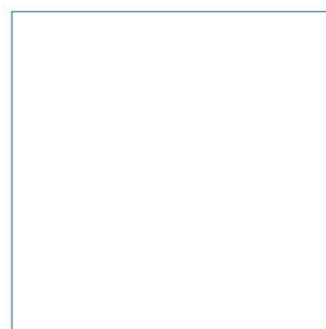
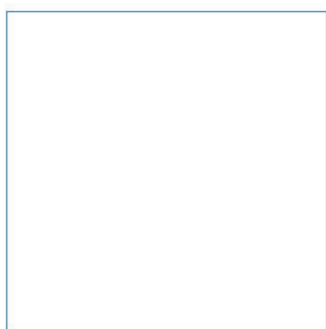
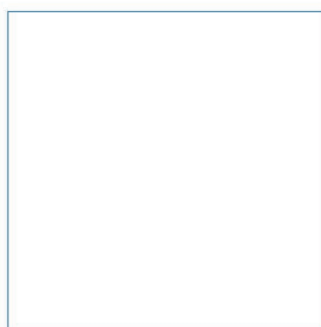


Associated British Ports

Immingham Eastern Ro-Ro Terminal

Preliminary Environmental Information Chapter 21: Summary

January 2022



Innovative Thinking - Sustainable Solutions

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Authors

ABPmer

ABPmer

Quayside Suite, Medina Chambers, Town Quay, Southampton, Hampshire SO14 2AQ
T: +44 (0) 2380 711844 W: <http://www.abpmer.co.uk/>

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21 Summary

21.1 Introduction

21.1.1 This chapter summarises the key outcomes of the preliminary assessment of potential impacts associated with the Immingham Eastern Ro-Ro Terminal (IERRT) project on all relevant (scoped-in) topics/receptors. Consultation with key stakeholders has been undertaken prior to and throughout the Environment Impact Assessment (EIA) process so far and will continue during the preparation of the final Environmental Statement (ES) in order to discuss environmental issues and agree the scope of and approach to the assessment.

21.2 Preliminary impacts

21.2.1 Table 21.1 presents a summary of the key potential impacts associated with the proposed development that have been assessed at this preliminary stage in the Preliminary Environment Information Report (PEIR). The preliminary significance of each potential impact is presented, along with the proposed mitigation measures considered at this stage, and the preliminary significance of the residual impact (i.e. the impact remaining following the implementation of mitigation measures).

21.2.2 Standard best practice procedures and impact reduction measures have been identified, at this preliminary stage, to avoid and/or minimise significant adverse impacts as far as practicable. Some of these mitigation measures are recommendations arising from the initial impact assessment process (secondary measures), whilst others have been considered in the current design of the proposed development (primary measures) or are required to meet existing legislative requirements and are considered standard practices to manage commonly occurring environmental effects (tertiary measures).

21.2.3 With the adoption of appropriate mitigation where and when required, it is considered, at this preliminary stage, that all significant adverse impacts can be avoided and/or minimised to acceptable levels. The preliminary residual impacts identified in this PEIR have been assessed to be at worst of moderate adverse significance (relating to air quality) following the application of best practice procedures and appropriate mitigation measures, with the exception of climate change impacts given the confidence around the certainty of the climate hazards is low.

Table 21.1. Preliminary summary of all potential impacts, mitigation measures and residual impacts associated with the proposed development

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Major beneficial				
Moderate beneficial				
Minor beneficial				
Insignificant				
Minor adverse				
Moderate adverse				
Major adverse				
Physical processes				
		Exposure to change ¹	Significance	
1	Increased suspended sediment concentration (SSC) and potential sedimentation over the extent of the disturbance plume as a result of the construction of the new piers (piling) and capital dredging works	Low	N/A	N/A
2	Increased SSC and potential sedimentation as a result of the deposit of capital dredge material at a licensed offshore disposal site	Low	N/A	N/A

¹ As explained in more detail in Section 7.3, the methods adopted for the physical processes assessment are slightly different to those adopted for other environmental topics. This is because the proposed development has the potential to cause changes to hydrodynamic and sedimentary processes, which in turn can potentially impact other receptors, e.g. nature conservation features. These changes in physical processes are, therefore, assessed as a potential 'exposure to change'.

