PORT OF TILBURY LONDON

PLANNING ACT 2008
INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

PROPOSED PORT TERMINAL AT FORMER TILBURY POWER STATION

TILBURY2

TR030003

MITIGATION ROUTE MAP V2 - TRACK CHANGES

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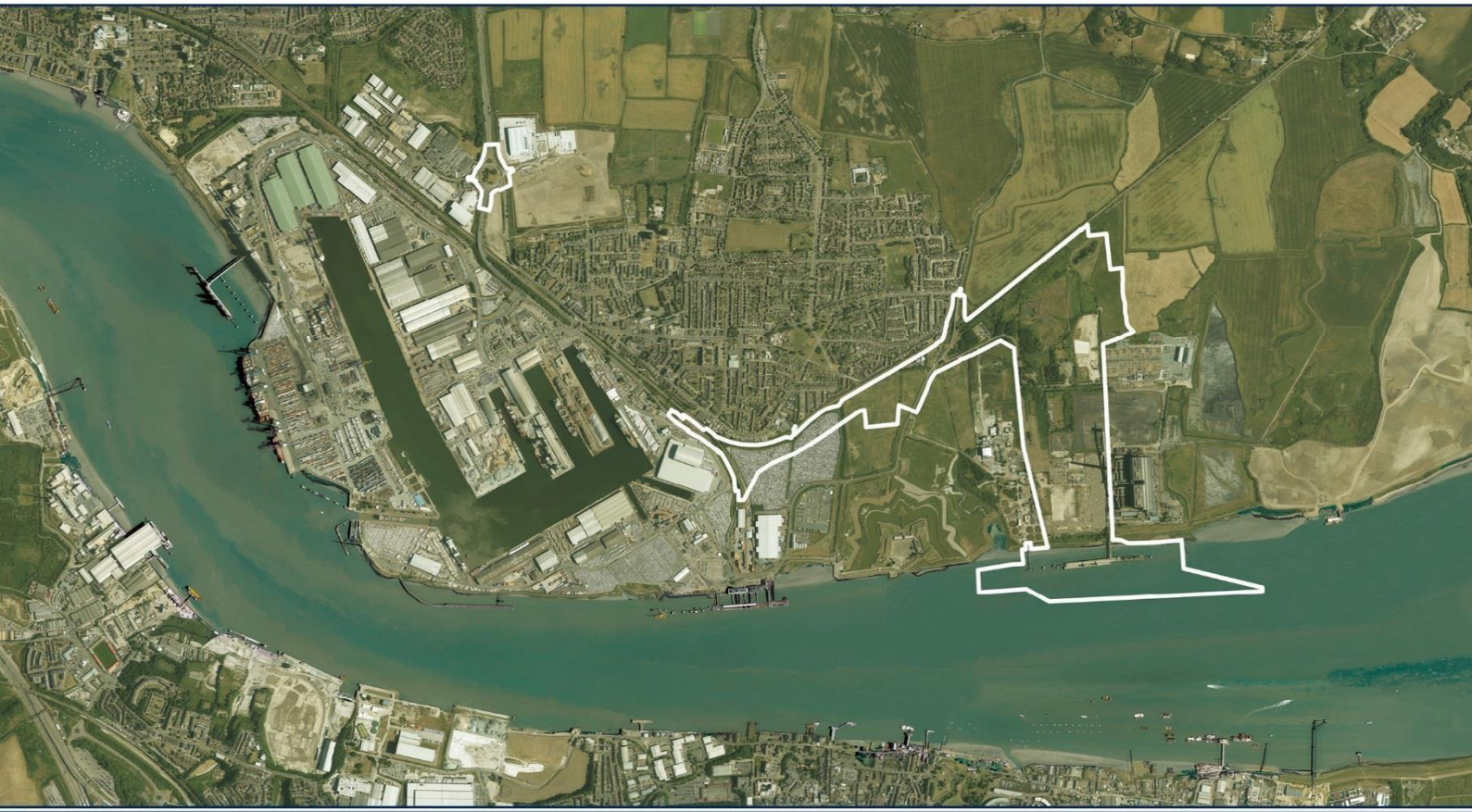

