working environment that will facilitate archaeological observation and the retrieval of objects that may be observed and that require consideration during the course of the works.

The monitoring will include a finds retrieval strategy that is in compliance with the requirements of the National Museum of Ireland.

Construction Schedules

The time scale and schedule for the construction phase will be made available to the archaeologist, with information on where and when ground disturbances will take place.

Discovery of Archaeological Material

In the event of archaeologically significant features or material being uncovered during the construction phase, machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material.

Once the presence of archaeologically significant material is established, full archaeological recording of such material will be undertaken. If it is not possible for the construction works to avoid the material, full excavation will be undertaken. The extent and duration of excavation will be a matter for discussion between DPC and the licensing authorities.

Archaeological Team

The core of a suitable archaeological team will be placed on standby to deal with any such rescue excavation. This will be complemented in the event of a full excavation.

Archaeological Dive Team

An archaeological dive team will be retained on standby for the duration of any in-water disturbance works on the basis of a twenty-four or forty-eight hour call-out response schedule, to deal with any archaeologically significant/potential material that is identified in the course of the seabed disturbance activities.

Site Office/Storage Facilities

A site office and facilities will be provided by DPC on site for use by archaeologists. This will include secure wet storage facilities to facilitate the temporary storage of artefacts that may be recorded during the course of the site work.

Buoying/Fencing

Buoying/fencing of any such areas of discovery will be undertaken if discovered during excavation.

Machinery Traffic

Machinery and construction plant traffic will be restricted to avoid any identified archaeological site/s and their environs.

Spoil

Spoil will not be dumped on any of the selected sites or their environs.

Post-Construction Project Report and Archive

It is a condition of archaeological licensing that a detailed project report is lodged with the DCHG within 12 months of completion of site works. The report will be to publication standard and will include a full account, suitably illustrated, of all archaeological features, finds and stratigraphy, along with a discussion and specialist reports. Artefacts recovered during the works need to meet the requirements of the National Museum of Ireland.

The above recommendations are subject to the approval of the National Monuments Service at DCHG.

3.5.9 Draft Water Quality Management Plan

3.5.9.1 Introduction

The objective of the Water Quality Management Plan is to ensure that the mitigation measures specified in Chapter 9 of the EIAR are adhered to and that a monitoring regime is put in place to confirm the efficacy of the mitigation measures implemented so as to further safeguard the receiving water environment.

Temporary impacts on water quality have the potential to occur during the construction phase of the works. Mobilised suspended sediment and cement release through construction activities are the principal potential sources of water quality impact. The following have been considered in assessing the mitigation measures required:

- Increased suspended sediment levels due to the accidental release of sediment to the water column during:
 - Demolition of buildings & structures;
 - Berth Construction including the construction of waterside berths, quay walls, jetties, open piled structures.
 - Capital Dredging and Sediment disposal operations;
 - Landside ancillary works to serve the marine operations including the construction of ramps and deck structures to access linkspans, services and drainage installation, and installation of jetty furniture and fender systems etc.;
- Accidental release of highly alkaline contaminants from concrete and cement during the demolition of buildings and structures and the construction of hardstand areas, waterside berths, quay walls, jetties, bridging structures, etc.
- General water quality impacts associated with works machinery, infrastructure and on-land operations including the temporary storage of construction materials, oils, fuels and chemicals.

Detailed mitigation has been incorporated into the engineering design of the MP2 Project to minimise its potential impact on the water environment. Indeed, most potential impacts to water quality posed by this project during construction will be dependent on the quality of drainage and treatment of site run-off before discharge to Dublin Harbour. Therefore procedures will be put in place for the control and minimisation of surface water and suspended solids movement. Measures will also be taken to ensure existing drainage pathways are kept free from construction sediment and pollutants through the use of effective barriers to pollutant export and best practice techniques to control these pressures at source. Mitigation measures to be employed on site during the MP2 Project construction are described next.

3.5.9.2 Mitigation Measures

Construction Phase Best Practice Measures

Mitigation measures will include the requirements for best practice and adherence to the following relevant Irish guidelines and recognised international guidelines:

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA, 2001);

- Netregs Guidance for Pollution Prevention series (GPP), Pollution prevention guidelines (PPGs) in relation to a variety of activities developed by the Environment Agency (EA), the Scottish Environmental Agency (SEPA) and the Northern Ireland Environment Agency (NIEA);
 - GPP2: Above Ground oil storage tanks
 - PPG3: use and design of oil separators in surface water drainage
 - GPP5: Works and maintenance in or near water
 - PPG6: Working at construction and demolition sites
 - GPP8: Safe Storage and disposal of used oils
 - GPP13: Vehicle washing and cleaning
 - PPG20: Dewatering underground ducts and chambers
 - GPP21: Pollution incident response planning
 - GPP22: Dealing with spills
- Fisheries Guidelines for Local Authority Works. Department of Communications, Marine & Natural Resources, Dublin, (Anonymous, 1998);
- Guidelines on protection of fisheries habitats during construction projects (Eastern Regional Fisheries Board, 2006);
- International Convention for the Prevention of Pollution From Ships, 1973, as modified by the Protocol of 1978 (MARPOL) for domestic waste discharges to the environment;
- International Marine Organisation guidelines; and
- Control of Substances Hazardous to Health (COSHH) Handling of Hazardous Materials.

Suspended Sediment and Sedimentation Measures

Suspended sediment, including all soils, sands and rubble is the single main pollutant to the aquatic environment generated at construction sites and largely arises from the erosion of exposed soils and sediments by surface water runoff. Appropriate erosion and sediment controls during construction to prevent sediment pollution will be implemented.

Demolition of existing buildings and structures, berth construction and construction of landside ancillary works

These demolition and construction works have the potential to result in a localised impact on water quality.

The mitigation and control measures to address the impact from suspended sediments associated with these activities will follow sound design principles and good working practices as listed in the Netregs Pollution Prevention Guidelines. In addition to the requirements of best practice and relevant guidelines, the following mitigation measures will be employed by the principal Contractor during the construction phase.

- Where preferential surface flow paths occur, silt fencing or other suitable barriers will be used to ensure silt laden or contaminated surface runoff from the site does not discharge directly to a water body or surface water drain.
- In the event that dewatering of foundations or drainage trenches is required during construction and/or discharge of surface water from sumps, a treatment system prior to the discharge will be used; silt traps, settlement skips etc. This measure will allow additional settlement of any suspended solids within storm water arising from the construction areas.

Capital Dredging and Disposal

A Dredging Management Plan was developed for the ABR Project and is set out in Alexandra Basin Redevelopment Project Construction Environmental Management Plan (CEMP) Rev. F August 2018, submitted to Dublin City Council in compliance with conditions attached to the ABR Project planning permission (PL.29N.PA0034). The mitigation proposed for dredging operations in the MP2 Project has been informed by ABR Project monitoring and experience working in the same locations.

The Dredging Contractor will comply with the mitigation measures arising from the EIAR and in the consents for Planning, Foreshore Licence/ Lease/ Ministerial Consent and Dumping at Sea Permit. The mitigation measures are summarised in this CEMP.

The following key relevant mitigation measures will apply to each dredging campaign in the MP2 Project:

- Loading will be carried out by a backhoe dredger or trailing suction hopper dredger (TSHD).
- The dredging activity will be carried out during the winter months (October – March) to negate any potential impact on salmonid migration (particularly smolts) and summer bird feeding, notably terns, in the vicinity of the dredging operations.
- No over-spilling from the vessel shall be permitted while the dredging activity is being carried out within the inner Liffey Channel.
- The TSHD pumps will be switched off while the drag head is being lifted and returned to the bottom as the dredger turns between successive lines of dredging to minimise the risk of fish entrainment.
- The dredger's hopper will be filled to a maximum of 4,100 cubic metres (including entrained water) to control suspended solids released at the dumping site. This is equivalent to a maximum quantity per trip of 2,030 tonnes (wet weight).
- Full time monitoring of Marine Mammals within 500m of loading and dumping operations will be undertaken in accordance with the measures contained in the Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters (NPWS 2014).
- A documented Accident Prevention Procedure is to be in place prior to commencement.
- A documented Emergency Response Procedure is to be in place prior to commencement.
- A full record of loading and dumping tracks and record of the material being dumped will be maintained for each trip.
- Dumping will be carried out through the vessel's hull.
- The dredger will work on one half of the channel at a time within the inner Liffey channel to prevent the formation of a silt curtain across the River Liffey.

No other capital or maintenance dredging will take place at Dublin Port at the same time as the MP2 Project capital dredging to ensure that there is no overlap in dredging operations that might result in cumulative impacts. A Dredging Management Plan is presented in Section 3.5.10. The Contractor will comply with all measures and mitigation contained therein to ensure that water quality is not significantly impacted.

Concrete and Cement Pollution Measures

Demolition of existing buildings and structures, berth construction and construction of landside ancillary works

The impacts in relation to cement and concrete for the MP2 Project are, for the most part (but not limited to); demolition of buildings and structures, construction of piles and foundations for the proposed berthing areas, quay walls etc, the installation of the concrete berthing area areas (to be poured in-situ) and construction of landside ancillary works.

The following mitigation measures will be implemented:

- Breaking of concrete (associated with structure demolition) has the potential to emit alkaline dust into the receiving environment. A barrier between the dust source and the sensitive receptor (the water body in this case) will be erected to limit the possibility of dust contacting the receptor.
- Concrete use and production will adhere to control measures outlined in Guidance for Pollution Prevention (GPP5): Works and maintenance in or near water (2017). Any on-site concrete production will have the following mitigation measures: bunded designated concrete washout area; closed circuit wheel wash etc.; and initial siting of any concrete mixing facilities such that there is no production within a minimum of 10 metres from the aquatic zone.
- The use of concrete in close proximity to water bodies requires a great deal of care. Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution in water bodies. It is essential to ensure that the use of wet concrete and cement in or close to any water body is carefully controlled so as to minimise the risk of any material entering the water, particularly from shuttered structures or the washing of equipment.
- Where concrete is to be placed under water or in tidal conditions, specific fast-setting mix is required to limit segregation and washout of fine material / cement. This will normally be achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures.

General Construction Works

The risk of water quality impacts associated with works machinery, infrastructure and on-land operations (for example leakages/spillages of fuels, oils, other chemicals and waste water) will be controlled through good site management and the adherence to codes and practices which limit the risk to within acceptable levels.

The Contractor will implement the following measures during construction:

- A detailed works specific Construction Environmental Management Plan (CEMP) will be prepared by the Contractor which will meet the minimum requirements of this project level CEMP and will include detail in respect of every aspect of the works in order to minimise potential impacts and maximise potential benefits associated with the works;
- Management and auditing procedures, including tool box talks to personnel, will be put in place to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions, and include all mitigation required by the CEMP;

- Existing and proposed surface water drainage and discharge points will be mapped on the Drainage layout. These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants.
- The use of oils and chemicals on-site will receive significant care and attention. The following procedures will be followed to reduce the potential risk from oils and chemicals:
 - Fuel, oil and chemical storage will be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. The control measures in GPP2: Above Ground Oil Storage Tanks and PPG 26 “Safe storage – drums and intermediate bulk containers” (Environment Agency, 2011) shall be implemented to ensure safe storage of oils and chemicals;
 - The safe operation of refuelling activities shall be in accordance with PPG 7 “Safe Storage – The safe operation of refuelling facilities” (Environment Agency, 2011);
- Contingency Planning: A project specific Pollution Incident Response Plan will be prepared by the Contractor consistent with DPC's Environmental Emergency Plan as part of the draft Construction Environmental Management Plan (CEMP) for the construction works and will be in accordance with PPG 21 Pollution Incident Response Planning. Whilst a major incident is highly unlikely to occur in circumstances where the mitigation measures as detailed in the CEMP are implemented, the finalisation of this document is considered to be best practice. The Contractor's Environmental Manager and DPC will be notified in a timely manner of all incidents where there has been a breach in agreed environmental management procedures. Suitable training will be provided by the Contractor to relevant personnel detailed within the Pollution Incident Response Plan to ensure that appropriate and timely actions is taken.

3.5.9.3 Water Quality Monitoring Programme

A Construction Environmental Monitoring Programme has been prepared to provide additional safeguards to the receiving environment and an assessment of the effectiveness of the mitigation measures implemented to address any potential environmental effects to the receiving environment during the construction phase of the works. The monitoring programme will form part of the specification of the Contract Documents for the construction stage.

The Construction Environmental Monitoring Programme includes the following elements related to the receiving waters:

- An assessment based on 3-D computational hydrodynamic modelling and water quality modelling to design the placement of a number of water quality monitoring buoys and telemetry based warning systems.
- the establishment of a baseline for suspended solids, and dissolved oxygen within the receiving waters of the Liffey Estuary Lower and Dublin Bay. The baseline has been established using existing monitoring data, particularly the high resolution data acquired through the ABR Project monitoring programme, which may be confirmed if required in advance of construction.

- The establishment of water quality trigger levels and corresponding actions (including the necessity to temporarily cease construction operations) to safeguard sensitive conservation sites and the operations of other users of the receiving waters (e.g. Power Stations).

The preparation of the Construction Environmental Monitoring Programme has involved engagement with a range of interested parties/stakeholders including Dublin City Council, EPA, National Parks & Wildlife Service, Dublin Port tenants, ESB and local community groups.

Monitoring will continue during construction to assist in the confirmation of the effectiveness of the mitigation measures identified in the EIAR. Regular visual confirmatory monitoring and environmental assurance audits will also be undertaken during the construction phase of the works.

In addition, DPC's existing EMS and monitoring protocols (described earlier in Section 3.3) will monitor the operational activities to ensure that measures to address operational impacts are effective and confirm that adequate protection is being provided to the sensitive receiving waters.

The management of the environmental monitoring programme will fall under the remit of the Environmental Facilities Manager who is independent of the Contractor. The Environmental Facilities Manager will provide reports to the relevant authorities as required and will also submit copies of those reports to the liaison group.

The Contractors' site supervisors will work closely with the Environmental Facilities Manager to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the CEMP and conditions of all relevant permits are implemented.

The Contractor will notify the Environmental Facilities Manager immediately on the occurrence of:

- any incident or accident that significantly affects the environment;
- any breach of licence or permit conditions;
- any malfunction or breakdown of key control equipment or monitoring equipment that is likely to lead to loss of control or environmental mitigation measures;
- any incident with the potential for environmental contamination, or posing a threat to the aquatic environment, or requiring an emergency response by the Local Authority.

This will include date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions, measures taken to restore compliance where breach of a licence condition has occurred.

Monitoring Programme Liffey and Tolka Estuaries

The monitoring system has been designed to ensure robust protection is afforded to the assets of the users of the River Liffey Channel, notably the intakes of power stations, as well as Natura 2000 sites, notably the South Dublin Bay and River Tolka Estuary Special Protection Area (SPA) (Site Code 004024) and the Rockabill to Dalkey Island Special Area of Conservation (SAC) (Site Code 003000).

It is proposed to use four monitoring stations at locations indicated in Figure 3-5-10-1. These are the same locations being used by the ABR Project.



Figure 3-5-10-1 Location of Monitoring Stations

Monitoring Station 1 (Eastlink)

This monitoring station will be sited in the River Liffey Channel upstream of the works at East Link Bridge.