ID	Impact pathway	Impact significance		Mitigation measures	Residual impact
3	Changes in seabed bathymetry and composition as a result of deposition of dredged/disposal material within the area of the respective plumes	Low	N/A	N/A	N/A
4	Local changes to hydrodynamic regime (flow speed and direction) as a result of the piers (piling) and capital dredging	Low	N/A	N/A	N/A
5	Local changes to the wave regime, as a result of the piers (piling) and capital dredging	Low	N/A	N/A	N/A
6	Associated local changes to the sediment transport pathways, as a result of localised changes to the driving hydrodynamic (and wave) forcing	Low	N/A	N/A	N/A
7	Increased SSC and potential sedimentation in the area of dispersal plume as a result of maintenance dredging	Low	N/A	N/A	N/A
8	Increased SSC and potential sedimentation as a result of deposition of maintenance dredge material at a licensed disposal site	Low	N/A	N/A	N/A
9	Changes in seabed bathymetry and composition as a result of deposition of dredged/disposed maintenance dredge material	Low	N/A	N/A	N/A

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Water and sediment quality				
10	Changes to dissolved oxygen concentrations as a result of increased SSC during piling, capital dredging and disposal activities	Insignificant to minor adverse	N/A	Insignificant to minor adverse
11	Changes to chemical water quality as a result of potential sediment-bound contaminants being released during piling, capital dredging and disposal activities	Insignificant	N/A	Insignificant
12	Redistribution of sediment-bound contaminants during piling, capital dredging and disposal activities	Insignificant	N/A	Insignificant
13	Changes to dissolved oxygen concentrations as a result of increased SSC during the maintenance dredging and disposal activities	Minor adverse	N/A	Minor adverse
14	Changes to chemical water quality as a result of potential contaminants in the seabed sediment being released during maintenance dredging and disposal activities	Insignificant	N/A	Insignificant
15	Redistribution of sediment-bound contaminants during maintenance dredging and disposal activities	Insignificant	N/A	Insignificant

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Nature conservation and marine ecology				
<i>Benthic habitats and species</i>				
16	Direct loss of intertidal habitat as a result of capital dredging and piles	Moderate adverse	Provision of compensatory habitat	Minor adverse
17	Changes to benthic habitats and species as result of the removal of seabed material during dredging	Insignificant to minor adverse	N/A	Insignificant
18	Changes to habitats and species as a result of sediment deposition during dredging and dredge disposal	Insignificant	Target disposal loads in the central/ deeper area of the disposal sites to reduce depth reductions	Insignificant
19	Indirect changes to benthic habitats and species as a result of changes to hydrodynamic and sedimentary processes during capital dredging and dredge disposal	Insignificant	N/A	Insignificant
20	Changes in water and sediment quality during capital dredging and dredge disposal	Insignificant	N/A	Insignificant
21	Underwater noise and vibration disturbance during piling, capital dredging and dredge disposal	Insignificant	N/A	Insignificant
22	The potential introduction and spread of non-native species during construction	Insignificant to minor adverse	Include biosecurity control measures within the Construction Environmental Management Plan (CEMP)	Insignificant