TILBURY2

Contents

1.0 INTRODUCTION

- This mitigation route map has been prepared in relation to the application by Port of Tilbury London Limited ("PoTLL") under section 37 of the Planning Act 2008 ("the Act") for an order granting development consent ("DCO") for the construction, operation and maintenance of a new port terminal and associated facilities in Tilbury, Essex known as 'Tilbury2' ("the proposals"). The mitigation route map aims to demonstrate that all environmental controls and mitigation measures necessary for the proposals have been identified and secured. The purpose of this document is to:

    - provide an audit trail of the controls and mitigation measures on which the Environmental Statement (ES) (including related assessment documents) relies to avoid, reduce and/or offset significant (i.e. moderate or major) impacts of the proposal (columns (3) and (4) of the table); and;

    - set out the way in which they have been, or will be, translated into clear and enforceable controls (Column (6)); either via Development Consent Order (DCO) requirements, development consent obligations or other consent regimes.

- This mitigation route map is not proposed to have any formal status, but is submitted to assist the Examining Authority and interested parties to understand how and where mitigation is to be secured. This document is intended to be a live document which will be updated throughout the examination process.

- The route map is structured as follows:

    - Column (1) provides a location reference for the description of the impact and mitigation measure(s) in the ES;

    - Column (2) describes the potential significant effect (moderate or major);

    - Column (3) provides a description of the mitigation measure(s) proposed in the ES and associated documents. These measures include the following;

        - Construction methods or controls, e.g. measures included in the Construction Environmental Management Plan (CEMP), or other measure that is proposed to avoid or reduce significant impact during construction.

        - Mitigation incorporated into the scheme design and operation, e.g. landscape planting, operational controls

    - Column (4): identifies the timing or 'trigger' for when a mitigation measure should be in place;

    - Column (5): refers to the relevant securing mechanism(s). Where relevant, compliance with the relevant section of the CEMP, or other relevant control document, is identified.

- The structure of the mitigation route map follows the same order as the topic chapters in the ES.

2.0 MITIGATION ROUTE MAP

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
ES Chapter 7 - – Socio-economics	Impacts from construction traffic on local communities and tourism receptors	The use of roads by construction traffic could lead to restricted access to business and community or delays in journey times. The draft Construction Traffic Management Plan (CTMP) outlines the measures for the management of construction traffic and proposed lorry routes that have been developed in consultation with Thurrock Council (TC) and Highways England (HE) to minimise the impacts of construction traffic on the road network, local communities and tourism receptors. The final CTMP must include the following measures: • The use of appropriate and approved routes for larger construction vehicles, deliveries and for staff including approved routing plans; and • The management of working hours and delivery times to minimise disturbance caused by traffic (e.g. avoiding deliveries during peak hours). The CEMP (Chapter 5) will require the Contractor to undertake the following measures to reduce the potential impacts on	Prior to commencement of works and during construction	The draft CTMP is an appendix of the CEMP Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO The Skills and Employment Strategy will be secured through a section 106 agreement with TC

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		indirect amenity effects: • Appropriate screening should be installed at all times. • A Skills and Employment Strategy (document reference 5.3A) details best practice approaches to secure local advertisement of employment and tendering opportunities and includes details on the mechanisms PoTLL will use to support local employment, outreach and inclusion.		
	Impacts on landowners and groups	PoTLL have listed a range of potential further mitigation measures with include: • The retention of a strip of existing vegetation along the western boundary; and • Adopting a 'good neighbour' operational approach with Gravesham Rowing and Sailing clubs.	During operation	The planting and on-going management of landscaping (which includes the western strip) is set out in the Landscape and Ecological Management Plan, compliance with which is secured by a requirement in Schedule 2 to the DCO The Operational Community Engagement Plan,

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				compliance with which is secured by a requirement in Schedule 2 to the DCO secures a range of communication measures to be undertaken by PoTLL during operation
ES Chapter 8 - – Health	Impacts on health from noise	• Introduction of a temporary noise barrier while the construction of the permanent noise barrier for the Infrastructure Corridor is undertaken; • Restricted working hours during the weekdays and weekends; and • Implementing a community awareness campaign as to noisy activity.	Prior to commencement of works and during construction	These measures are set out in the CEMP. Compliance with the CEMP is secured by requirement 11 in Schedule 2 to the DCO
	Impacts on health from noise during operation	• Construction of noise barriers for the new road and rail links, and the Tilbury2 site access road; • Operational noise management measures (such as design of buildings) through an Operational Management Plan (OMP); and	During operation	Noise barriers, OMP and monitoring and management scheme all secured by DCO requirement.