Monitoring Station 2 (Poolbeg Sludge Jetty)

This monitoring station will be sited along the southern edge of the River Liffey Channel at the Poolbeg Sludge Jetty in close proximity to a power station intake.

Monitoring Station 3 (North Bank Light)

This monitoring station will be sited along the northern edge of the River Liffey Channel at the North Bank Light outside, but in close proximity to, the South Dublin Bay and River Tolka SPA.

Monitoring Station 4 (Tolka Estuary)

This monitoring station will be sited in the Tolka Estuary near the northern edge of the River Liffey Channel inside the South Dublin Bay and River Tolka SPA.

Monitoring System Specification

The specification is based on state of the art 24/7 real time monitoring. Water quality monitoring sensors, giving high resolution data with respect to the following parameters will be used at each of the three monitoring locations

- Turbidity
- Dissolved Oxygen
- Temperature
- Salinity
- pH

Water level will also be measured at one monitoring station to provide information on tidal state. Turbidity is measured as a surrogate for suspended solids. Site specific tests have previously been undertaken by the ABR Project to define the relationship between turbidity and suspended solids.

Apparatus housing and moorings used are robust and designed for the marine conditions at the monitoring locations. A calibration and maintenance programme will be put in place comprising:

- Regular calibration of sensors
- Regular maintenance of sensors (including cleaning)
- Maintain Data Quality Control
- Provision of replacements if required

A data acquisition and transfer system will be used to enable the transmission of high resolution data at approximately 15 minute intervals.

A data storage, interrogation system will be put in place comprising

- Provision of Data Server
- Web site for access to data
- Suitable Software to interrogate and display data

The following trigger levels that will prompt investigation are proposed:

- Dissolved Oxygen level falling below 6 mg/l
- Peak Suspended Solids level rising more than 100mg/l above background (Based on the Turbidity v Suspended Solids relationship previously established this is equivalent to a Turbidity increase of 40 NTU above background)

The Dissolved Oxygen trigger level has been selected to safeguard fish-life.

Duration of Monitoring Programme

The monitoring network infrastructure has been in place since 2016 and the project specific monitoring programme will be established at least one month prior to commencement of the works associated with the MP2 Project and continue for the duration of the construction works.

Incident Response / General Observations

In the event of possible environmental incidents, staff will undertake additional investigative sampling as required to seek to identify the possible source and nature of any pollutants present. They will record any general observations relevant to the event which may inform the investigation including:

- Weather conditions;
- Any unusual water attributes (e.g. unusual colour or smell of sample, foam, scum);
- Any other observations including works within or surrounding the site;
- Any other general observations.

In this regard, written and photographic records will be made as appropriate.

Reporting

Data from ongoing monitoring programmes will be collated at regular intervals (usually calendar months) and summarised in synoptic reports by the Environmental Facilities Manager. Any breaches of emission, trigger levels or compliance values will be indicated in the report along with the findings of any relevant investigation.

In addition to interim synoptic reports an annual environmental report will be prepared.

3.5.10 Draft Dredging Management Plan

Background

A Capital Dredging Scheme is an integral part of the MP2 Project and the EIAR and NIS includes an assessment of the loading and dumping activities required to ensure that a holistic approach is taken in assessing potential environment effects.

In addition to planning consent, the loading and dumping activities are also subject to two additional consents.

Foreshore Consent

DPC will submit a Foreshore Application for the MP2 Project to the Department of Housing, Planning and Local Government (DHPLG), in order to obtain permissions for undertaking works on the Foreshore (below the mean High Water Mark) including the construction of new quays and jetties and undertaking the Capital Dredging Scheme.

Dumping at Sea Consent

DPC will submit a Dumping at Sea Permit application for the MP2 Project to the EPA, should ABP grant development consent, in order to obtain permissions for loading and dumping activities associated with the Capital Dredging Scheme.

Chemical analysis has shown that the sediments to be dredged from the Port's navigation channel and basins during the MP2 Project are suitable for conventional dumping at sea (see Chapter 8 of the EIAR).

Key Mitigation Measures

The following key mitigation measures apply to the Capital Dredging Scheme

- No over-spilling at the surface of the dredger for all dredging activities within the inner Liffey Channel will be permitted.
- The dredger will work on one half of the channel at a time within the inner Liffey channel to prevent the formation of a silt curtain across the River Liffey.
- The dredging of sediments within the navigation channel will be carried out during the winter months (October – March) to negate any potential impact on salmonid migration (particularly smolts) and summer bird feeding, notably terns, in the vicinity of the dredging operations.
- A trailer suction head dredger (TSHD) or Back-hoe dredger will be used for the capital dredging works. When operating in the River Liffey Channel, the TSHD pumps will be switched off when the drag head is being lifted and returned to the bottom as the dredger turns between successive lines of dredging to minimise the risk of fish entrainment.
- A maximum of 4,100m³ of sediment and entrained water will be loaded into the dredger's hopper for each loading/dumping cycle, equivalent to approximately 2,030 tonnes (wet weight).

Dredging and Loading Activity

Trailer Suction Hopper Dredgers' are equipped with a trailing suction head. When the ship reaches the location requiring dredging, it reduces speed and lowers the suction head to the seabed. The trailing suction

head moves slowly over the bed, collecting the sediments in a similar way to a giant vacuum hoover. The water and material mix is then pumped up the arm of the suction head to the ship's hull (hopper). Once full, the dredger retracts its suction head and begins to sail slowly to the dump site.

When in position over the dump site, the ship slowly sails in the desired direction as doors in the underside of the vessel open and the sediment is released from the hopper. This allows the operators to control accurately where the sediment is deposited.

The capital dredging loading activity will take place within the inner Liffey channel which is dominated by silts.

Model simulations of the proposed loading and dumping regime using a Trailer Suction Hopper Dredger, of a size akin to current maintenance dredging practices, were used to determine the environmental impact of the dredging operations (see Chapters 9 and 12 of the EIAR).

The following input was used in the model simulations:

Typical Capacity of Trailer Suction Hopper Dredger	4,100m ³ hopper capacity
Ratio of sediment/entrained water during loading	0.3
Average Trip Frequency	3-4 hours
Time to release load	90 seconds

The predicted distribution and concentration of Total Suspended Solids within the receiving waters is presented in Figure 3-5-12-1 and Figure 3-5-12-2. The capital dredging activity is expected to be completed within a 2-3 month period within each winter dredging season, depending on weather conditions. The loading and dumping methodology will ensure that there is no significant increase in Total Suspended Solids above recorded background levels, outside the confines of the dump site.

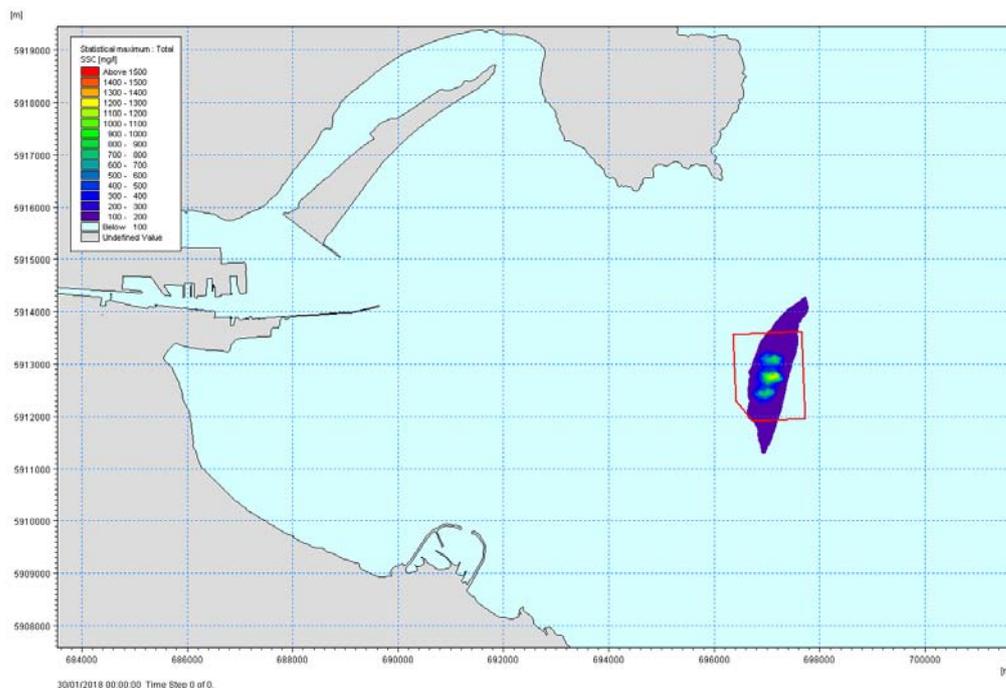


Figure 3-5-12-1 Maximum Total Suspended Solids Concentration envelope using a Trailer Suction Hopper Dredger dumping circa 2,030 tonnes (wet weight) at 3 hourly intervals on average within each winter capital dredging season

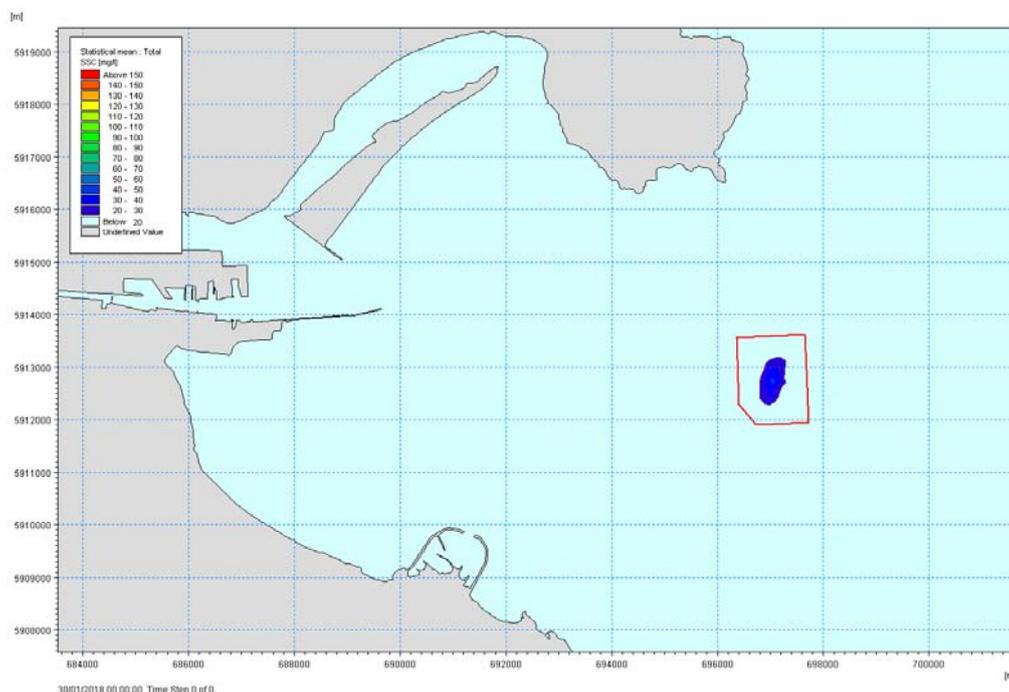


Figure 3-5-12-2 Mean Total Suspended Solids Concentration envelope using a Trailer Suction Hopper Dredger dumping circa 2,030 tonnes (wet weight) at 3 hourly intervals on average within each winter capital dredging season

Contract Management

The Capital Dredging Campaign will be carried out by suitably qualified and experienced dredging Contractors, following competitive tender. The Contractors will be provided with a copy of the CEMP at tendering stage and are required to comply with all relevant mitigation and environmental protection measures therein.

Each winter dredging season, the successful dredging Contractor will set up a base office within the Dublin Port Estate. Daily meetings will take place among the dredging Contractor, DPC, Harbour Master and the Environmental Facilities Manager. These meetings will review the capital dredging works undertaken the previous day and agree the current day's work programme, taking into consideration navigational requirements including scheduled vessel movements and environmental constraints and feedback from Marine Archaeologists and Marine Mammal Observers (MMOs) undertaking monitoring duties on board the dredger.

Inspections by the Office of Environmental Enforcement (OEE) and the Foreshore Unit, DHPLG will be facilitated at short notice.

3.5.11 Draft Pollution Incident Response Plan

This draft Pollution Incident Response Plan (PIRP) sets out best practice for dealing with potential environmental incidents on the MP2 Project site. The PIRP will help to prevent or reduce environmental damage if such an incident occurs. The PIRP should be read in conjunction with DPC's Emergency Management Plan (attached) and with the other environmental management plans presented in this CEMP which list the potential environmental impacts that may arise and the mitigation that will be implemented to prevent impact.

The draft PIRP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

The DPC Emergency Management Plan (EMP) provides guidelines for responding to an emergency within the Port area. Where incidents constitute an emergency as per the EMP they will be governed by the guidelines and provisions outlined therein. In all cases where a pollution event falls within the remit of the EMP the procedures outlined in the EMP must be complied with.

The purpose of this PIRP is to provide clear guidelines on responses to pollution incidents to allow a rapid and efficient response to any incident in order to minimize environmental impact or damage. It is presumed that all relevant mitigation outlined in the individual environmental management plans in this CEMP is fully and effectively implemented.

The Main Works Contractor's designated representative (e.g. HSE Manager, Site Manager) will be responsible for coordinating the PIRP and ensuring adequate resources are available for implementation. The PIRP will ensure all appropriate and relevant resources are identified in advance and made available as quickly as possible during a pollution response event. The plan is intended for guidance purposes only and any response may be adapted depending on the specific circumstances of a particular pollution event.

Pollution Scenarios

The PIRP will detail the response required to pollution events including:

- Emissions to Water
 - Sediment release
 - Wastewater release
- Emissions to Air
 - Odours
 - Dust

For avoidance of doubt DPC's EMP provides comprehensive guidance in relation to emergency response to the following pollution events:

- oil spills to the marine or river environment (Annex A5)
- oil spills on the shore side (Annex A8)
- spills of hazardous materials (Annex 9)

The EMP uses a tiered system to describe oil and chemical spills:

- Tier 1 - Background and minor operational spills resulting in shoreline pollution which can be wholly dealt with by the relevant local authority or harbour authority and their oil spill response Contractors
- Tier 2 - Small-scale incidents where local authorities or ports may require mutual aid in order to initiate and maintain a shoreline response and also involve Irish Coast Guard (IRCG) resources
- Tier 3 - A large spill where substantial further resources may be required and support from National Government is necessary through the implementation of the IRCG National Oil Spill Contingency Plan. Additional assistance can be obtained from IRCG International response Contractor and also through the EU monitoring and Information centre

Any significant spillage or release of oils, chemicals or hazardous materials resulting from MP2 Project activities falls within the remit of the EMP and will be responded to in accordance with the EMP guidelines. Very minor and localised spills may be dealt with by the Contractor.

Key Provisions of the PIRP

The PIRP will include site and project specific pollution incident response measures including:

- Preparation of a Project Organization Chart indicating the area of responsibilities and the reporting lines of the project personnel.
- Contact details of MP2 Project Environmental Facilities Manager
- Contact details for Main Works Contractor (MWC) representatives responsible for coordinating pollution response (e.g. HSE Manager, Site Manager)
- Personnel on site and roles in PIRP implementation
- Date of PIRP issue and review dates
- PIRP distribution list and number of copies and version
- Detailed site plan
- Detailed drainage map of the site including location of all interceptors and outfalls
- Contact details for internal and external services and agencies with a role in pollution response or stakeholders whose assets may be impacted
- Details of chemicals held on site including maximum quantity, storage locations and containment conditions, Safety Information Data Sheets
- Detailed inventory of pollution prevention equipment - on and off site resources listed with calibration, service details

Pollution Response Initiation

All operatives and personnel on site will comply with all relevant mitigation measures to prevent pollution outlined in the individual environmental management plans. Any person who detects a pollution incident will notify the MWC representative responsible (HSE Manager, Site Manager).