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
23	Direct changes to benthic habitats and species beneath marine infrastructure due to shading	Insignificant	N/A	Insignificant
24	Changes to intertidal habitats and species as a result of the movement of RoRo vessels during operation	Insignificant	N/A	Insignificant
25	Non-native species transfer during vessel operations	Insignificant to minor	N/A	Insignificant to minor
<i>Fish and shellfish</i>				
26	Direct loss or changes to fish populations and habitat as a direct result of dredging and dredge disposal	Insignificant to minor adverse	N/A	Insignificant to minor
27	Changes in water and sediment quality as a result of dredging and dredge disposal	Insignificant	N/A	Insignificant
28	Underwater noise disturbance and vibration disturbance during piling, capital dredging and dredge disposal	Moderate adverse (migratory fish during piling)	Apply soft start procedures during piling. Use vibro piling where possible. Piling restrictions	Insignificant to minor adverse
		Insignificant to minor adverse (other fish species during piling)	Apply soft start procedures during piling. Use vibro piling where possible.	Insignificant to minor adverse
		Insignificant to minor adverse (dredge and dredge disposal)	N/A	Insignificant to minor adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
<i>Marine mammals</i>				
29	Underwater noise disturbance and vibration disturbance during piling, capital dredging and dredge disposal	Minor to moderate adverse (piling)	Apply soft start procedures during piling. Use vibro piling where possible. Marine Mammal Observer will follow Joint Nature Conservation Committee (JNCC) protocol to minimise the risk of injury to marine mammals during percussive piling.	Minor adverse
		Insignificant (dredge and dredge disposal)	N/A	Insignificant
<i>Coastal waterbirds</i>				
30	Direct loss or change to coastal waterbird habitat	Minor to moderate adverse	Provision of compensatory habitat	Minor adverse
31	Noise and visual disturbance	Minor to moderate adverse	Apply soft start procedures during piling Cold weather construction restriction	Minor adverse
32	Direct changes to foraging and roosting habitat as a result of marine infrastructure	Insignificant	N/A	Insignificant
33	Disturbance of waterbirds during operation	Minor adverse	Adaptive monitoring and mitigation	Minor adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Commercial and recreational navigation				
34	Contact of works craft with Port infrastructure during construction	Minor adverse	Contractor risk assessment method statement (RAMS)	Insignificant
35	Contact of commercial vessels with marine works during construction	Insignificant to minor adverse	Communications between project team and Port. RAMS. Availability of pollution response equipment. Provision and maintenance of aids to navigation.	Insignificant
36	Collision of passing vessels with works craft during construction	Moderate adverse	Update arrival/sailing parameters. Communications between project team and Port. RAMS. Automatic Identification System (AIS) equipment. Safety boat. Availability of pollution response equipment.	Minor adverse
37	Collision during navigation during construction	Minor adverse	Communications between project team and Port. RAMS. AIS equipment.	Insignificant

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
38	Collision during towage operations during construction	Minor adverse	Communications between project team and Port. RAMS. AIS equipment.	Insignificant
39	Payload related incidents during construction	Minor adverse	Communications between project team and Port. RAMS. Weather limits. Monitoring of wind/wave conditions. Safety boat. Dropped items procedure. Loading/unloading plan.	Insignificant
40	Collision due to increased commercial vessel movements during operation	Minor adverse	Update arrival/sailing parameters. Update Admiralty List of Radio Signals (ALRS), Sailing Directions and UK Hydrographic Office (UKHO) Charts.	Insignificant
41	Collision due to increased maintenance dredging movements	Minor adverse	Update arrival/sailing parameters.	Insignificant
42	Collision with passing traffic during operation	Minor adverse	Update arrival/sailing parameters. Update ALRS, Sailing Directions and UKHO Charts.	Insignificant