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• An at-receptor monitoring and mitigation scheme including the offer of noise insulation or improved glazing, to be agreed with Thurrock and Gravesham Borough Council.		
	Impacts on health from lighting	The Preliminary Lighting Strategy and Impact Assessment describes several proposals for the mitigation of lighting impacts that includes all high output floodlights and streetlights to be fully cut-off meaning there would be no direct upward light from their mounted location. The lighting details will be finalised in detailed design as part of the finalised lighting strategy to be approved by TC in consultation with Gravesham Council. This must be developed in general accordance with the Preliminary Lighting Strategy.	During construction and operation	~~Preliminary Lighting Strategy~~The finalisation of the lighting strategy is secured by a requirement in Schedule 2 to the DCO
	Impacts on health from air quality	Mitigation measures during construction will be secured through the CEMP (Chapter 11) which will include: • Dust monitoring; • Measures relating to the preparation of the site, operation, earthworks, construction and trackout; and • Switching vehicles off when stationary,		CEMP Chapter 11 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO OMP secured by a requirement in Schedule 2 to the

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		avoiding the use of diesel and petrol powered generators, imposing speed limits in accordance with the Construction Logistics Plan or equivalent. OMP to include a range of good practice measures such as: • Provision of a sufficient water supply to meet the site demand for mitigation damping; • Provision of an internal road network that minimises haul route distances; • A separate paved parking area for off-site vehicles, such as staff cars, with no access to the working areas, to prevent track-out onto the public highway. • Trees and bushes to be retained as far as possible and new planting to reduce transfer of dust off site.		DCO.
	Impacts on health from traffic	Mitigation measures from impacts from traffic during construction are outlined in the draft CTMP and further details are described in the Landside Transport section below. Operational noise and air quality management measures are detailed in the OMP. The OMP includes a range of good	During construction	The draft CTMP is an appendix of the CEMP Compliance with the CEMP is secured by a requirement in Schedule 2 to the

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		practice measures including site layout aspects and adoption of lower emission engines and electric vehicles as technology improves.		DCO
	Impacts on health from neighbourhood quality (open space, active travel, physical activity)	The Landscape Character and Visual Amenity section below describes the mitigation measures (i.e. installing appropriate screening) designed to address the visual amenity impacts. The development of an Active Travel Study will outline improved amenity and access to the riverside and elsewhere for pedestrians and cyclists.	During construction and operation	Measures within the Active Travel Study are secured as follows: • In the Order limits; through their inclusion in the DCO (and the approval of TC of new highway under their protective provisions). • Outwith the Order limits, through the proposed section 106 agreement with TC
	Impacts on health from employment and economic	The Skills and Employment Strategy set of the Ports strategy for achieving increased levels of employees both on-port and off-port from the local area, as well as educational	During operation	The Skills and Employment Strategy will be secured through a

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	impacts	opportunities for the local population including youth employment opportunities, apprenticeships, traineeships, school educational visits, veteran recruitment proposals, and graduate recruitment programmes. These initiatives have successfully been used already to engage with the local population to increase employment and education. This strategy will maximise the health benefit for the local population.		section 106 agreement with TC
ES Chapter 9 - Landscape Character and Visual Amenity	Impacts on visual amenity and landscape character during construction	The CEMP will require the Contractor to undertake the following measures to reduce the potential impacts on visual amenity and landscape character: • Appropriate screening ~~should be~~ installed at all times, particularly on the infrastructure corridor. This should include the retention of the existing Monterrey Pine trees on the western boundary where design permits. • ~~The works should be phased~~Phasing the work so as to retain as much of the vegetation and soil mounds that exist on the northern part of the Tilbury2 site as is practicable during construction. • Where operationally practicable, construct the taller concrete and asphalt related	Prior to commencement of works and during construction	Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO Compliance with the Landscape and Ecological Management Plan is secured by a requirement in Schedule 2 to the DCO. Parameters on the design of the development (including height and location) are set