On receipt of notification of any such incident the MWC representative will:

- Inform the Environmental Facilities Manager

- Establish the nature of the spill, the source, direction of travel and quantity of material involved
- Assess the extent, nature and potential impact of the pollution event on the receiving environment and any likely impact on Port Operations
- Halt the activities giving rise to the pollution if possible
- Mobilise the pollution response team to take immediate appropriate steps to stop further pollution and contain polluting material where possible by deploying pollution control equipment as required
- Consider whether additional resources are required to mitigate the event
- In the case of significant pollution, inform stakeholders that may be impacted
- Notify DPC's Emergency Management Team If the pollution event falls within the remit of the EMP
- Gather as much further information as possible relating to the incident including noting wind direction and speed
- Inform the relevant regulatory authorities (e.g. Dublin City Council Pollution Control Section 01 2222066 or 24 Hrs. contact 01 6796186; EPA; National Parks and Wildlife Services)
- Put monitoring in place to measure the duration and extent of the event, and the concentration of known pollutants
- Keep a diary record of all actions
- Take comprehensive photographic records of the event
- Ensure all expenditure in response to the spill is tracked under a single project number
- Liaise closely with relevant DPC personnel as identified in the PIRP contacts list.

Training and Records

Training in appropriate pollution response procedures will be provided to all site personnel. This will be undertaken at induction training and through regular toolbox talks to ensure that information in relation to the current construction phase of the MP2 Project is kept up to date.

The MWC representative will be responsible for implementing the training programme. The MWC representative will also carry out regular inspections of essential pollution prevention equipment to ensure it is adequately serviced, in calibration or certification and fit for purpose.

The MWC representative will maintain a detailed record of all pollution events and responses, costs incurred and environmental impacts. The record will include a comprehensive debriefing of participants to provide an analysis of causes of the pollution event, detail lessons learned and preventive or corrective actions taken to prevent event recurrence or similar events.

4 SITE SAFETY

DPC operates and maintains quality management systems to comply with internationally recognised standards OHSAS 18001 & ISO9001. Successful maintenance of international standards enables the organisation to maintain a level of control over, and knowledge of, relevant hazards resulting from normal operations and abnormal situations with an overall objective to improving performance and preventing accidents and/or incidents in the workplace.

DPC operates to the International Ship and Port Facility Security Code (ISPS Code), which provides a comprehensive set of measures to enhance the security of ships and port facilities. Strict security procedures are already in place on site to deal with all access on a 24 hour basis. These procedures require all vehicles and personnel visiting the site to be logged and will continue in place once construction commences and has been completed.

Safety will be of prime importance during the construction works. The works will be subject to the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations, 2013. All aspects of design construction will be reviewed with regard to health and safety and a risk assessment will be carried out.

A Project Supervisor (Design Process) will be appointed by DPC to produce a pre-tender Health and Safety Plan for the project. The Principal Contractor will be responsible for the control and co-ordination of health and safety during the works and will be appointed as the Project Supervisor (Construction Stage).

All individuals working on the Project will be required to undertake induction procedures. Such will be designed to make individuals aware of all the issues associated with the Project and will include, but not be limited to;

- The terms of the CEMP;
- Marine Safety;
- Working Hours;
- Access arrangements;
- Health, Safety and environmental policy and procedures;
- Code of Conduct within the site and surrounding environs;
- Statutory obligations of individuals on site;
- Traffic Management;
- Site parking;
- Public Access;
- Lighting requirements;
- Complaints and disciplinary procedures;
- Protection of the water environment;
- Protection of wildlife and habitats;
- Dust and air quality;
- Noise and vibration;

- Emergency procedures.

Visitors will not be allowed onto the site unless in possession of a current Safe Pass (or equivalent) demonstrating they have undertaken appropriate construction site Health & safety training and have received formal induction or are accompanied by an authorised person who has completed the induction. All visitors will be required to sign a visitor's book.

5 SUMMARY OF ENVIRONMENTAL MANAGEMENT PLANS

Type of Environmental Management Plan	Ongoing Mitigation Required	Ongoing Mitigation Specific Requirements	Ongoing Monitoring/ Auditing Required	Timing of Ongoing Monitoring	Reporting Requirements	Reporting Procedures	Ongoing Liaison Required	Other Specific Requirements
Construction Traffic Management Plan	Yes	Compliance with DCC's HGV Management Strategy	Yes	During Construction	Quarterly Reports	Report submitted to Planning Authority	Yes	Complaints Procedure
Invasive Alien Species Management Plan	Yes	Precautionary measures to prevent importation and spread	Yes	During Construction	Quarterly Reports	Report submitted to Planning Authority	Yes	Containment / Treatment required if any Invasive Alien Species are found on the site
Noise Management Plan	Yes	Compliance with NRA Guidelines and BS5229:2009	Yes	Preconstruction and during construction	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and EPA	Yes	Specific noise limits to be met at nearest noise sensitive receptors, Complaints Procedure
Dust and Odour Management Plan	Yes	Compliance with EPA and BRE Guidelines	Yes	Preconstruction and during construction	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and EPA	Yes	Complaints Procedure
Marine Mammals Management Plan	Yes	Compliance with NPWS Guidelines	Use of MMOs, installation of SAM system	Preconstruction, during construction and for 2 years after works completion	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and NPWS	Yes	Close liaison required with NPWS

Type of Environmental Management Plan	Ongoing Mitigation Required	Ongoing Mitigation Specific Requirements	Ongoing Monitoring/ Auditing Required	Timing of Ongoing Monitoring	Reporting Requirements	Reporting Procedures	Ongoing Liaison Required	Other Specific Requirements
Birds and Marine Ecology Management Plan	Yes	Adherence to piling and dredging mitigation measures	Specialist surveys required	Preconstruction, during construction and for 2 years after works completion	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and NPWS	Yes	Existing Black Guillemot nest boxes to be removed and replaced at specific time of year.
Archaeology and Cultural Heritage Management Plan	Yes	Compliance with DCHG Guidelines	Monitoring to be undertaken by heritage engineer or architect and marine archaeologist	During Construction	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and DCHG	Yes	Appropriate Licences required from DCHG
Water Quality Management Plan	Yes	Compliance with EPA Guidelines etc	Installation of real-time water quality monitoring system	Preconstruction and during construction	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and EPA	Yes	Complaints Procedure
Dredging Management Plan	Yes	Adherence to dredging mitigation measures and compliance with Dumping at Sea Permit and Foreshore Licence	Yes	During Construction	Monthly Reports, input to Annual Environmental Report	Report submitted to Planning Authority and EPA	Yes	Complaints Procedure

Type of Environmental Management Plan	Ongoing Mitigation Required	Ongoing Mitigation Specific Requirements	Ongoing Monitoring/Auditing Required	Timing of Ongoing Monitoring	Reporting Requirements	Reporting Procedures	Ongoing Liaison Required	Other Specific Requirements
Pollution Incident Response Plan	Yes	Adherence to guidelines for rapid and efficient response to minimize environmental impact	Monitoring of pollution events required and records of pollution prevention equipment.	During construction	Detailed record of all pollution events and responses, costs involved and environmental impacts.	Report submitted to Planning Authority and EPA	Yes	Specific training, and debriefing post pollution events to establish causes of events, lessons learned and preventive or corrective action required.

6 TABLE 19-3 SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMMES

Monitoring Programme	Monitoring Element	Frequency of Monitoring	Location	Parameters Measured	Surveyors / Support	Sampling Constraints	Action Threshold	Monitoring and Reporting	Report / Frequency
BIRD MONITORING	Census of Black Guillemot Population nesting in Dublin Port	Annually in period 26 March to 15 May. Two surveys to be carried out on two separate dates.	Quaysides within Dublin Port	Number Black Guillemots on land or sea within 300m of the shore Number of occupied nest sites and associated adults Number of nest boxes occupied	2 / Boat Support	0500 - 0900 BST. Beaufort 4 or less. Calm Sea Conditions		Bird Specialist	Annually (year ending March) by 31st July each year.
	Census of Common and Arctic Terns nesting in Dublin Port	Annually in period 10 June to 15 July	Permanent Structures and Pontoons in Dublin Port	Number of apparently occupied nests (egg clutches or flush count).	2 / Boat Support	Moderate weather and sea conditions.		Bird Specialist	Annually (year ending March) by 31st July each year.
	Winter Wetland Birds	Monthly from October 1 to March 31 during each year of the project	Intertidal areas between Dún Laoghaire West Pier and Bull Wall.	Bird Flocks - species and approx. numbers.		Low tide ± 2 hours. Daylight. Good weather conditions.		Bird Specialist	Annually (year ending March) by 31st July each year.
MARINE MAMMALS	Marine Mammal Observation in exclusion zones	For piling, dredging, dumping and demolition operations within the foreshore	Within 500m of dredging / dumping operations. Within 1000m of piling operations.	Presence of marine mammals	1 to 3 as required	Suitable vantage point. Accommodation on dredging vessels.	Presence of marine mammal in exclusion zone.	Marine Mammal Observer	NPWS MMO Location and Effort Forms
	Continuous Static Acoustic Monitoring	Ongoing data logging at four stations (to be confirmed)	4 locations in Dublin Bay	Echolocation clicks of dolphins and porpoises				Marine Mammal Ecologist	

Monitoring Programme	Monitoring Element	Frequency of Monitoring	Location	Parameters Measured	Surveyors / Support	Sampling Constraints	Action Threshold	Monitoring and Reporting	Report / Frequency
	Seal Haul Out Sites Dublin Bay	Monthly	North Bull Island and adjacent areas. Dublin Bay within zones of influence.	Species. Maturity Stage. Behaviour.	Coordinate with NPWS surveys	Low water ± 2 hours.		Marine Mammal Ecologist	
MARINE BENTHOS	Benthic Grab and Video Surveys	Before and after capital dredging programme	Dublin Bay	Benthic Communities Biomass of major Phyla Granulometry Organic Matter Content	Boat Support	Good weather, sea and visibility conditions		Fisheries Specialist	
	Beam Trawl Surveys	Before and after capital dredging programme	Dublin Bay	Fish Communities - Species rank / size ranges					
WATER QUALITY	Water quality in lower Liffey in Dublin Port	High frequency (15min) real time at four stations	4 locations Inner Liffey channel	Dissolved Oxygen, Turbidity, Temperature, Salinity, pH				Environmental Facilities Manager	
ATMOSPHERIC NOISE AND DUST	Dust Deposition	Continuous over project duration	Poolbeg Marina; Clontarf	Dust deposition using Bergerhoff Dust Deposition Gauges				Environmental Facilities Manager	
	Noise Levels	Continuous for duration of Project	Poolbeg Marina; Clontarf	L _{Aeq}				Environmental Facilities Manager	Weekly to Contractor/DPC Annual AER
UNDERWATER NOISE	Underwater Noise Levels	Validation surveys	4 locations Inner Liffey Channel		Boat Support			Underwater Noise Specialist	Survey required at commencement of Piling
ARCHAEOLOGY		An Archaeologist and Heritage Architect will be retained for the duration of works	Capital Dredging, Landside works including Pier Head	Ground Disturbance Demolition of Pier Head Dredging				Archaeology Specialist	Monthly Reporting

Appendix A

DPC Emergency Management Plan



EMERGENCY MANAGEMENT PLAN

The aim of the Dublin Port Company Emergency Management Plan is to outline the structures and arrangements that will be used in response to an emergency in order to mitigate:

- Loss of life or injury to employees, contractors, visitors and local residents
- Damage to the environment
- Damage to the facilities, plant and equipment of DPC, its commercial partners, tenant companies and neighbours

The plan also aims to ensure that DPC emergency management structures and arrangements are compatible with the requirements of the 2006 Framework for Major Emergency Management.”

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 1 of 23

Contents

1. INTRODUCTION	3
2. OBJECTIVES	4
3. SCOPE AND ASSUMPTIONS	5
4. ABBREVIATIONS USED THROUGHOUT THIS PLAN	7
5. DPC EMERGENCY RESPONSE ORGANISATION AND ROLES	7
6. PORT WIDE ALARM ACTIVATION	13
7. COMMUNICATIONS	16
8. TRAINING, EXERCISE AND MAINTENANCE PLAN	17
ANNEX A: CONTACT DETAILS: SECURITY MANAGERS, HARBOUR POLICE & PORT SECURITY, EMERGENCY OPERATIONS CENTRE & FIRE WARDENS (OIL JETTY)	19
ANNEX B: DPC PORT MAP & EVACUATION PLAN.....	20
ANNEX C: DUBLIN PORT SEVESO SITES.....	22
NOTES	23

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 2 of 23

Dublin Port Company Emergency Management Plan (Public)

1. INTRODUCTION

Dublin Port covers an area in excess of 650 acres, within which many activities of a marine, commercial and industrial nature take place. This Emergency Management Plan (EMP) is designed to provide guidelines to the Dublin Port Company (DPC) for responding to an emergency within their area of jurisdiction.

The maritime jurisdiction of Dublin Port is defined under the Harbours Act 1996 (as amended). The land based limits are detailed in the Map at Annex J-1.

Operations at Dublin Port include the following:

- a. Vessel arrivals, departures and shifts.
- b. Pilotage, towage & vessel traffic services (VTS)
- c. Lo-Lo terminals operated in common user area and in designated terminals.
- d. Ro-Ro terminals facilitating both freight and passenger traffic.
- e. Facilities for handling petroleum products, LPG and molasses.
- f. Common oil pipeline linking the oil berths with the storage facilities.
- g. Dry bulk handling facilities for handling concentrate, peat, oil, grain, animal feedstuff, fertilizer, sand, coal, petroleum coke, slags, scrap metals and cement.
- h. Warehouse space
- i. Vehicle storage facilities.
- j. Cruise liner operations.
- k. Leisure craft mooring and movements at Poolbeg and Dublin City Marinas.

In addition to the activities listed, the Dublin Port road network caters for the movement of up to 15,000 vehicle movements through the port per day.

Tenant companies operate several industrial/commercial sites within the DPC estate. Several of these companies are the de-facto 'operating company' of those sites, and have ultimate responsibility for emergency planning within those facilities.

There are currently eight upper tier Seveso sites within the DPC estate, and a number of lower tier sites (See Annex C on page 22). These sites are operated by DPC tenant companies and are regulated under EU Control of Major Accident Hazards involving dangerous substances legislation (Known as COMAH regulations), and transposed into Irish law in SI No. 74/2006.

It should be noted that the DPC Emergency Plan (Public) is an unrestricted document; therefore annexes to the plan are not included in this document for general safety and security, ISPS and confidentiality reasons.