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
43	Contact with the quay during operation	Minor adverse	Update arrival/sailing parameters. Weather limits. Monitoring of wind/wave conditions. Provision and maintenance of Aids to navigation. Update ALRS; Sailing Directions and UKHO Charts.	Insignificant
44	Mooring breakout with vessel alongside during operation	Insignificant	Weather limits. Monitoring of wind/wave conditions. Mooring studies and plans. Shore side facility maintenance programme.	Insignificant
Coastal protection, flood defence and drainage				
45	Exposure of public and visitors to the site to floodwater via flooding from predominantly tidal sources e.g. overtopping or breach of defences during construction	Moderate/Large adverse	Site induction, including evacuation routes, safe refuge, access, and egress. Registration of site with the Environment Agency Flood Warnings Direct Service. No visitors or access during periods of inclement weather.	Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
46	Exposure of construction workers and operatives to floodwater via flooding from predominantly tidal sources e.g. overtopping or breach of defences	Moderate adverse	Construction works would be carried out in accordance with the CEMP, including the Flood Response Plan. Site induction, including evacuation routes, safe refuge, access, and egress. Registration of the site with the Environment Agency Flood Warnings Direct Service. No work onsite during a flood warning period.	Slight adverse
47	Changes in tidal regime on-site around the site frontage e.g. wave heights, water levels, erosion/deposition due to dredging/ construction activities	Neutral	N/A	Neutral
48	Changes in tidal regime off-site around wider Port of Immingham frontage e.g. wave heights, water levels, erosion/deposition due to dredging/ construction activities	Neutral	N/A	Neutral
49	Floodplain inundation from tidal flooding, overland flow from fluvial/surface water sources (existing development, on-site) during construction	Slight adverse	Flood Resilience and resistant measures embedded in design. Overland flow paths maintained and	Neutral or slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			temporary drainage to control surface water discharge.	
50	Floodplain inundation from tidal flooding, impedance of overland flow routes, from fluvial/surface water sources (existing development, off-site) during construction	Neutral/Slight adverse	Overland flow paths maintained and temporary drainage to control surface water discharge.	Neutral
51	Changes in flow regime/water level due to surface water discharge during construction	Slight/Moderate adverse	Temporary drainage facilities (swales etc.) provided during the construction phase to control discharge of surface water run-off.	Neutral
52	Increased rate and volume of surface water runoff due to impermeable surfacing/ compaction during construction	Slight adverse	Temporary drainage facilities (swales etc.) provided during the construction phase to control discharge of surface water run-off.	Neutral
53	Exposure of public and visitors to the site to floodwater via flooding from predominantly tidal sources e.g. overtopping or breach of defences during operation	Moderate/Large adverse	Site induction, including evacuation routes, safe refuge, access, and egress. Site registered with the Environment Agency Flood Warnings Direct Service. No visitors or access during periods of inclement weather.	Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
54	Exposure of site operatives and future workforce to floodwater via flooding from predominantly tidal sources e.g. overtopping or breach of defences	Moderate adverse	Flood Response Plan. Site induction, including evacuation routes, safe refuge, access, and egress. Registration of the site with the Environment Agency Flood Warnings Direct Service. No work onsite during a flood warning period.	Slight adverse
55	Changes in tidal regime on-site around the site frontage during operation e.g. wave heights, water levels, erosion/deposition due to dredging/ construction activities	Slight adverse	N/A	Slight adverse
56	Changes in tidal regime off-site around wider Port of Immingham frontage during operation e.g. wave heights, water levels, erosion/deposition due to dredging and off-shore development.	Slight adverse	N/A	Slight adverse
57	Floodplain inundation from tidal flooding, new overland flow routes and from fluvial/surface water sources (existing development, on-site) during operation	Moderate/Large adverse	Standard of protection provided by the flood defences will be improved in line with 'hold the line' management policies. Flood Resilience and	Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			resistant measures embedded in design.	
58	Floodplain inundation from tidal flooding, new overland flow routes, flooding from fluvial/surface water sources (existing development, off-site) during operation	Moderate/Large adverse	Standard of protection provided by the flood defences will be improved in line with 'hold the line' management policies.	Slight adverse
59	Changes in flow regime/water level due to increases in surface water discharge over the lifetime of the development	Slight/Moderate adverse	Drainage infrastructure designed in line with the Drainage Strategy would include a 70% reduction in surface water run-off rates/volumes from the site compared to pre-development scenario, including attenuation storage to manage climate change over the lifetime of the development.	Slight beneficial
60	Increased rate and volume of surface water runoff from impermeable surfaces over the lifetime of the development	Slight adverse	Drainage infrastructure designed in line with the Drainage Strategy would include a 70% reduction in surface water run-off rates/volumes from the site compared to pre-development scenario, including attenuation	Moderate beneficial

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			storage to manage climate change over the lifetime of the development.	
Ground conditions, including land quality				
61	Exposure to vapour, dust, and contaminated groundwater. Direct contact with contaminated soils during construction.	Moderate/Large adverse	Construction works would be carried out in accordance with the CEMP and environmental good practice on site.	Slight adverse
62	Exposure to vapour, dust, and migrated contaminated groundwater during construction	Moderate/Large adverse	Construction works would be carried out in accordance with the CEMP and environmental good practice on site.	Slight adverse
63	Piling foundations during construction	Neutral/Slight adverse	Construction works would be carried out in accordance with the CEMP. Location specific Piling Risk Assessments and environmental good practice on site.	Neutral
64	Spoil resulting from excavations and earthworks during construction	Neutral/Slight adverse	A Ground Investigation (GI) will be undertaken to confirm baseline assumptions prior to the development of the ES.	Neutral