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		plant and buildings ~~should be constructed~~ within the southern half of the areas designated for these uses. • Where operationally practicable, retain as many existing mature trees and scrub as practicable within the designated general storage areas, and land to the south of the proposed general storage areas. • Unobtrusive construction lighting ~~should~~ to be used in construction where it is practicable to do so. Lighting equipment that is used must be designed in accordance with Institute of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. The following mitigation measures have been incorporated into the design and in the Landscape and Ecological Management Plan: • Lowest elements of proposed development (container and trailer storage) located in closest proximity to the waterside and Tilbury Fort. • Structural landscape comprising scrub woodland, scrub grassland and ditches associated with the proposed infrastructure corridor incorporating SUDS		out in a requirement in Schedule 2 to the DCO and through the limits of deviation set out in the W orks Plans. A Schedule 2 DCO requirement sets out the requirement for the detailed lighting strategy to be approved by TC, HE and GBC in accordance with the Preliminary Lighting Strategy and Impact Assessment.

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		features and wildlife habitat to minimise effects on visual amenity and mitigate loss of wildlife habitat. • Structural landscape comprising scrub planting within the main site immediately north of the proposed rail chord to mitigate views of proposed noise barriers, additional rail traffic, the lower levels of the CMAT processing facilities, aggregates and general storage areas. • Artificial lighting designed in accordance with guidance supplied by the Institute of lighting Professionals to reduce potential effects of obtrusive light and skyglow. • The Landscape Strategy and its maintenance and management will be secured through a Landscape and Ecological Management Plan. In particular, the Landscape Strategy includes: • Scrub planting between the proposed access road and rail chord and between the rail chord and the boundary with the mainline railway to mitigate views of proposed noise barriers and residual views of the upper levels of road and rail traffic associated with residential property.		

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		• Retained as many existing mature trees and scrub as practicable within the designated general storage areas, and land to the south of the proposed general storage areas to provide visual screening of the wider development. • Colour proposed cement silo and all taller buildings and built structures light grey to reduce visual impact. • Allowing scrub to continue to develop on the existing western bank of the Fort Road bridge. • Where operationally practicable use powder coated proposed external metal palisade fencing on the infrastructure corridor with a dark colour where it is not set at a high level and seen against the sky.		
ES Chapter 9 - Landscape Character and Visual Amenity	Impacts on visual amenity and landscape character during operation	A Landscape Strategy summarises the description of effects on the visual amenity and identifies mitigation measures that have been adopted in the proposals as well as additional primary and secondary landscape mitigation measures. Maintenance and management of the Strategy will be secured through the Landscape and Ecological Management Plan.	During operation	The Landscape Strategy is located in ES Chapter 9, Figure 9.9 The landscape Strategy and its maintenance and management ~~will be~~ is secured through

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				the Landscape and Ecological Management Plan, compliance which is secured by a requirement in Schedule 2 to the DCO
	Access to riverside and elsewhere for pedestrians and cyclists during and after construction	Development of an Active Travel Study will outline improved amenity and access to the riverside and elsewhere for pedestrians and cyclists.	Prior to commencement of works	Measures within the Active Travel Study are secured as follows: • In the Order limits; through their inclusion in the DCO (and the approval of TC of new highway under their protective provisions). Outwith the Order limits, through the proposed section 106 agreement with TC