For further information please contact the Dublin Port Company: Land Operations Manager on 01 8876000.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 3 of 23

Dublin Port Company Emergency Management Plan (Public)

2. OBJECTIVES

The objectives of this plan are to

- a. Provide an emergency management organisation structure and arrangements which will enable DPC to respond rapidly and efficiently to any emergency in order to prevent injury to personnel, damage to property or the environment as well as minimizing or eliminating the impact to neighbouring communities.
- b. Ensure all appropriate and relevant resources are identified in advance and made available as quickly as possible during an emergency within Dublin Port.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 4 of 23

Dublin Port Company Emergency Management Plan (Public)

3. SCOPE AND ASSUMPTIONS

The Dublin Port EMP outlines the DPC structures and arrangements for responding to emergencies that may occur within Dublin port.

The plan is intended for guidance purposes only and may be adapted depending on the circumstances of a particular emergency. The actions to be taken in any given emergency will be decided by the Emergency Management Team (EMT).

This plan may be activated by the CEO of DPC, the Emergency Management Marine Coordinator (EMMC) OR the Emergency Management Land Coordinator (EMLC), or their alternates, depending on the circumstances and severity of the incident.

The plan is designed to cater for both marine and land based emergencies.

Marine Emergency Scenarios include:

- Major incident on-board a vessel such as fire, flooding or cargo related.
- Collision between vessels or between a vessel and a fixed object.
- Grounding of a vessel.
- Major oil spillage from a vessel or jetty.
- Major oil spill at sea or oil entering the port from a source upriver.
- A security incident, involving a ship, which has the potential to escalate into an emergency situation.

Land Emergency Scenarios include:

- Major fire within the general port area.
- Major oil spill.
- Major spill of hazardous material.
- A vehicle accident involving hazardous material.
- Chemical incidents (e.g. toxic cloud).
- Major incident in an oil, gas or hazardous material storage facility.

Marine & Land Emergency Scenarios include:

- Infectious Disease (Human or Animal) on Ship due to enter Dublin Port.
- Incident involving transportation or storage of dangerous goods
- Severe weather event

The scenario specific sub-plans for the above events have been developed as part of the overall plan. These focus on the immediate actions to be taken by internal sections, functions or departments of the port authority and are therefore restricted and not included in the public document. However it should be noted that the scenarios are for operational and emergency planning purposes as well for use in training and exercises.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 5 of 23

Dublin Port Company Emergency Management Plan (Public)

DPC adheres to an 'all hazards approach' to Emergency Management, in that the same structures, resources and personnel will be used to respond to all emergencies occurring in or affecting the port.

This plan makes the following assumptions:

- All personnel with specific roles and responsibilities are familiar with their role in the plan, and have been exercised in the implementation of the plan.
- All contact details for key stakeholders are up to date at the date of the last plan revision.
- That the resources outlined in the plan are available and maintained.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 6 of 23

Dublin Port Company Emergency Management Plan (Public)

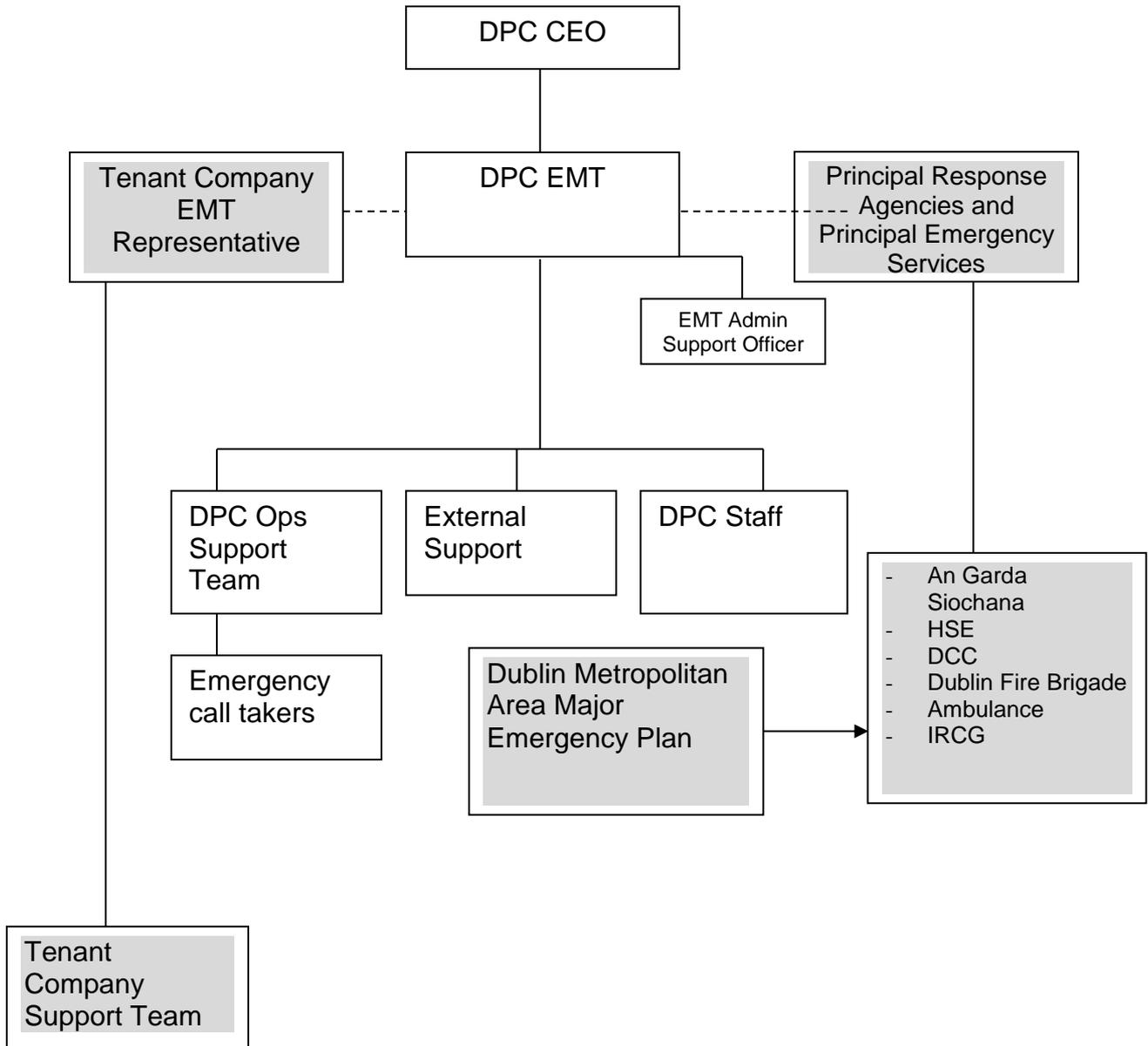
4. ABBREVIATIONS USED THROUGHOUT THIS PLAN

AAR	After Action Review (formal debrief).
AGS	An Garda Siochana
CA	Competent Authority
COP	Common Oil Pipeline
CEO	Chief Executive Officer
DTTAS	Department of Transport, Tourism and Sport
DCC	Dublin City Council
DFB	Dublin Fire Brigade
DG	Dangerous Goods
DoH	Department of Health
DPC	Dublin Port Company
EMA	Emergency Management Administrator
EMLC	Emergency Management Land Coordinator
EMMC	Emergency Management Marine Coordinator
EMP	Emergency Management Plan
EMT	Emergency Management Team
EOC	Emergency Operations Centre
EPA	Environmental Protection Agency
ESRVP	Emergency Services Rendezvous Point
HM	Harbour Master
HP/PS	Harbour Police/Port Security
HSA	Health & Safety Authority
HSE	Health Service Executive
IHR	International Health Regulations (2005)
IMDGC	International Maritime Dangerous Goods Code
IRCG	Irish Coast Guard
ISPS	International Ship and Port Facility Security (code)
MCIB	Marine Casualty Investigation Board
MSDS	Material Safety Data Sheet
NOG	National Operations Group (oil spill)
NOK	Next of Kin
OFA	Occupational First Aid
PES	Principal Emergency Services
PRA	Principal Response Agencies
PFSP	Port Facility Security Plan
POC	Port Operations Centre
SIC	Site Incident Controller
SSP	Ship's Security Plan
SWEAT	Severe Weather Event Assessment Team
SWEP	Severe Weather Event Plan
VTS	Vessel Traffic Services

5. DPC EMERGENCY RESPONSE ORGANISATION AND ROLES

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 7 of 23

Dublin Port Company Emergency Management Plan (Public)



DPC Emergency Management Team Structure

EMT Role	Appointment holder
Chief Executive Officer	CEO

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 8 of 23

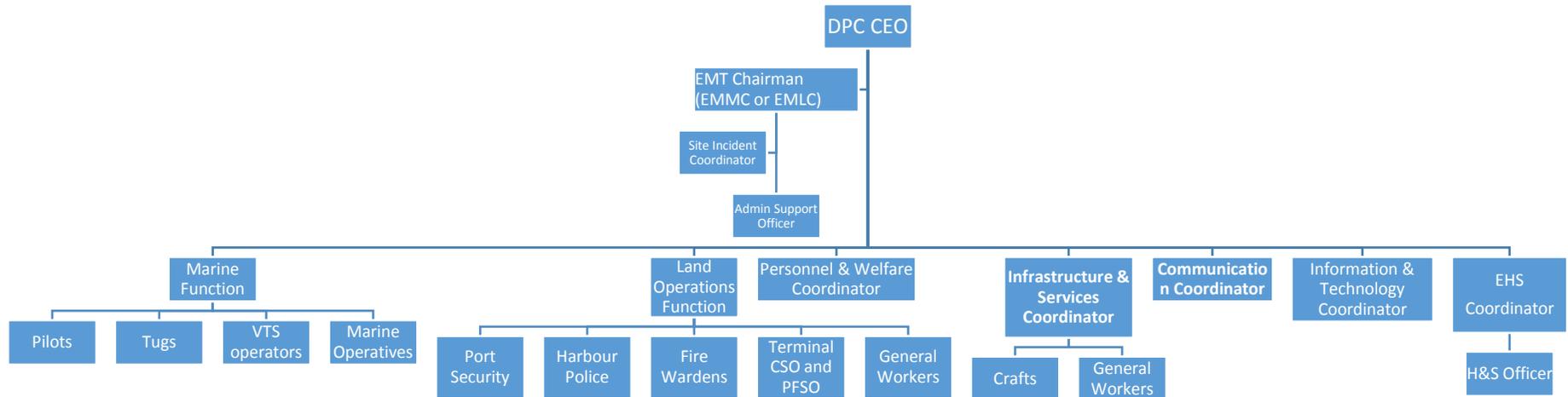
Dublin Port Company Emergency Management Plan (Public)

Emergency Management Marine Coordinator (EMMC)	Harbour Master
Alternate	Deputy Harbour Master
Emergency Management Land Coordinator (EMLC)	Land Operations Manager
Alternate	Security Manager
Infrastructure and Services Coordinator	Engineering Services Manager
Alternate	Port Engineer
Personnel and Welfare Coordinator	Head of Employee Relations & Human Resources and Cruise Business Manager
Alternate	Human Resource Officer
Communications Coordinator	Company Secretary
Alternate	Communications Manager
Information and Technology Coordinator	IT Manager
Alternate	IT Officer
Facilities Coordinator	Head of Property
Alternate	TBC
EHS Coordinator	EHS Manager
Alternate	EH&S Officer
EMT Administration Support Officer	Clerical/ Admin Officer
Emergency Management Administrator	Land Operations Manager

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 9 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT Organisation Chart



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 10 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT - Overview and role

The EMT is made up of senior DPC managers drawn from the key functional areas of the company. The specific roles and responsibilities of team members largely reflect their day-to-day responsibilities.

The DPC CEO has overall responsibility for all operations in the port, both marine and land. Many of the day-to-day tasks are delegated to the EMMC and the EMLC, as well as to other management functions. Each EMT member has a designated alternate or deputy, capable of standing in for the primary EMT member should they be unavailable for any reason. Alternates receive the same training for EMT operations as primary team members. Others not listed on the core team may be drafted to the team if their expertise is required.

The Chair of the EMT reports to the DPC CEO, who may in certain situations decide to chair the EMT him/herself.

In general terms the overall role of the EMT is to:

- Coordinate and control the DPC response to an emergency within the port area of responsibility
- To liaise with the external emergency services and provide all reasonable support to them
- To manage DPC's interaction with external stakeholders throughout the response to an incident.

Emergency Management Administrator (EMA)

The EMP will be maintained by the Emergency Management Administrator (EMA) who will ensure the plan is kept up to date, and is responsible for arranging training and exercises for EMT members and support staff. The EMA will also ensure the Emergency Operations Centre (EOC) is fit for purpose. The EMA is not an EMT operational role as all tasks associated with the role are undertaken outside of EMT operations. The EMA will ensure the plan is reviewed internally each year and externally once every 5 years

Site Incident Coordinator (SIC)

In the event of an emergency occurring within the port area of operations, on the marine or the land side, DPC will appoint a 'Site Incident Coordinator'. This will usually be the EMMC or EMLC, their alternate or a person appointed by him. The SIC's role is to manage the DPC resources at the site, to liaise with external agencies responding to the emergency and to keep the EMT up to date with the situation at the emergency site. The SIC will be in direct contact with the Port Operations Centre (POC) by radio, and will be equipped with a mobile phone.

Emergency Call Takers

A panel of emergency call takers has been identified and trained in assisting the receptionist with responding to calls to DPC in the event of an emergency. The call

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 11 of 23

Dublin Port Company Emergency Management Plan (Public)

takers take all emergency related calls and ensure the calls are logged and/or passed to the appropriate EMT or DPC person.

Vessel Traffic Services (VTS) Operator

The VTS operator is the primary point of contact in the event of any marine related incident. In the event of an incident the VTS operator will immediately contact the duty Harbour Master (HM) who will decide what action should be taken, including mobilisation of the EMT. If the duty HM deems it appropriate, the VTS operator will contact emergency services and mobilise the tugs. VTS & HP/PS will liaise closely during all emergencies.

Marine Operatives

Marine Operatives of the port will support the VTS staff and the tugs, and will act on all instructions issued by the Harbour Master during an emergency.

Harbour Police/Port Security (Contact details at Annex B)

The HP/PS has a critical role in the security of port facilities, roads and infrastructure, which include the control and coordination of emergencies including initiating the immediate response to an emergency incident. They also play a key role in alarm monitoring, receipt of calls, gathering of information, notification of emergency services, meeting the emergency services at the ESRVP, guiding them to the site of an emergency within the port, and controlling traffic within the port.

DPC Fire Wardens (Contact details at Annex B)

DPC Fire Wardens staff the oil jetty's on a 24/7/365 basis. They are responsible for the safety and security of all shipping operations on the Oil Jetty, the Common Oil Pipeline (COP), and can communicate directly with the POC and COP users via specific radio telephone channels.

DPC Fire Marshals

DPC has identified and trained a number of Fire Marshals who have a key role in accounting for personnel in their designated area during an emergency. Fire Marshals have been appointed in all DPC buildings, and they have a key role in accounting for personnel in their facility during evacuations, and in keeping the EOC informed of events in their area.

DPC Occupational First Aiders

DPC has a number of qualified Occupational First Aid (OFA) staff suitable for deployment in the event of an emergency. OFA's report to the Incident Site Coordinator once they have been accounted for by their Fire Marshal, and are prepared to administer first aid and to assist the emergency services on request.