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			<p>All earthworks operations will need to be undertaken in accordance with BS6031:2009 'Code of Practice for Earthworks', BS16907-1 to 7:2018 Earthworks and Highways England guidelines including Design Manual for Roads and Bridges (DMRB) Series 600 'Earthworks'. Development will actively work towards achieving an earthworks balance.</p>	
65	<p>Changes to Hydrogeological Regime during construction. Mobilisation of contaminants during construction. Vertical migration of spills and leakages during construction. Formation of new preferential pathways during construction.</p>	Moderate/Large adverse	<p>A GI considering groundwater level and quality will be undertaken to confirm baseline assumptions prior to the development of the ES. Construction works would be carried out in accordance with the CEMP. Piling works would be planned in accordance with best practice</p>	Neutral/Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			guidance. Piling operations would be subject to foundation works risk assessment and any potential to cause pollution to the aquifer would be covered by measures to be detailed in piling method statements.	
66	Potential mobilisation of existing contaminants during construction. New contaminant pathways or mobilisation of existing contaminants may result from exposure of soils, increases in rainwater infiltration through changes in ground cover, in excavations during construction Vertical migration of spills and leakages during construction	Slight adverse	A GI considering groundwater level and quality will be undertaken to confirm baseline assumptions prior to the development of the ES. Piling works would be planned in accordance with best practice guidance. Piling operations would be subject to foundation works risk assessment and any potential to cause pollution to the aquifer would be covered by measures to be detailed in piling method statements.	Neutral/Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			Construction works would be carried out in accordance with the CEMP.	
67	Spills and leakages from vehicles or stored materials into the Humber Estuary during construction Run-off from exposed ground and material stockpiles during construction Direct disturbance of the riverbed or bank during construction	Moderate adverse	All marine development will need to be undertaken in accordance with relevant pollution prevention guidance. Specific guidance relating to the control of water pollution from construction sites is discussed within Chapter 8: Water and Sediment Quality.	Neutral/Slight adverse
68	Spills and leakages from vehicles or stored materials into the Harborough Marsh Drain on the perimeter of the site and into the North Beck Drain Catchment during construction Run-off from exposed ground and material stockpiles during construction	Moderate adverse	Specific guidance relating to the control of water pollution from construction sites is discussed within Chapter 8: Water and Sediment Quality.	Neutral/Slight adverse
69	Exposure to contaminants, vapour, dust, and contaminated groundwater during operation (future on-site workers)	Moderate adverse	Maintenance workers will be required to adopt safe working practices under relevant health and safety legislation.	Neutral/Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			Therefore, the significant effects are unlikely to arise.	
70	Exposure to contaminants, vapour, dust, and contaminated groundwater during operation (off-site workers)	Moderate adverse	No mitigation measures are required as operation of the development is not likely to cause significant effect on offsite receptors with regards to geology and soils	Neutral/ slight adverse
71	Impacts on soil quality could potentially occur during operation caused by accidental spills resulting from handling or leakage of fuels, lubricants, stored chemicals, and processed liquids	Neutral/Slight adverse	The development will be operated in accordance with an Environmental Permit.	Neutral/Slight adverse
72	Impacts on groundwater and watercourses could potentially occur during operation caused by accidental spills resulting from handling or leakage of fuels, lubricants, stored chemicals, and processed liquids	Neutral/Slight adverse	The development will be operated in accordance with an Environmental Permit and will have a managed surface drainage system.	Neutral/Slight adverse
73	Exposure of property (building and services) to contaminants in soil, leachate, groundwater, and accumulation of ground gas	Moderate adverse	Buildings and services risks will be mitigated by using concrete and service pipes appropriate for any aggressive ground conditions. Ground gas protection	Neutral/Slight adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
			measures will be implemented into design and build of structures.	
Air quality				
74	Construction dust and site plant emissions and effects on human health and amenity sensitive receptors	Negligible to Slight adverse	Standard practice dust mitigation as recommended by the Institute of Air Quality Management (IAQM)	Negligible
75	Construction traffic and marine vessel emissions and effects on human health and amenity sensitive receptors	Negligible	Construction travel plan and use of designated construction routes	Negligible
76	Construction dust and site plant emissions and effects on nature conservation receptors	Negligible to Slight adverse	Standard practice dust mitigation as recommended by the IAQM	Negligible
77	Construction traffic and marine vessel emissions and effects on nature conservation receptors	Considered qualitatively at this PEIR stage, but likely to be Negligible to Slight adverse	Construction travel plan and use of designated construction routes	Considered qualitatively at this PEIR stage, but likely to be Negligible to Slight adverse
78	Operational traffic and marine vessel emissions and effects on human health sensitive receptors	Moderate adverse but not likely to be significant on local roads close to the proposed development. Impacts on the Strategic Road Network (SRN) and within the nearest	Operational travel plan. Onsite speed limits. Prohibit idling engines.	Moderate adverse but not likely to be significant on local roads