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ES Chapter 10 - Terrestrial Ecology	Terrestrial Ecology effects prior to construction	An Ecological Clerk of Works (ECoW), specialist ecologist, or similarly competent person will be responsible for overseeing implementation of on-site ecological mitigation as set out below. All translocations of species and habitats required as a result of the proposals, must take place prior to the commencement of the relevant construction phase, and in consultation with NE and/or TC as appropriate (including in compliance with any licences that may be required). As such, all receptor areas for such species and habitats must be prepared to an extent that is suitable for the reception of translocated species or habitats prior to the commencement of the relevant construction phase. Prior to works on or near watercourses, pre-construction surveys will take place to ascertain the detailed species protection and legal compliance measures that will need to be employed during works. These surveys will include; presence of water voles, fish/eels and Invasive Non-Native Species (INNS). Following this study, a detailed method statement will be drawn up for each area. This will be circulated in draft to relevant stakeholders including the Environmental Agency (EA), TC drainage team and	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by requirement 4 in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		(where water voles may be affected) Natural England (NE) for approval prior to the commencement of any works.		
	Protection of bats	Licensed mitigation and compensation measures will be required in respect of bats, and alternative roost provision will be made to cover the loss of a known low conservation value roost in an existing building. The processes of destruction of the existing roost without harm to individual bats will be closely controlled by the terms of the licence. In addition, further survey work would be undertaken prior to the removal of any trees with elevated suitability for bats in order check for the potential presence of roosts. In the unlikely event that a roost were found, then a licence would be sought from Natural England.	Prior to commencement of works and during construction	CEMP Chapter 6 Compliance with the LEMP and CEMP is secured by a requirement in Schedule 2 to the DCO Details of the process for this compensation will be included in the EMCP, which is anticipated to be secured pursuant to a DCO requirement. If this is not possible then the requirement will refer to the need for 'written details' of compensation to be approved by Natural England and the Environment Agency post DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				consent. The process will also be subject to statutory licencing procedures authorised by the Statutory Nature Conservation Organisation, i.e. Natural England.
	Mitigation provision for badgers	An alternative artificial sett will be provided (to cover the loss of a known breeding set for a small group of badgers), and the processes of destruction of the existing sett without harm to badgers will be closely controlled by the terms of the licence. In addition, and particularly in view of the known presence of badgers within the site, any ground excavations which are left open overnight will have a ramp or plank installed so as to afford any mammals that might fall in a means to escape.		CEMP Chapter 6 Compliance with the LEMP and CEMP is secured by a requirement in Schedule 2 to the DCO Details of the process for this compensation will be included in the EMCP, which is anticipated to be secured pursuant to a DCO requirement. If this is not possible then the requirement will

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				refer to the need for 'written details' of compensation to be approved by Natural England and the Environment Agency post DCO consent~~which is secured pursuant to a DCO requirement.~~ The process will also be subject to statutory licencing procedures authorised by the SNCO, i.e. Natural England.
	Translocation of water voles prior to construction	Species translocations will be required in respect of water voles. This will involve translocation of animals to new pre-constructed ditch and wetland habitats. Where water voles currently occur in areas identified for channel works and diversions, these will either have been translocated from these areas in advance of any works commencing (in accordance with the licences referred to above) or where works are sufficiently small scale, habitat manipulation measures will be employed to	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO Details of the process for this translocation will be included in the EMCP, which is

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		ensure no animals are within the area at risk from construction activities, in conjunction with exclusion fencing where necessary to ensure no recolonisation of such areas prior to those works being completed.		anticipated to be secured pursuant to a DCO requirement. If this is not possible then the requirement will refer to the need for 'written details' of compensation to be approved by Natural England and the Environment Agency post DCO consent~~which is secured pursuant to a DCO requirement~~ The process will also be subject to statutory licencing procedures authorised by the SNCO, i.e. Natural England.
	Translocation of reptile species prior to construction	Translocations will be required in respect of reptiles (common lizard, slow worm, grass snake and adder) Receptor sites for reptiles will include a combination of land made suitable for the purpose within the Order limits (on land to the north-east of the CMAT) with some pre-prepared receptor capacity	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		also provided off-site.		DCO Details of the process for this translocation will be included in the EMCP, which is anticipated to be secured pursuant to a DCO requirement. If this is not possible then the requirement will refer to the need for 'written details' of compensation to be approved by Natural England and the Environment Agency post DCO consent~~which is secured pursuant to a DCO requirement~~.
	Protection of nesting birds prior construction	Clearance of vegetation with the potential to support nesting birds should aim to avoid the peak nesting months of mid-February to July wherever possible. In situations where this is not possible, surveys and/or monitoring by specialist ornithologists will be employed	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		to assess whether nests are present or likely to be present in affected vegetation, and whether appropriate measures such as temporary stand-offs will be deployed to work around such constraints in a legally compliant manner.		DCO
	Translocation of Eels and Fish prior to construction	Translocation of Eels and fish will need to be undertaken before work can be undertaken on the river realignments and culverts. A fish and eel rescue will need to be undertaken and the channel drained and left for a few hours to remove any remaining eels from the system before works can start.	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO
	Translocation of habitats in respect of brownfields substrates	In particular areas, where Lytag and PFA substrate that have been colonised by rare and scarce plants, lichens and invertebrates are found, these translocations will take place after such areas have been cleared of any protected species constraint by advance translocations, and be subject to a bespoke methodology.	Prior to commencement of works	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO Details of the process for this translocation will be included in the EMCP, which is anticipated to be secured pursuant to a DCO requirement. If this is not possible