The Emergency Operations Centre (EOC) (Contact details at Annex B)

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 12 of 23

Dublin Port Company Emergency Management Plan (Public)

The primary EOC is located on the 1st floor of the POC located at the southern end of Breakwater Road. The EMT will meet here in the event of an emergency being declared. Should the emergency affect the POC then the alternate EOC will be used and is based in the IT training room located on the lower ground floor of the Port Centre on Alexandra Road. Should both locations be unavailable then the EMT Chair will decide on an appropriate location and inform other EMT members. Both the primary and alternate EOC are equipped for emergency operations.

Emergency Services

In the event of an emergency in Dublin Port, Emergency Services should go immediately to the Emergency Services Rendezvous Point (ESRVP), located at the junction of East Wall Road & Tolka Quay Road west. HP/PS will meet with and guide the emergency services to the area of emergency, if safe to do so. The primary unit of the initial lead agency will attend the scene and relay information to emergency services gathered at or near the ESRVP. In a multi-agency response the lead agency will generally appoint a senior officer as the Incident Commander or Coordinator at a safe forward point and senior operational staff from each emergency service and the DPC appointed SIC will collectively manage the emergency from this location.

EMT Member - Administration Support Officer. (Administrative/ clerical officer)

Provide all administrative support required in by the EMT, including but not limited to

- The setting up of the EOC on activation of the EMT
- Maintain an incident log throughout the emergency
- Acting as a conduit between the EMT and the administrative support personnel (call takers, secretarial support etc.)

Information Management Officer (IMO).

The IMO is responsible for maintaining the information display boards in the EOC. This role should be filled by an EMT member who has been trained in the role but can be filled by any EMT member if a trained IMO is not available. The panel of EMT IMO's should receive refresher training every two years, and should be practiced in the role when the EMT is exercised.

6. PORT WIDE ALARM ACTIVATION

The DPC fire alarm panel system is located in the HP/PS Control Room, situated on the ground floor of the POC, Breakwater Road, Dublin Port. The fire alarm system monitors approximately 21 sites, and break glass units located throughout the port estate.

The fire alarm system can be activated manually or automatically from various points around the port directly linked to the system. When activated, the HP/PS are alerted and investigate the alarm before deciding on what action is required.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 13 of 23

Dublin Port Company Emergency Management Plan (Public)

The port wide sirens are located at the ESB North Wall Power Station, the Oil Jetties and Port Centre, and are generally regularly on a scheduled basis. With the exception of alarm tests, all pumping stops immediately on sounding of the port wide siren.

For confirmed alarm activations, the affected site and HP/PS must call 999/112 and request emergency services attendance, whilst clearly stating the nature of the emergency, name and location of the site affected.

In passing information to the Emergency Services the E.T.H.A.N.E. pneumonic should be used:-

- **E**xact location of the emergency
- **T**ype of emergency – e.g. Fire; hazardous material spill; Road Traffic Accident.
- **H**azards, present and potential
- **A**ccess route to the emergency
- **N**umber and type of casualties (if known)
- **E**mergency Services – those present and those required

Once confirmed HP/PS will immediately open the emergency gates located at the western end junction of Tolka Quay Road and East Wall Road and this immediate area operates as the ESRVP.

DFB will be dispatched to the Port to deal with the incident, whilst HP/PS will implement a traffic control plan, with the support of Gardaí, as required.

The port wide alarm system is a continuous wailing alarm sound, similar to an air-raised siren. On hearing this alarm port users should:

- Be aware that an incident is on-going.
- Account for staff, visitors and contractors.
- Continue to operate as normal unless instructed otherwise or individual company SOP's indicate otherwise.
- Wait for further instructions from the HP/PS or the PES.

Port users, and members of the wider community, are asked to bear in mind that calling DPC by telephone during sounding of the port wide siren may block telephone lines at a vital time. Port users should await further information from the HP/PS, whilst members of the public should tune in to a national radio station for updates.

A new port-wide fire-main was installed in 2015 and replaced the former Salt Water mains system that covers the majority of bulk fuel storage facilities in Dublin Port. The system is fully automated and is controlled from the Port Operations Centre Control Room that is manned 24/7 by HP/PS.

Port Evacuation

During an emergency it may be necessary to evacuate the port, or parts of the port, for safety reasons.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 14 of 23

Dublin Port Company Emergency Management Plan (Public)

The HP/PS will control traffic flow throughout the port in the event of an evacuation of one or more areas.

The details of port evacuation routes are included at **Annex B** to this plan.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 15 of 23

Dublin Port Company Emergency Management Plan (Public)

7. COMMUNICATIONS

In the event of an emergency in Dublin Port the media and social media will be critical in informing the public of the incident. The perception of what has happened and whether people perceive themselves at risk will depend on what they see and hear. The importance of managing this relationship with the media cannot be overstated especially concerning information released via formal and informal (social media) channels.

Members of the public seeking information should tune in to local and national radio and television stations; social media platforms e.g. Facebook, Twitter.

Concerned members of the public can contact DPC by phone, email or social media; however DPC's first priority will be to assist Emergency Services in the protection of life, property and the environment and that patience will be required when trying to contact them during an emergency. The primary point of contact for incidents on port tenants sites should be the company itself or for general port incidents 01 8876000 or by emailing info@dublinport.ie

Telephone Enquiries

The response to callers by reception staff at DPC will be determined by the information they may have at the time, and the specific instructions of the EMT as issued through the EMT Communications Coordinator.

DPC Spokesperson

The DPC CEO in conjunction with the EMT Communications Coordinator will appoint a spokesperson to speak directly to the media and/or issue media releases.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 16 of 23

Dublin Port Company Emergency Management Plan (Public)

8. TRAINING, EXERCISE AND MAINTENANCE PLAN

General

DPC's Emergency Management competency is continuously enhanced through participation in training and exercises at different levels. DPC management regularly participate in Emergency Management exercises on tenant sites, as well as exercising as the DPC EMT in a stand-alone capacity, at least twice annually. Whilst there are a number of scenario specific sub-plans associated with the overall EMP, DPC adheres to an 'all hazard approach' to Emergency Management.

It will be the responsibility of the EMA to ensure all aspects of the Training, Exercise & Maintenance Plan are implemented. Training and exercising within the context of DPC's EMP is generally concerned with achieving the following objectives:

- Continuously developing the competence of the EMT organisation in implementing the plan.
- Continuously improving the plan by identifying potential gaps in the plans during training exercising and taking action to ensure these are addressed.
- Continuously familiarising the EMT members and supporting staff with the plan and with their roles during plan implementation.

Objective

The objective of this 'Training, Exercise and Maintenance Plan' is to provide a structured framework for training and exercising the members of the EMT in their roles as well as providing a sound basis for maintaining the integrity of the information contained within the plan.

Annual Training Requirement

Training will be conducted annually as follows:

- EMT members and their alternates will receive (induction or refresher) training in relation to the nature of emergencies and their role in the Emergency Management System.
- The EMT will exercise formally in the implementation of the EMP.
- Administrative staff and potential support group members (e.g. emergency call takers) will receive Emergency Management familiarisation training.
- Security, reception and other staff will receive training on the EMP sub-plans and their role in implementing the plans, as appropriate.

The EMA will ensure training records are maintained for all EMT training activities.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 17 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT exercises will consist of two exercises per year, one land and one marine based to ensure all possible emergency situations are regularly covered.

In addition to DPC specific EMT training, management and staff of DPC regularly participate in or observe at tenant site emergency exercises, many of which are attended by the PES.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 18 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex A: Contact Details

For Security Managers, Harbour Police & Port Security, Emergency Operations Centre and Fire Wardens

SECURITY MANAGERS, HARBOUR POLICE & PORT SECURITY

Name	Phone	E-mail
Security Managers	01 8876000	
Fire Wardens	01 8559010	
Harbour Police & Port Security Control Room	01 8876858 & 01 8876859	controlroom@dublinport.ie

EMERGENCY OPERATIONS CENTRE

EOC Line	Number
1	01 8876833 or 01 7040833
2	01 8876834 or 01 7040834
Fax Number	01 8876057

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 19 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex B – Port Map & Evacuation Plan



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 20 of 23

Dublin Port Company Emergency Management Plan (Public)

Dublin Port Company Evacuation Plan

DPC has circa 155 employees located at the following locations.

- Port Centre, Corner of East Wall Road & Alexandra Road.
- Maintenance & Services Building, Bond Drive Extension
- Oil Jetty Control Room, Jetty Road
- Port Operations Centre, Breakwater Road
- Terminal 1 Building, Terminal Road South

All locations have individual emergency evacuation Standard Operating Procedures including assembly points. Due to the nature of business carried out within the port via the common oil pipeline and the bulk storage of petroleum products, LPG and molasses there is always the potential for a serious event to occur, which could require a full or partial evacuation.

Six evacuation and or alternative routes to exit/enter the port environs have been designated for all port users, including emergency services in attendance.

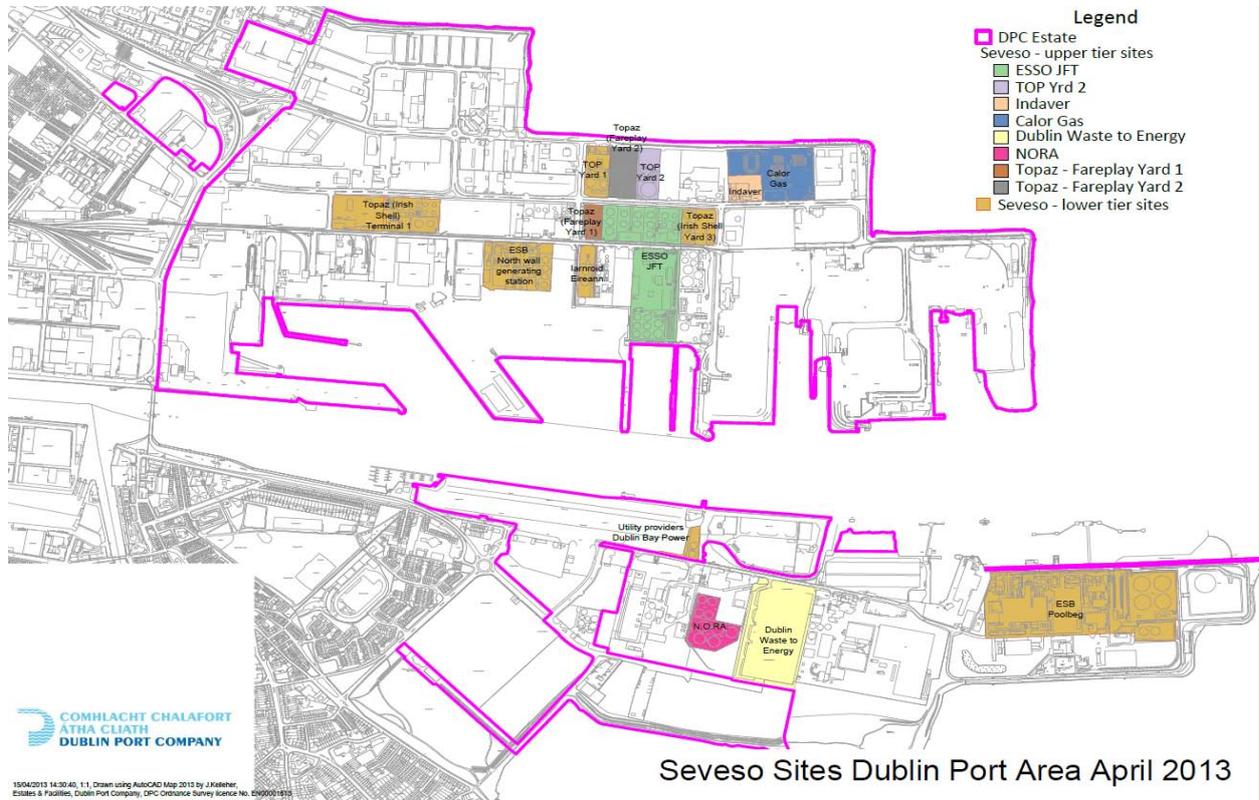
1. Promenade Road
2. Tolka Quay Road (locked gates, keys held by HP/PS)
3. Alexandra Road
4. Port Operations Centre (facilitated by HM via Marine Operatives)
5. East Oil Jetty (life boat capsule)
6. West Oil Jetty (life boat capsule)

In addition to the above, Alexandra Road (DFT terminal between Breakwater Road & Terminal Road) is a designated evacuation route. In addition to the above, DPC acknowledge there are other alternative evacuation routes available to be utilised, however the nature or extent of the event, along with the directions of emergency services would dictate the actions of all parties involved.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 21 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex C – Dublin Port SEVESO sites



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 22 of 23

Dublin Port Company Emergency Management Plan (Public)

Notes

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 23 of 23

Appendix B

Dublin Port Ship's Waste Management Plan

	Type of Document:	Date Prepared	20/04/2017
	Department Standard Operating Procedure	Supersedes	-
Document Reference	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20/04/2017

DISTRIBUTION	SOFT COPY	HARDCOPY
1. Defined Q-Pulse Users	√	
2. Harbour Masters Office (Master Copy)		√
3. Others	None	None

	Name	Designation	Date
Originator	F Britton	Deputy Harbour Master	April 2017
Reviewed by	B Brazil	EHS & Risk Manager	April 2017
Approved by	M McKenna	Harbour Master	April 2017

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

PREAMBLE.....	2
1. THE PORT Overview of Port Activities.....	3
2. LEGISLATIVE SUMMARY.....	5
.	
2 a. MAP & Jurisdiction of the PORT.....	19
.	
3. Definition of Wastes.....	20.
4. Section 1 Consultation.....	21
5 ANALYSIS OF NEED FOR WASTE RECEPTION FACILITIES	22
6. THE QUESTIONNAIRE.....	23
7 ANALYSIS OF PRIMARY DATA AND RESULTS	26
8. STUDY OF WASTE HANDLING CHAIN.....	26
9. SECTION II.....	27
10. GIVING EFFECTIVE INFORMATION TO USERS	<u>29</u>
11. DUTY OF CARE/WASTE TRANSFER/WASTE DISPOSAL	<u>29</u>
12. GRIEVANCE PROCEDURE.....	31
13. AUDIT AND REVIEW	32
14. APPENDICES	33
CONTACT DIRECTORY	34
15. Amendment Record Sheet.....	36

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

PREAMBLE

AIMS AND OBJECTIVES

The overall aim of this port waste management plan for Dublin Port Company is to protect the marine environment by reducing discharges into the sea of ship generated waste and cargo residues; to improve the availability and use of reception facilities and strengthen the enforcement regime.

Its objectives are:

- To reduce illegal discharge of waste from vessels
- To fulfil legal duties with regard to waste management
- To consult with users, agents, operators, contractors and regulators in the development and implementation of waste management strategies and measures
- To minimise the production of waste wherever possible
- To re-use or recycle waste wherever possible
- To dispose of waste so as to minimise negative environmental effects

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

1. THE PORT

OVERVIEW OF PORT ACTIVITIES

1.1 Constitution

The Harbours Act 1996 reconstituted Dublin Port as a commercial harbour company operating under company law. Dublin Port Company was established on 3 March 1997 and has 12 directors. The Minister for Communications, Marine and Natural Resources nominates six directors including the Chairman; the Chief Executive is ex-officio a company director; the local authority nominates three of its members as directors; employees of the company nominate two directors.