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
		Air Quality Management Areas (AQMAs) not assessed at this PEIR stage, but could potentially be significant	Selective Catalytic Reduction on vessels main engine emissions.	close to the proposed development. Impacts on the SRN and within the nearest AQMAs not assessed at this PEIR stage, but could potentially be significant
79	Operational traffic and marine vessel emissions and effects on nature conservation receptors	Considered qualitatively at this PEIR stage, but could potentially be significant	Operational travel plan. Onsite speed limits. Prohibit idling engines. Selective Catalytic Reduction on vessels main engine emissions.	Considered qualitatively at this PEIR stage, but could potentially be significant
Airborne noise and vibration				
80	Construction noise – marine works (residential)	Negligible (not significant)	Standard construction mitigation measures	Negligible (not significant)
81	Construction noise – landside works (residential)	Potentially moderate adverse (significant)	Standard construction mitigation measures	Negligible/minor adverse (not significant)

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
82	Construction traffic (residential)	Negligible/ minor adverse (not significant)	Standard construction traffic management plan	Negligible/ minor adverse (not significant)
83	Vessel operation during operation (residential)	Negligible (not significant)	N/A	Negligible (not significant)
84	On site movements/ Lorry Park during operation (residential)	Up to moderate adverse (significant)	Additional screening, on site management of movements	Minor adverse (not significant)
85	Development traffic on local roads during operation (Queens Road)	Moderate or major adverse (significant)	Re-routing traffic via West gate and A160	Minor/ moderate adverse (not significant)
86	Development traffic on local roads during operation (A160)	Negligible (not significant)	N/A	Negligible (not significant)
Cultural heritage and marine archaeology				
87	Direct disturbance to the seabed (from construction activities and dredging works) causing damage to known and potential seabed prehistory receptors	Moderate adverse	Further investigation by means of geoarchaeological assessment of geotechnical surveys.	Major positive (as long as data are retained, analysed, and reported on by a qualified geo-archaeologist)
88	Direct disturbance to the seabed (from construction activities and dredging works) causing damage to	Major adverse	Further investigation by means of archaeological	Negligible

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
	known and recorded maritime receptors and aviation receptors		assessment of geophysical survey data. Implementation of Archaeological Exclusion Zones (AEZs). Further investigation through potential opportunities, where possible, for remotely operated vehicle (ROV) survey. Archaeological watching briefs during dredging works.	
89	Direct disturbance to the seabed (from construction activities and dredging works) causing damage to currently unknown archaeological sites and artefacts	Major adverse	Implementation of AEZs; Written Scheme of Investigation (WSI) (and any supporting activity-specific Method Statements), and Protocols for Archaeological Discoveries (PAD)	Negligible
90	Direct impact on known and potential seabed prehistory and maritime receptors via use of anchors by vessels	Moderate to major adverse	Implementation of AEZs; WSI (and any supporting activity-specific Method Statements), and PAD	Negligible
91	Indirect disturbance to known and potential seabed prehistory, maritime, and aviation receptors caused by	Negligible	N/A	Negligible

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
	changes to the hydrodynamic and sedimentary regimes due to dredging and sediment distribution			
Socio-economic				
92	Employment during construction	Major beneficial (significant)	N/A	Major beneficial (significant)
93	Impact on local services and infrastructure during construction	Negligible (non-significant)	N/A	Negligible (non-significant)
94	Effects on existing businesses and activities during construction	Negligible (non-significant)	N/A	Negligible (non-significant)
95	Changing influx of workers during construction	Negligible (non-significant)	N/A	Negligible (non-significant)
96	Temporary accommodation during construction	Negligible (non-significant)	N/A	Negligible (non-significant)
97	Employment during operation	Negligible (non-significant)	N/A	Negligible (non-significant)
98	Impact on local services and infrastructure during operation	Negligible (non-significant)	N/A	Negligible (non-significant)
99	Effects on existing businesses and activities during operation	Minor (non-significant)	N/A	Minor (non-significant)
100	Changing influx of workers during operation	Negligible (non-significant)	N/A	Negligible (non-significant)