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				then the requirement will refer to the need for 'written details' of compensation to be approved by Natural England and the Environment Agency post DCO consent~~which is secured pursuant to a DCO requirement~~
	Prevent spread of non-native invasive species during construction and ongoing habitat management	If invasive non-native species are found to be present, appropriate isolation, removal and post-construction control measures will be drawn up and implemented in conjunction with prevailing best practice protocols. The EA will be notified and agreement on methodological approach to such species will be sought in that scenario.	Prior to commencement of works and during and after construction	CEMP Chapter 6 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO. Post-construction provisions are secured through the LEMP
	On-site and off-site habitat compensation	**On-site habitat compensation** New habitat creation forms part of both the On-site Ecological Mitigation and	Prior to and during construction; During operation	On-site compensation will be secured through the LEMP (which

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		Compensation Strategy and the Landscape Strategy. It is a condition of the project that these features are constructed and managed in accordance with the Landscape and Ecology Management Plan (LEMP). Details of the construction of created habitats will be set out in the Ecological Mitigation and Compensation Plan (EMCP). Newly created or restored habitat features include the following S41 Habitats (Habitats of Principal Importance further to section 41 of the NERC Act 2006) or ecologically similar equivalents: • Open Mosaic Habitat on Previously Developed Land; • Coastal and Floodplain Grazing Marsh; • Lowland Mixed Deciduous Woodland / Hedgerows; • Ponds (2 no.); • Reedbed; and • Intertidal habitats. Other newly created habitat and landscape features will include the following:		will be secured by a requirement in Schedule 2 to the DCO) and ECMP Off-site compensation compliance will be secured by the DCO requirement for off-site compensation., with further information on this anticipated to be provided in the EMCP.

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• Wet ditches (suitable for water voles); • Dry ditches (including surface water / highway drainage attenuation); and • Scrub and woodland planting A number of other species specific measures of new ecological features will include: • Artificial sett creation for badger; • Suitable grassland habitat for translocated reptiles; and • Replacement bat roosts (bat boxes). **Off-site compensation** An Ecological Mitigation and Compensation Plan is being prepared as part of the off-site compensation package which will be discussed with stakeholders.		
ES Chapter 11 – Marine Ecology	Construction impacts on marine ecology	The following measures are included in the CEMP to minimise adverse effects from the construction on the marine ecology: • Use and operate vessels and plant in accordance with industry best practice and OSPAR, IMO and MARPOL	Prior to commencement of works and during construction	CEMP Chapter 7 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		guidance for pollution at sea. • Maintain machinery in good working order to minimise the risk of leaks and use of drip trays where necessary; • Bund of vehicle wash-down areas and routing of run-off through interceptors; • Undertake refuelling operations in appropriately bunded and managed areas within compound sites; • Put robust measures and equipment in place for dealing with any unexpected pollution events that will be in place at all times (such as those set out elsewhere in this document); • Through the Materials Management Plan referred to below, implement controls on construction materials brought to site such that these are free from contaminated material, so as to avoid potential run-off contamination; • Mange INNS introduction through preventative measures identified through a biosecurity risk assessment and set out in a biosecurity plan (in liaison with the MMO, PLA, NE and EA as necessary). This will follow best practice guidelines		

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		such as the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM), and NE's biosecurity planning guidance. • Ensure that all construction materials used will be safe for use in the marine environment. • JNCC protocol for piling will be followed which will include the following: o Soft start will be used for percussive piling. o There will be no night time piling. o Pre-piling search for marine mammals o The commencement of percussive piling will be delayed if marine mammals are detected o There will be breaks in piling activity Where practicable (and in conformance with health and safety requirements), new lighting will be installed on the jetty which will be directed away from the Thames.		