1.2 Jurisdiction and Conservancy

Under the 1996 Act, the limits of Dublin Port comprise the waters of the River Liffey commencing from and including Matt Talbot Memorial Bridge and extending to an imaginary straight line drawn from the Baily Lighthouse on the north in the County of Dublin and extending through the North Burford Buoy, through the South Burford Buoy, and to Sorrento Point on the south including all bays, creeks, harbours and tidal docks within that area; excluding Dun Laoghaire Harbour and extending 0.3 n. miles into the bay from the pier heads.

The anchorage is exposed particularly to winds from North East through to South East.

The approach is well lighted and of easy access: vessels drawing up to 7m can enter at any state of the tide.

Verification of depths should be obtained from the Harbour Master's Department.

Dublin Port Company is the pilotage authority for the Dublin pilotage district. It also provides towage in the form of two diesel tugs of 55 tonne bollard pull, and a full contracted diving service is available. Eight private companies are licensed by Dublin Port Company to provide stevedoring services within the port.

1.3 Facilities

The lift on/ lift off (lo-lo) traffic accounts for 18% of total tonnage throughput and is handled at two dedicated terminals in the port catering for a range of services between Dublin and the United Kingdom, mainland Europe, and further afield to such locations as Egypt, Lebanon and Israel as well as worldwide trans shipment services. Dublin Ferryport Terminals and Marine Terminals Ltd operate the lo/lo terminals.

The roll on/roll off (RoRo) traffic is serviced by five ferry companies operating up to 18 sailings daily to the UK, connecting Dublin with Heysham, Holyhead, Liverpool, and Douglas (freight and tourism). The operators are Irish Ferries, I.O.M. Steam

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Packet Company, Seatruck, Merchant Ferries, P&O Irish Sea, Sea Containers Irish Sea and Stena Line.

The port has discharging facilities for oil, bitumen, chemicals, liquid petroleum gases and molasses. A 41 hectare oil zone with storage capacity for 330k tonnes of product (including 6k tonnes LPG) is linked to four oil berths by a common user oil pipeline system, incorporating 36 pipe lines. Facilities are available at the oil jetties for obtaining bunkers from the various oil companies and bunkers may also be obtained at berths by means of road tankers.

Waste oils can be removed on the Western Oil Jetty by arrangement by means of a recently installed waste pipeline.

Dry bulk facilities are provided to cater for the loading and discharging of concentrate, peat, coal, grain, animal feedstuffs, fertilisers and sand.

Break bulk accounts for <1% of total throughput, but includes an area dedicated to the storage of imported trade cars and commercial vehicles.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

2. LEGISLATIVE SUMMARY

- EU Directive 2000/59/EC on port reception facilities for ship-generated wastes and cargo residues [[Directive 2000/59/EC](#)]

The specific requirements of the new Directive are that: -

- All EU ports are to provide adequate reception facilities and to develop waste reception and handling plans (Mandatory Provision).
- All wastes are to be delivered to reception facilities unless there is capacity on board for retention until next port of call (Mandatory Discharge).
- All ships, except recreational craft authorised to carry 12 or fewer passengers or fishing vessels, are required to notify ports in advance of intention to use facilities and quantities of waste on board (Notification Requirement).
- A fee system should be introduced to encourage use of facilities (Charging System).
- There will be a system of monitoring for compliance, plus adequate sanctions for non-compliance; non-compliance data is to be forwarded to the next port of call (Compliance and Monitoring).

- European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 [[S.I. No. 117 of 2003](#)]

These Regulations bring the provisions of EU Directive 2000/59/EC into Irish Marine law. They largely follow the formulation of the European legislation. Their interpretative provisions establish the Minister of Communications, Marine and Natural Resources [now the responsibility of the Minister for Transport] as the national competent authority, and the harbour authority in respect of each harbour as the local competent authority.

- European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2009 [[S.I. 376 of 2009](#)]

The purpose of these Regulations is to reduce the discharge of sewage into the sea, especially illegal discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities, thereby enhancing the protection of the marine environment.

- Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements [[Directive 2005/35/EC](#)]

[See commentary for S.I. No. 542 of 2010 below.]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements [[Directive 2009/123/EC](#)]

[See commentary for S.I. No. 542 of 2010 below.]

- European Communities (Ship-Source Pollution) Regulations 2010 [[S.I.No. 542 of 2010](#)]

Directive 2005/35/EC on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences, as amended by Directive 2009/123/EC, was transposed into national law by the European Communities (Ship-Source Pollution) Regulations 2010 (542 of 2010). These Regulations provide that any person who intentionally, recklessly or with serious negligence makes illegal discharge of oil or hazardous and noxious substances, from a ship, or who aids, abets, or incites another person to do so, is liable to be held responsible for a criminal offence.

- Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC [[Directive 2002/59/EC](#)]

[See commentary for S.I. No. 573 of 2010 below.]

- Directive 2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system [[Directive 2009/17/EC](#)]

[See commentary for S.I. No. 573 of 2010 below.]

- European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010 [[S.I. No. 573 of 2010](#)]

Directive 2002/59/EC, amended by Directives 2009/17/EC, establishes a Community vessel traffic monitoring and information system for EU shipping and is effective in national law through the European Communities (Vessel Traffic Monitoring and Information System) Regulations (S. I. No. 573 of 2010). The Regulations provide for an extensive amount of regulation of marine vessel traffic other than pollution prevention and response, including the enhancing of safety and efficiency of maritime traffic, improving the response to incidents, accidents or potentially dangerous situations at sea, including search and rescue operations. The Regulations provide additional functions concerning the accommodation of ships in need of assistance for the Director of the Irish Coast Guard.

Each Member State has implemented the VTMISS regulations and must co-operate with any other Member State when required in dealing with threatened or actual pollution.

- Commission Directive 2011/15/EU amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system [[Commission Directive 2011/15/EU](#)]

[See commentary for S.I. No. 71 of 2012 below.]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2012 [\[S.I. No. 71 of 2012\]](#)

These Regulations give effect to Commission Directive 2011/15/EU which amends Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system, as well as some other related matters, by amending the European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010 [S.I. No. 573 of 2010].

They provide for the necessary amendments by updating the safety criteria regarding certain oil-tanker products; by substituting a new format in Schedule 3 which deals with voyage data recorder systems; by providing for an extension of the powers of intervention to include assistance, salvage or towage companies in the event of incidents or accidents at sea; by removing an obligation on any company to use *Safe Seas Ireland* or specified electronic means when placing itself at the disposal of the Irish Coast Guard in the event of an incident or accident at sea; and by amending certain minor references in Regulation 16.

- Sea Pollution Act 1991 [\[No. 27 of 1991\]](#)

This Act gives effect to the *International Convention for the Prevention of Pollution from Ships*, adopted on 2 November, 1973, and as amended by its *Protocol* adopted on 17 February, 1978, relating thereto (MARPOL).

MARPOL, to which Ireland is a party, is the International Maritime Organization's (IMO) main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

IMO is a specialised agency of the United Nations, which has responsibility for the safety and security of shipping and the prevention of marine pollution by ships.

MARPOL has six individual Annexes, each of which contains regulations covering the various sources of ship-generated pollution, i.e., oil (Annex I), noxious liquid substances in bulk (Annex II), harmful substances carried by sea in packaged form (Annex III), sewage (Annex IV), garbage (Annex V), and air pollution from ships (Annex VI).

The 1991 Act also gives effect in the State to the Protocol relating to Intervention on the High Seas in cases of Pollution by Substances other than Oil and enables the Minister to prohibit or regulate the operational discharge of oil or oily mixtures from Irish registered ships anywhere at sea or from other ships in the territorial waters of the State.

It further enables the Minister to require Irish registered ships to be constructed, fitted or operated in such a way as to prevent, control or reduce discharges into the sea or to intervene on a vessel if considered appropriate following a casualty.

- Sea Pollution (Amendment) Act 1999 [\[No. 18 of 1999\]](#)

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

This Act gives effect to the International Convention on Oil Pollution Preparedness Response and Cooperation in the Republic of Ireland. It is concerned with the prevention of pollution and the establishment by harbour authorities of oil pollution emergency plans. In addition it outlines Ministerial responsibilities for preparing contingency plans and acquiring resources to respond to an incident of pollution.

- Sea Pollution (Miscellaneous Provisions) Act, 2006 [[No. 29 of 2006](#)]

This Act amends the two previous Sea Pollution Acts by making provision for, inter alia, hazardous and noxious substances pollution emergency plans to be in place as well as for the making of regulations to give effect to a number of international instruments relating to the protection of the marine environment, agreed at the International Maritime Organization, to be brought into effect, viz:

- The Protocol to the International Convention on Oil Pollution Preparedness, response and Co-Operation 1990 (OPRC);
- The International Convention on the Control of Harmful Anti-Fouling Systems 2001 (AFS Convention);
- The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention);
- Annex VI as added to MARPOL 73/78 by the Protocol of 1997;
- The International Convention on Civil Liability for Bunker Oil Pollution Damage 2001 (Bunkers Convention), the text of which is attached as a schedule to the Act.

Statutory Instrument(s) giving effect to Annex I of MARPOL

- Sea Pollution (Prevention of Oil Pollution) Regulations 2007 [[S.I. No. 788 of 2007](#)]

The Regulations prohibit and control discharge into the sea of oil and oily mixtures. The Regulations require ships to follow specified procedures when washing cargo tanks. Ballasting arrangements and the discharge of ballast water are also controlled. The Regulations also provide for adequate facilities at ports and terminals for the reception of oil and oily mixtures.

Ships are required to be surveyed for the purposes of the Regulations and to carry an International Pollution Prevention Certificate. Ships are also required to carry an 'Operations and Equipment Manual', an 'Oil Record Book' and a shipboard oil pollution emergency plan approved by the Minister or recognised organisation.

The Regulations apply to all Irish ships wherever they may be and to all other ships when they are in the territorial waters of the State.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2008 [\[S.I. No. 282 of 2008\]](#)

These Regulations provide for amendments to the Sea Pollution (Prevention of Oil Pollution) Regulations 2007 ([S.I. No. 788 of 2007](#)), which give effect to Annex I of MARPOL 73/78. Essentially, they concern an amendment to the definition for 'special area' in S.I 788 of 2007.

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2010 [\[S.I. No. 664 of 2010\]](#)

These Regulations give effect to two amendments to Annex I of the MARPOL Convention, on the prevention of pollution by oil from ships, and come into effect on 1 January 2011. Firstly, for ship-to-ship (STS) transfer operations for cargo oil, the Regulations apply to oil tankers of 150 gross tonnage and above and require such ships to maintain an STS Operations Plan and to provide notification of planned and actual STS operations. Secondly, long-standing existing requirements are clarified to facilitate compliance by ships' crews for on board management of oil residue (sludge).

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2011 [\[S.I. No. 365 of 2011\]](#)

These Regulations amend the Sea Pollution (Prevention of Oil Pollution) Regulations 2007 ([S.I. No. 788 of 2007](#)) on the prevention of oil pollution from ships.

The purpose of the Regulations is to lay down special requirements with regard to both use and carriage of heavy, and therefore highly polluting, oils for Irish ships while in the Antarctic area, south of latitude 60°S, a designated special area for oil pollution prevention.

Statutory Instrument(s) giving effect to Annex II of MARPOL

- Sea Pollution (Control of Pollution by Noxious Liquid Substances in Bulk) Regulations 2008 [\[S.I. No. 217 of 2008\]](#)

These Regulations apply to all Irish ships wherever they may be and to all other ships when they are in Irish waters.

These Regulations give effect to Annex II of MARPOL 73/78, which concerns the control of pollution by noxious liquid substances in bulk.

Noxious liquid substances are divided into four categories, X, Y, Z, and *Other Substances*, according to the severity of the hazard which they present to human health and the marine environment, Category X presenting the worst hazard and Category *Other Substances* the least. Under the Regulations, discharges into the sea of these substances or mixtures of them are prohibited except when the discharges are made under specified conditions.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

These conditions vary according to the degree of hazard posed to the marine environment. Discharges are prohibited in the Antarctic area.

The Regulations require ships to follow specified procedures when washing cargo tanks in accordance with the category of the substance. They also provide for adequate facilities at ports, terminals or repair ports for the reception of residues or mixtures of noxious liquid substances.

Under the Regulations, ships are required to be surveyed, to carry an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, and to be maintained in accordance with that Certificate. Ships are also required to carry a Cargo Record Book in which to record operations involving cargoes of noxious liquid substances.

Statutory Instrument(s) giving effect to Annex III of MARPOL

- Sea Pollution (Harmful Substances in Packaged Form) Regulations 2009 [S.I. No. 491 of 2009]

These Regulations apply to all Irish ships wherever they may be and to all other ships when they are in Irish waters.

These Regulations give effect to Annex III of MARPOL 73/78, which contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances carried by sea in packaged form.

Statutory Instrument(s) giving effect to Annex IV of MARPOL

- Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 [S.I. No. 269 of 2006]

The Regulations apply to all Irish ships, wherever they may be, and to all other ships when they are in the territorial seas and inland waters of the State.

The Regulations give effect to Annex IV of MARPOL 73/78, which prohibits and control the disposal of sewage into the sea in accordance with the type of sewage for disposal and the geographical location of the ship. They also provide for the availability of adequate facilities at ports and terminals for the reception of sewage.

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2008 [S.I. No. 281 of 2008]

These Regulations further amend S.I. 269 of 2006 by providing for control of sewage originating from spaces on ships containing living animals and for inspection and control of non-Irish MARPOL 73/78 Annex IV ships in Irish ports, which do not have adequate sewage regulation facilities or practice.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) (No.2) Regulations 2008 [S.I. No. 372 of 2008]

These Regulations amend the Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 by providing that existing ships engaged in international voyages must comply, by 27 September, 2008, with the provisions of Annex IV of MARPOL 73/78.

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2012 [S.I. No.492 of 2012]

These Regulations amend the Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 (S.I. No. 269 of 2006) on the prevention of pollution by sewage from ships. The broad purpose of these Regulations is:

- to provide for the establishment of special areas where more stringent criteria apply with regard to the discharge of sewage by passenger ships while in those areas;
- to oblige a harbour authority whose area of remit falls within a special area to provide adequate facilities for the reception of sewage from passenger ships; and
- to establish the Baltic Sea area as a special area with regard to the discharge of sewage from passenger ships.

Statutory Instrument(s) giving effect to Annex V of MARPOL

- Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012 [S.I. No. 372 of 2012]

These Regulations give effect to Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), adopted by the International Maritime Organisation on 2 November, 1973 and as amended by its Protocol adopted on 17 February, 1978, and as further amended by the Marine Environment Protection Committee (MEPC) of the International Maritime Organisation.

These regulations revoke the Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 1994 (S.I. No. 45 of 1994); the Sea Pollution (Prevention of Pollution by Garbage from Ships) (Amendment) Regulations 1997 (S.I. No. 516 of 1997); and the Sea Pollution (Prevention of Pollution by Garbage from Ships) (Amendment) Regulations 2006 (S.I. No. 239 of 2006).

The Regulations apply to all Irish ships wherever they may be and to all other ships when they are in the territorial seas and inland waters of the State.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The purpose of the Regulations is to prohibit and control the disposal of garbage into the sea in accordance with the type of garbage for disposal and the geographical location of the ship.

They also provide for the availability of adequate facilities at ports and terminals for the reception of garbage.

In addition the Regulations include requirements for certain ships to have Garbage Management Plans and to carry Garbage Record Books.