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Traffic and transport				
101	Severance during construction – pedestrians	Insignificant	N/A	Insignificant
102	Driver delay during construction – road users	Insignificant	N/A	Insignificant
103	Pedestrian delay and amenity during construction – pedestrians	Insignificant	N/A	Insignificant
104	Accidents and safety during construction – road users	Insignificant	N/A	Insignificant
105	Hazardous or abnormal loads during construction – road users and pedestrians	Insignificant	N/A	Insignificant
106	Fear and intimidation during construction – pedestrians	Insignificant	N/A	Insignificant
107	Severance during operation – pedestrians	Insignificant/ minor	N/A	Insignificant/ minor
108	Driver delay during operation – road users	Insignificant/ minor	N/A	Insignificant/ minor
109	Pedestrian delay and amenity during operation – pedestrians	Insignificant/ minor	N/A	Insignificant/ minor
110	Accidents and safety during operation – road users	Insignificant	N/A	Insignificant
111	Hazardous or abnormal loads during operation – road users and pedestrians	Insignificant	N/A	Insignificant
112	Fear and intimidation during operation – pedestrians	Insignificant/ minor	N/A	Insignificant/ minor

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
Land use planning				
113	Major accidents at major hazard sites, pipelines, and explosives sites in the vicinity of proposed development	Not significant	Minimise numbers of people who may be present in the areas of highest risk. Maximum number of members of the public who may be present in the waiting area of the Terminal will not exceed 100 at any one time.	Not significant
Climate change				
114	Inaccessibility to site during construction	Minor adverse	Drainage Strategy	Minor adverse
115	Health and safety risks during construction	Minor adverse	Coastal defences	Minor adverse
116	Unsuitable site conditions during construction	Minor adverse	Prevention measures and health plans to prevent worker heat exhaustion	Minor adverse
117	Damage to construction materials, plant equipment, assets, and infrastructure during construction	Moderate adverse	Coastal defences and Drainage Strategy	Moderate adverse
118	Inaccessibility to site during operation	Minor adverse	Drainage Strategy	Minor adverse
119	Health and safety risks during operation	Minor adverse	Coastal defences	Minor adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
120	Unsuitable site conditions during operation	Moderate adverse	Prevention measures and health plans to prevent worker heat exhaustion	Moderate adverse
121	Damage to operational plant equipment, assets, and infrastructure during operation	Major adverse	Coastal defences and Drainage Strategy	Major adverse
122	Increased operational cooling requirements	Moderate adverse	New buildings and assets will either be designed for the climatic conditions projected for the end of their design life, using appropriate design guidance where available or adaptive capacity will be built into the designs	Moderate adverse
123	Rising sea level during construction	Moderate adverse	Coastal defences	Moderate adverse
124	Increase frequency in severe weather events (e.g. storms) during construction	Moderate adverse	Drainage Strategy	Moderate adverse
125	Storm surge risk during construction	Moderate adverse	Coastal defences	Moderate adverse
126	Increased frequency of heavy precipitation events during construction	Moderate adverse	Drainage Strategy	Moderate adverse

ID	Impact pathway	Impact significance	Mitigation measures	Residual impact
127	Rising sea level during operation	Major adverse	Coastal defences	Major adverse
128	Increase frequency in severe weather events (e.g. storms) during operation	Major adverse	Drainage Strategy	Major adverse
129	Storm surge risk during operation	Major adverse	Coastal defences	Major adverse
130	Increased frequency of heavy precipitation events during operation	Major adverse	Drainage Strategy	Major adverse

21.3 Abbreviations/Acronyms

Acronym	Definition
AIS	Automatic Identification System
ALRS	Admiralty List of Radio Signals
AQMA	Air Quality Management Area
CEMP	Construction Environmental Management Plan
DMRB	Design Manual for Roads and Bridges
EIA	Environment Impact Assessment
ES	Environmental Statement
GI	Ground Investigation
IAQM	Institute of Air Quality Management
ID	Identification
IERRT	Immingham Eastern Ro-Ro Terminal
JNCC	Joint Nature Conservation Committee
PAD	Protocols for Archaeological Discoveries
PEIR	Preliminary Environment Information Report
RAMS	Risk Assessment Method Statement
ROV	Remotely Operated Vehicle
SRN	Strategic Road Network
SSC	Suspended Sediment Concentration
UKHO	UK Hydrographic Office
WSI	Written Scheme of Investigation

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated

Contact Us

ABPmer

Quayside Suite,
Medina Chambers
Town Quay, Southampton
SO14 2AQ

T +44 (0) 23 8071 1840

F +44 (0) 23 8071 1841

E enquiries@abpmer.co.uk

www.abpmer.co.uk