Statutory Instrument(s) giving effect to Annex VI of MARPOL

- Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 [\[S.I. No. 313 of 2010\]](#)

These Regulations give effect to the 2008 revision of Annex VI as added to the International Convention for the Prevention of Pollution from Ships (MARPOL Convention) by its Protocol adopted by the International Maritime Organization on 26 September 1997.

The Regulations, which apply to Irish ships everywhere and to other ships when they are in the inland waters and territorial seas of the State, control emissions from ships with a view to protecting human health and preventing air pollution.

The Regulations provide for improved specification of marine diesel engines in order to reduce the emission of nitrogen oxides; reduction of sulphur content of marine fuels in order to reduce sulphur oxide emissions; and a mechanism for the setting up of Emission Control Areas where shipping is particularly busy or where population may be concentrated near a maritime area, and in which higher standards of emission control are to apply. The Regulations also provide for improved regulation of ozone-depleting substances, volatile organic compounds, shipboard incineration of wastes and cargo residues, and port reception facilities.

Section 29 of the Sea Pollution Act 1991 provides for penalties for breaches of these Regulations.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2011 [\[S.I. No. 383 of 2011\]](#)

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No. 313 of 2010) on the prevention of air pollution from ships.

The purpose of these Regulations is to provide for the insertion of the North American Emission Control Area in Regulations 12 and 13 of S.I. 313 of 2011, which deal with emissions of Nitrogen Oxides and Sulphur Oxides respectively.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) (No. 2) Regulations 2011 [\[S.I. No. 596 of 2011\]](#)

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No. 313 of 2010) on the prevention of air pollution from ships.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The purpose of these Regulations is to provide for an amendment to paragraph 2.3 of the form of Supplement to the International Air Pollution Prevention Certificate.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013 [[S.I. No. 35 of 2013](#)]

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No.313 of 2010) on the prevention of air pollution from ships, the broad purpose of which was to give effect to MARPOL Annex VI in Irish law.

The broad purpose of these Regulations is to provide for amendments to MARPOL Annex VI including:

— the addition of a new chapter 4 to MARPOL Annex VI to make mandatory the Energy Efficiency Design Index (EEDI) for new applicable ships, and the Ship Energy Efficiency Management Plan (SEEMP) for all applicable ships;

— the provision of a format for the International Energy Efficiency Certificate (IEE Certificate) which is provided in the new Appendix VIII to MARPOL Annex VI; and

— the designation of certain waters adjacent to the coasts of Puerto Rico (United States) and the Virgin Islands (United States) as Emission Control Areas (ECA) under MARPOL Annex VI Regulation 13 concerning nitrogen oxides (NO_x) and under MARPOL Annex VI Regulation 14 concerning sulphur oxides (SO_x) and particulate matter.

Statutory Instruments giving effect to other relevant IMO legislation

- Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008 [[S.I. No. 82 of 2008](#)]

These Regulations give effect to the AFS Convention, which prohibits the use of harmful [substances](#) in anti-fouling paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems

Other relevant legislation

- Waste Management Act 1996 [[No. 10 of 1996](#)]

The Act provides for the prevention, management and control of waste, including the necessity for local authorities to produce waste management plans, the prevention, minimisation, recovery, collection, movement and disposal of hazardous waste, measures to reduce production and promote recovery of waste, and all aspects of licensing.

- Waste Management (Amendment) Act 2001 [[No. 36 of 2001](#)]

This Act was enacted on 17 July 2001 and its primary purpose is to provide a legal mechanism by which the first Regional Waste Management Plans could be made.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Section 4 of the Act provides that the making of a waste management plan will become an executive (management) function, a change from the Waste Management Act 1996, where the power was a reserved (elected member) function.

The Act also provides for a levy on the landfill of waste, at an initial rate of not more than €19 per tonne.

- Protection of the Environment Act 2003 [\[No. 27 of 2003\]](#)

This Act made a number of amendments to the Waste Management Act 1996, but in relation to the primary purpose of the 2001 Amendment Act (re waste management plans), Section 26 provides that the review, variation or replacement of a waste management plan shall be an executive function.

These three waste management acts are the legislative basis for all waste management issues.

- Diseases of Animals Act 1966 [\[No. 6 of 1966\]](#)

This Act consolidates with amendments the previous enactments relating to diseases of animals and also provides for certain other matters relating to animals.

- Diseases of Animals (Feeding and Use of Swill) Order 1985 [\[S.I. No. 153 of 1985\]](#)

This Order provides for comprehensive control of swill as a protective measure against the introduction or spread of animal disease and to comply with certain provisions of EEC Directive 80/217 on the control of classical swine fever. It provides, in particular, for the registration of swill processing premises, for hygiene and construction standards in processing premises, the hygienic transport of swill and for the prohibition on feeding of unprocessed swill to animals and poultry.

- Diseases of Animals (Feeding and Use of Swill) (Amendment) Order 1987 [\[S.I. No. 133 of 1987\]](#)

This Order strengthened the existing Regulations controlling the movement and use of swill for feeding to livestock. It provided for a more precise definition of "swill" and made it an offence to possess swill if it was not required for legitimate purposes.

- Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001 [\[S.I. No. 597 of 2001\]](#)

This Order prohibits the collection and feeding of swill to certain animals but permits the feeding of certain non-animals products and milk products to animals. It also revokes the Foot-and-Mouth Disease (Prohibition on the Use of Swill) Order, 2001 (S.I. No. 104 of 2001) and the Foot-and-Mouth Disease (Prohibition on the Use of Swill) (Amendment) Order, 2001 (S.I. No. 227 of 2001).

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The effect of the legislation prohibiting the feeding and use of animal swill is to make the Department of Agriculture, Fisheries & Food (DAFF) responsible for the issue of licences for the disposal of swill/food waste derived from catering waste from ships, etc. The feeding of such waste has always been prohibited. A licence is required to move such swill, and only a licensed operator may remove the swill. Licences are valid for one calendar year and copies are sent to the relevant Portal Veterinary Officer. Licences specify the name of the licensee, the harbour from where the swill is to be removed, and the conditions under which the swill must be removed and disposed of. Deep burial at Environmental Protection Agency-licensed landfill sites is the ONLY disposal route accepted by DAFF.

- Regulation (EC) No 1774/2002 of the European Parliament and of the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption

This EC Regulation lays down public and animal health rules for the collection, transport, storage, handling, processing and use or disposal of Animal By-Products (ABP) to prevent these products presenting a risk to Animal or Public Health.

- European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008 [S.I. No. 252 of 2008]

This S.I. enforces EC Regulation 1774/2002 in Ireland.

- Diseases of Animals Act 1966 (Prohibition On the Use of Swill) (Amendment) Order 2009 [S.I. No. 12 of 2009]

This Order amends Statutory Instrument No. 597/2001 by permitting the collection, assembly, processing and storage of swill at approved composting and biogas plants.

- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)

Regulation (EC) No. 1069/2009 supersedes Regulation (EC) No. 1774/2002 and lays down detailed rules for the handling, use and disposal of animal by-products and derived products, processing and transformation standards.

A draft statutory instrument enabling Regulation (EC) No. 1069/2009 is expected to go before the Minister for Agriculture, Food and the Marine for signing in order to give effect to this EC Regulation in Ireland.

- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive

This Regulation sets out hygiene conditions and the format for documents which have to accompany consignments of animal by-products and derived products for the purposes of traceability.

European Communities (Waste Directive) Regulations 2011 [\[S.I. No. 126 of 2011\]](#)

These Regulations provide for measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use and transpose Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives, referred to in these Regulations as the waste directive. The vast bulk of the waste directive is already transposed by the [Waste Management Act 1996](#) and various regulations made thereunder and where required the Regulations amend the 1996 Waste Management Act, provide for stand-alone aspects not amenable for direct inclusion into the Act by way of specific amendments and also other consequential amendments to regulations affected by the transposition.

LEGISLATION LIST

[This list is not intended to be exhaustive – it is for reference purposes only.]

- [EU Directive 2000/59/EC on port reception facilities for ship generated wastes and cargo residues](#)
- [S.I. No. 117 of 2003: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) Regulations 2003](#)
- [Directive 2002/84/EC amending the Directives on maritime safety and the prevention of pollution from ships](#)
- [S.I. No. 659 of 2003: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2003](#)
- [Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues](#)
- [S.I. No. 376 of 2009: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2009](#)
- [Commission Directive \(EU\) 2015/2087 amending Annex II to Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues](#)
- [S.I. No. 550 of 2016: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2016](#)

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- [Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements](#)
- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- S.I. No. 542 of 2010: European Communities (Ship-Source Pollution) Regulations 2010
- Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC
- Directive 2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system
- S.I. No. 573 of 2010: European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010
- Commission Directive 2011/15/EU amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system
- S.I. No. 71 of 2012: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2012
- Commission Directive 2014/100/EU amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system
- S.I. No. 367 of 2016: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2016
- Directive 2012/33/EU amending Council Directive 1999/32/EC as regards the sulphur content of marine fuels
- S.I. No. 361 of 2015: European Union (Sulphur Content of Marine Fuels) Regulations 2015
- Sea Pollution Act, 1991
- Sea Pollution (Amendment) Act, 1999
- Sea Pollution (Miscellaneous Provisions) Act, 2006

[Statutory Instrument(s) giving effect to MARPOL Annex I]

- S.I. No. 788 of 2007: Sea Pollution (Prevention of Oil Pollution) Regulations 2007
- S.I. No. 282 of 2008: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2008
- S.I. No. 664 of 2010: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2010

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- S.I. No. 365 of 2011: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2011
- S.I. No. 275 of 2014: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2014
- S.I. No. 461 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2016
- S.I. No. 578 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 2) Regulations 2016
- S.I. No. 582 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 3) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex II]

- S.I. No. 217 of 2008: Sea Pollution (Control of Pollution by Noxious Liquid Substances in Bulk) Regulations 2008

[Statutory Instrument(s) giving effect to MARPOL Annex III]

- S.I. No. 510 of 2013: Sea Pollution (Harmful Substances in Packaged Form) Regulations 2013
- S.I. No. 459 of 2016: Sea Pollution (Harmful Substances in Packaged Form) (Amendment) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex IV]

- S.I. No. 269 of 2006: Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006
- S.I. No. 281 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2008
- S.I. No. 372 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) (No.2) Regulations 2008
- S.I. No. 492 of 2012: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex V]

- S.I. No. 372 of 2012: Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex VI]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- S.I. No. 313 of 2010: Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010
- S.I. No. 383 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2011
- S.I. No. 596 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) (No. 2) Regulations 2011
- S.I. No. 35 of 2013: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013

[Statutory Instrument(s) giving effect to other international legislation]

- S.I. No. 82 of 2008: Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008

[Other legislation]

- Waste Management Act 1996 [No. 10 of 1996]
- Waste Management (Amendment) Act 2001 [No. 36 of 2001]
- Protection of the Environment Act 2003 [No. 27 of 2003]
- Diseases of Animals Act 1966
- S.I. No. 153 of 1985: Diseases of Animals (Feeding and Use of Swill) Order 1985
- S.I. No. 133 of 1987: Diseases of Animals (Feeding and Use of Swill) (Amendment) Order 1987
- S.I. No. 597 of 2001: Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001
- S.I. No. 252 of 2008: European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008
- S.I. No. 12 of 2009: Diseases of Animals Act 1966 (Prohibition On the Use of Swill) (Amendment) Order 2009
- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)
- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive

- S.I. No. 126 of 2011: European Communities (Waste Directive) Regulations 2011

2 a. MAP AND DETAILS OF JURISDICTION

The jurisdiction of Dublin Port Company is indicated on the attached map by the area/s coloured in yellow.



tho 2008 Dublin
Port 12500 2...

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

3. DEFINITION OF WASTES

USE THE DEFINITIONS IN MARPOL 73/78 REGULATIONS

3.1 MARPOL ANNEXES

- **Annex I – Oily Wastes (bilges, sludge, ballast, slops)**

- **Annex II – Noxious Liquid Substances Carried in Bulk (dirty ballast, slops, tank washings)**

- **Annex III – Pollution by Harmful Substances Carried by Sea in Packaged Form**

- **Annex IV – Sewage**

- **Annex V – Garbage**
 - which includes - hazardous waste, food waste, glass, metal, plastics, paper/cardboard, wood, paint tins, batteries

- **Annex VI – Prevention of Air Pollution from Ships**

The categories under consideration at Dublin Port Company are Annexes I, II and V, there being no general requirement for Annex III (such pollution would be dealt with by way of an appropriate response to an isolated incident). Facilities are available at Dublin Port for the discharge of sewage if required.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

4. SECTION I

PROCESS UNDERTAKEN BY DUBLIN PORT COMPANY TO ACHIEVE LEGISLATIVE COMPLIANCE

4.1 CONSULTATION

Purpose

To ensure that the needs of potential users and waste regulators are taken into account when planning and operating port waste reception facilities; to ensure that all mariners are aware of the location, cost and procedures for using the facilities, and also of the consultation arrangements for the future development of adequate facilities within the port.

The port has recently and continues to have on-going consultation both with the national authority and locally with the port users (ships), through their shipping agents or shore representatives.

Objective

Dublin Port Company has taken its obligations seriously and has engaged in a consultation exercise with all links in the waste management chain in order to discuss and explain the implications of the Directive and the Statutory Instrument bringing it into effect nationally. The objective has been to effect an exchange of information and to gain an understanding of the perspective of other parts of the waste management chain in order to devise a flexible and workable system.

To ensure the adequacy of the process, Dublin Port Company has consulted:

- Ships' Masters
- Ships' Agents
- Waste Contractors
- Waste Regulators
- Central Government
- Regional Government

Process

Ships' masters have been consulted as part of the exercise to analyse types and quantities of wastes landed and this information has been obtained by questionnaires issued by Dublin Port Company and through ships' agents. The process is described in the appropriate paragraph below.

Dublin Port Company held a series of consultation meetings during June 2002. A copy of the presentation given at those meetings (supplied to all those attended) and a

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

copy of the Minutes of the meetings) can be viewed on application to the Harbour Master, Dublin Port Company.

5. ANALYSIS OF NEED FOR WASTE RECEPTION FACILITIES

5.1 Purpose

To assemble information to allow the port to assess what facilities should be provided.

5.2 Methodology

Reproduced below is the questionnaire used to gain information in order to analyse types and quantities of wastes landed during March 2002, issued through the ships' agents. The results are analysed *infra*.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

6. THE QUESTIONNAIRE

DUBLIN PORT COMPANY

SURVEY ON MARPOL 73/78 REGULATIONS AND THEIR EFFECTS

To help us improve waste management at this port, we would be grateful if you would answer the following questions and return the form to your agent before departure.

Date:

IMO Number:

I. SHIP CHARACTERISTICS

1 Name:

2 Berth/Wharf visited:

3 Number of days since last port:

4 Number of crew:

5 Number of passengers:

6 **Ship Type:**

- Container ship
- Dry cargo
- Bulker
- Gas tanker
- Oil tanker
- Oil tanker with segregated ballast tank
- RoRo vessel

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Other (please specify)

II WASTE HANDLING OPERATIONS AND FACILITIES

Annex I – Oily wastes (bilges, sludge, ballast, slops)

7 Give size of on board facilities for storage of oily wastes (cu.m):

8 If you have on board processing facilities please tick:

9 Describe quantities of waste which will be handled in this port (cu.m):

- Dirty ballast
- Slops
- Tank washings
- Bilges
- Sludges
- Other (please specify)

10 If you discharge only to shore facilities please tick:

Annex IV – Sewage

11 Give size of on board facilities for storage of sewage (cu.m):

12 If you have on board treatment facilities, please tick:

13 Describe quantities of waste which will be handled in this port:

.....

.....

.....

.....

Annex V – Garbage

14 Give size of on board facilities for storage of garbage (cu.m):

15 Describe quantities of waste which will be handled in this port (10kg

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

sacks):

- Hazardous waste
- Food waste
- Glass
- Metal
- Plastics
- Paper/cardboard
- Wood
- Paint tins
- Batteries
- Other (please specify)

16 Which of the following do you segregate:

- Hazardous waste
- Food waste
- Glass
- Metal
- Plastics
- Paper/cardboard
- Wood
- Paint tins
- Batteries
- Other (please specify)

17 Do you have any cargo waste to dispose of in this port?

- Dunnage
- Sweepings
- Other (please specify)

18 Which of the following do you have on board?

- Compactor
- Incinerator
- Comminuter
- Grinder

III ADDITIONAL INFORMATION

19 Who makes arrangement for shore facilities and disposal of waste?

- Ships personnel
- Terminal operator
- Agent
- Company representative
- Port

20 How do you rate the cost of disposal in this port?

- High
- Low

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

21 How do rate reception facilities in this port?

Annex I

- Excellent
- Good
- Average
- Poor

Annex V

- Excellent
- Good
- Average
- Poor

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

7. ANALYSIS OF PRIMARY DATA AND RESULTS

7.1 Limitations and constraints

In a sample conducted over one month period (March 2002) 54 returns were received.

7.2 Research Methodology

The questionnaire derived from past research and amended to suit Dublin Port Company. It sought basic information about the vessel and numbers of people. Questions were asked about the segregation of waste types and any provision for on-board storage and treatment facilities. Additional information as to how facilities were rated for efficiency and cost was ascertained.

7.3 Statistical Analysis

The data received was analysed to ascertain total oily wastes and garbage discharges for 54 ships. The quantity for one ship could therefore be calculated and multiplied by monthly/annual vessel total.

7.4 Results

10 ships out of the 54 discharged oily wastes. The sample size therefore discharged 1436 cu m oily wastes. 1 ship can be estimated to discharge 26.59 cu m (average).

By the same method, the average garbage discharge per vessel was calculated as 14 kg.

7.5 Credibility

It is impossible to comment whether the garbage figure is accurate or not. European research data suggests using a waste factor of 1.5kg of garbage per person per day. However, data has been received showing tonnes of garbage collected from ships 2000-2001 (477 tonnes) and January - October 2002 (80 tonnes). It is the view of Dublin Port Company that the amount will rise with the increase in visits by cruise liners and that 500 tonnes per annum is not an unreasonable assumption. The current figures represent wastes received from cruise liners and navy vessels: no Ro-Ro or Lo-Lo vessels have discharged.

8. STUDY OF WASTE HANDLING CHAIN

In the course of the consultation exercise, Dublin Port Company had discussions with Greenclean, Ipodec, Department of Agriculture, Department of Communications, Marine and Natural Resources, Dublin City Council, and Fingal County Council.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

9. SECTION II THE PORT WASTE MANAGEMENT SYSTEM

PROCEDURES FOR THE USE OF THE PORT WASTE RECEPTION FACILITIES AT DUBLIN PORT COMPANY

9.1 Mandatory Provision

Dublin Port intends to make available the following system of port reception facilities for ship generated waste

9.2 Mandatory Discharge

All vessels **MUST** discharge ship-generated waste before leaving Dublin Port **unless** it can be demonstrated that either storage space for such waste is sufficient, **or** the vessel has applied for and has been granted an exemption, thereby meeting the 3 criteria as outlined in Section 9.3

If retaining waste on board, a legitimate reason for not using the port reception facilities must be given, (such as having sufficient storage space on board). In such circumstance, the Master must apply (using the appropriate form), for the retention of "ship generated" waste on board. This completed form to be sent to the Harbour Master, Dublin Port Company via the Ship's Agent, or directly if no ship's agent has been appointed.

Failure to do so may result in detention in port until waste has been discharged. If there is reason to believe that there is a risk of waste being discharged into the sea because adequate facilities are not available at the next port of call; or if that port of call is unknown, these will also be grounds for detention.

9.3 Definition of an Exempt Ship

Ships that meet the 3 criteria indicated below, may apply for an exemption from the port waste management system. Applications for exemptions must be made to Dublin Port Company and be approved by the Minister prior to an exemption being granted. There are three grounds for the granting of an exemption and they must **ALL** be satisfied:

SCHEDULED traffic operating along a regular route
Evidence of DELIVERY in one port along the route
Evidence of PAYMENT in one port along the route

9.4 Notification Requirement

The following information is required from **ALL** vessels prior to arrival:

- Name/call sign/IMO number

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Flag state
- ETA/ETD
- Previous/next port of call
- Last port and date when ship generated waste was delivered
- Whether delivering all/some/none of ship generated waste into facilities
- Type and amount of waste to be delivered/stored on board plus maximum storage capacity
- The unit of measurement is cu m/kg

9.5 Notification Mechanism

The checklist is to be completed by the Master and submitted to Dublin Port Company via the ship's agent 24 hours prior to arrival. Transmission should preferably be by electronic means (e mail or fax). Dublin Port Company will retain ALL notification records for 3 years in order to comply with the audit requirements of SI 117 of 2003. Failure to submit a checklist MAY result in delay in entry. It is to be noted that this will be called a SCHEDULE 2 WASTE CHECKLIST to avoid confusion with the convention that Schedule 2 checklist refers to hazardous cargo.

9.6 Records

The Harbour Master, or his nominated Deputy to be supplied copies of all records, as supplied by the waste removal contractors via the relevant Ship's Agent. Records to be held centrally and be available for auditing, or statistical gathering purposes. Statistics relating to the volume/weight of the waste to be compiled from the data supplied by the Ship's Agent, on a 6 monthly basis.

9.7 Charging System

Dublin Port Company does not provide the waste removal services directly, and accordingly has no control over the charges involved. These charges are levied by the licensed contractors (who are approved by the local authority), and will vary dependant on the type and quantity of waste involved. Dublin Port Company are satisfied that adequate waste reception facilities are available within the port.

9.8 Fees

Any cost to Dublin Port Company in the form of a waste management administration cost to be included in the Port Charges. As this charge, forms a minor proportion of the Port Charges, it is not envisaged at this stage to specifically itemise this charge, but the port may elect to do so in the future in light of developments that may occur.

9.9 Pricing

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

A list of prices, relating to the provision of waste management services, is readily available to the ship, from the waste removal contractors, through the Ship's Agent. The receipts for the service to be supplied by both the contractor and by the local authority, and such receipts to be held by the relevant Ships Agent, for a period of a minimum of 3 years.

9.10 Waste Oil

An approved waste oil removal contractor to be engaged, and the waste oil to be removed to an approved recycling facility. Records to be kept by both the contractor and the Ship's Agent and the Ship's Agent to hold such records for a minimum period of 3 years.

10. GIVING EFFECTIVE INFORMATION TO USERS

10.1 Purpose

To ensure that all vessels are aware of the services and procedures for within the port.

10.2 System

Twenty four hours (24hrs) prior to arrival the vessel will be instructed by the agent to complete the Schedule 2 (Waste) checklist.

The system will be publicised through the agents and all parts of the waste management chain will have copies of this plan and an accompanying Contact Directory (with an amendment and update procedure).

11. DUTY OF CARE/WASTE TRANSFER/WASTE DISPOSAL

11.1 System

Reception and storage are the key elements to the successful management of port waste reception facilities.

It is intended that oily wastes (MARPOL Annexes I), will be collected by an authorised contractor licensed to collect and dispose of such material. The charge raised for the service is dependent on the charge, which the contractor makes for this service.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

It is of fundamental importance that all ship-generated waste be dealt with as outlined in this waste management plan.

11.2 Waste Disposal

There will be 3 lockable skips for galley waste in the Port, two will be located in the common user area and the third will be located in the oil jetty.

Two of these will be satellite skips, of the wheelie bin type and each with a capacity of 1200 litres approx. One will be located at the western end of Alexandra Quay West i.e. Berth 29 whilst the second will be located on Jetty Road servicing the oil berths.

The third lockable skip of 14 cubic metre capacity is the hub and will be located at Ocean Pier adjacent to the No. 2 Ramp, Berth 38. All skip locations are covered by the Port security CCTV system and are reasonably close to all berths.

Dublin Port Company will maintain a current up to date permit for Landers of Swill/ Galley waste.

11.3 Process

If a ship requires to dispose of galley waste in the common user area the ships agent will contact Port Operations (8876858) giving a minimum two hours notice. Port Operations will then advise Port Security for the common user area or in the case of the oil jetty the Fire Warden.

Port Security / Fire Warden will meet ship personnel at the designated skip and ship staff will then double wrap the waste with an identifiable outer bag supplied by the Port and then place the waste bags in the skip. Note all bags must be double wrapped with the designated identity bag on the outside (the outer bags are biodegradable). Port staff are responsible for maintaining the units locked at all times.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Port Staff will issue two dockets to the ship indicating the number of bags deposited and their identity reference (the second copy is supplied for the benefit of the ship's agent). This docket will also note both the ships and the agent's name. A copy will be retained in the Port Operations station for collection by the waste contractor on a weekly basis and the final copy will be maintained for waste management records that may be audited at any stage e.g. by the Department of Agriculture (DOA).

Operating to a documented standard operating procedure (SOP) the waste contractor will inspect the satellite bins weekly and remove the bags to the compactor. The waste contractor will maintain a log sheet 'Galley Waste Contractor Variance Report Log' as per attached as evidence of no variance between actual and recorded amounts. As required the compactor will be removed inline with the permit/licence conditions for deep burial.

The main contractor must ensure compliance with appropriate regulatory requirements. This would include the requirement to hold a mover licence from the DOA, an advance permit per skip from Dublin City Council, a commercial document to remove each skip with Category 1 waste and a burial document. A full up to date record must be maintained at all times ready for any third party independent audit. These procedures must be documented in the galley waste SOP.

11.4 Charges

It is intended that this process should be self-financing. Therefore initially there will be a minimum €50 charge for up to 5 bags, greater than this number and bags will be charged at €10 each, up to a maximum of 10 bags. Waste in excess of 10 bags will require the ship to order its own skip and control their own waste management. The Waste Contractor will bill the Ships agent directly for this service.

This system will be continuously monitored to ensure that it meets best waste management practices.

If this process is acceptable the Port waste management plan will be updated and the Harbour Master will issue a 'Notice to Mariners' advising them of this new procedure.

11.5 Pre-treatment of ships Waste

In relation to the pre-treatment of Ship's Waste by the port, there is currently no waste pre-treatment equipment in the port.

11.6 Cargo Residues

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Cargo residues, in terms of cargo waste, to be treated in the same manner as others ships waste.

12. GRIEVANCE PROCEDURE

12.1 Reporting Alleged Inadequacies

The Master of any vessel using a facility within Dublin Port is obliged to report any inadequacies or non-availability of shore reception facilities to Dublin Port Company before leaving the port.

The appropriate form will be supplied to the ship through its agent within the port.

There is to be regular and ongoing consultation between the port and the Ship's Agents in relation to waste management issues and the waste management plan.

12.2 Grievance Procedures

Under Article 12 (f) of the Waste Management Directive 2000/59/EC, any report or complaint of alleged inadequacy of waste reception facilities to be reported to the Harbour Master of Dublin Port Company, who then forwards such complaints to the Maritime Safety and Environment Division of the Department of Communications, Marine and Natural Resources.

See appendices for a copy of the Report or Complaint of Alleged Inadequacy of Waste Reception Facilities Form.

13. AUDIT AND REVIEW

13.1 Purpose

To ensure that port waste management facilities are relevant and are up to date, and that plans are implemented effectively.

13.2 Compliance and Monitoring

The Harbour Master is the designated responsible person for Dublin Port Company nominated to implement the Dublin Port Company Ship's Waste Management and to keep it up to date and relevant. He may carry out spot checks on vessels likely not to meet the requirements as set out in the regulations. Spot checks can be undertaken on vessels deemed unlikely to use facilities as outlined in this plan.

Additionally, there will be an inspection of a fixed proportion of vessels (25%) by the relevant Port State Control authority. Vessel logbooks of all waste generated during a voyage, plus disposal data, will form part of the inspection.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

APPENDICES

DEPARTMENT OF COMMUNICATIONS, MARINE & NATURAL RESOURCES MARINE NOTICE NO. 18 OF 2003

DIRECTIVE 2000/59/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 27TH NOVEMBER 2000

Form for reporting Alleged Inadequacy of Port Reception Facilities for Garbage and Oil

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

CONTACT DIRECTORY

Users, contractors, regulators, Government agencies

NAME	ADDRESS	PHONE NO.
Feargal O'Cuinnegain	Dept. of Agriculture, Food & the Marine Kildare Street, Dublin 2.	01 8658248/9 01 8741250 01 6076228
Eithne Gore or Siobhan Kelly. Maritime Transport Division, Dept. of Transport, Leeson Lane, Dublin2	Dept. of Transport Tourism & Sport. Leeson Lane, Dublin 2.	Eithne Gore at (01) 6783422, or Siobhan Kelly at (01) 6783461, or shipsourcepollutionprevention@dtas.ie
Frank Murphy Pat Cartney Vivian Aherne	Dublin City Council, Environmental Section, Eblana House 68-70 Marrowbone Lane Dublin 1	01 2224374 012224235 012224276
	Environmental Protection Agency, Mc Cumiskey House, Richview, Clonskeagh Road, Dublin 14.	053-9160600 1890335599 01-2680100 Emergency Numbers Dublin Inspectorate 01-2852122
Mr. P.J. Howell Director of Services for the Environment	Fingal County Council, Environmental Section, Main Street, Swords, Co. Dublin.	01 8905000 or 01 8906261

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

	Enva (Waste Oil), JKF Industrial Estate, Naas Road, Dublin 10	01-4508111
	Thorntons Recycling Centre, Killeen Road, Dublin 10	01- 6235133
	Greyhound Waste Disposal Ltd., Head Office, Craig Ave., Clondalkin Indus. Estate, Dublin 22.	01- 4577777 option 2
Mr. Leo Stafford	Panda, Beauparc Business Park, Navan, Co. Meath.	01-8438855 086-2772083 046 9024111 1890 626262
	Greenstar Customer Services Centre, Millenium Park, Ballycoolin Road, Dublin 11	1890 500 800 1890 600 900
Dublin City Council Emergency Phone Number		01 6796186

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

--	--	--

Amendment record sheet

(Amendments are shown in Italics)

Amendment Number	Date	Amended by	Pages amended
0001	15 th May 2008	Capt. F .Britton	Number 21
0002	22 nd March 2010	Capt. F .Britton	18.19.20.21, 22 & 23
0003	29 th Nov 2011	Capt. F. Britton	23
0004	16 th May 2013	Capt. F. Britton	Pages 5 -15 & 20 & 32
0005	May 2014	Capt. F. Britton	Sections on Red & Blue
0006	January 2017	Capt. F. Britton	Waste Oil facility on Western Oil Jetty for Tankers page 4 Contact Sheets pages 35 & 36. Legislative Summery pages 15 -18. Index page updated