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	Impacts from dredging	Water injection dredging at Tilbury2 during both construction (capital dredging) and operation (maintenance dredging) is restricted to the ebb tide only. Dispersive dredging methods are restricted (not to be carried out) during the months of June to August inclusive. Sediment with elevated levels of contaminants within the Tilbury2 approach channel may only be dredged using removal techniques such as backhoe dredging that create minimal disturbance of the sediment. This material must be disposed of appropriately.	During construction and operation	Measures are secured in the CEMP or through approval under conditions of the Deemed Marine Licence (DML), and PLA Protective Provisions as appropriate
ES Chapter 12 - Archaeology and Cultural Heritage	Impacts on archaeology	A programme of archaeological mitigation measures will be required to mitigate against the impact of the proposed development on the known and potential terrestrial and marine archaeological receptors. Mitigation measures are secured through the implementation of Written Scheme of Investigations (WSI). Two WSIs have been prepared to align with the relevant regulatory control: the WSI for Archaeological Mitigation, to be secured as a requirement of the DCO (Technical Appendix 12.D) addresses the terrestrial mitigation measures and the WSI for Archaeological mitigation to be secured as	Prior to commencement of works and during construction and operation	ES Chapter 12 The WSI is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		a condition of the Deemed Marine Licence within the DCO (Technical Appendix 12.E) addresses the intertidal and marine mitigation measures.		
	Impacts on built heritage assets during operations	As secured in the CEMP, prior to the commencement of any piling activities (either terrestrial or marine), if deemed necessary in consultation with English Heritage and Historic England, the Contractor will develop and implement a monitoring and mitigation regime to monitor and mitigate the vibration effects of piling on historic assets, in consultation with English Heritage and Historic England. Further mitigation measures to potentially reduce effects on the settings of the surrounding build assets include the following: • Retention of mature Monterrey Pines trees on the western boundary to reduce and potentially screen views of the RoRo container operations. • Colour proposed 100 m high silo and other taller buildings light grey to reduce visual impacts. To secure this, surface treatment of the silo and the CMAT facilities will be required by the DCO to be	During construction and operations	Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO Trees secured by Landscape and Ecological Management Plan which is secured in Schedule 2 of the DCO Surface treatment of facilities is secured by a DCO requirement A Schedule 2 DCO requirement sets out the requirement for the detailed lighting strategy to be approved by TC,

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		approved by TC and HE and GBC. • Provide low key lighting to illuminate waterside elements of the proposals to reduce impacts on the setting of Tilbury Fort and heritage assets. This will be secured through the DCO requirement for detailed lighting strategy to be approved by TC, HE, and GBC in accordance with the Preliminary Lighting Strategy and Impact Assessment. • Mitigation for potential dust impacts during operation are outlined in the Air Quality section below and will be secured in the OMP.		HEand GBC in accordance with the Preliminary Lighting Strategy and Impact Assessment The OMP is secured by a requirement in Schedule 2 to the DCO
ES Chapter 13 - Landside Transport	Impacts from construction traffic	A draft CTMP has been prepared which sets out measures for the management of construction traffic and proposed lorry routes that have been developed in consultation with TC and HE to minimise the impacts of construction traffic on the road network, local communities and tourism receptors (Tilbury Fort). The final CTMP must include the following measures: • The use of appropriate and approved routes for larger construction vehicles, deliveries and for staff including approved routing plans;	Prior to commencement of works and during construction	The draft CTMP is an appendix of the CEMP Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO The CEMP requires that the draft CTMP must be finalised with approval by TC

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• The management of working hours and delivery times to minimise disturbance caused by traffic (e.g. avoiding deliveries during peak hours); • Covering loads coming to and leaving the development; • Provision of wheel washing / vehicle cleaning facilities on site; and • Inspection of local highway network and cleaning as necessary.		
	Impacts on local residents' amenity values	The CTMP outlines measures to reduce impacts on the local resident's amenity values which include: • Established site working hours, • Established construction delivery times and pre-determined routes • Any vehicle onsite must not leave prior to using the on-site wheel washing facilities to reduce dust impacts on the nearby roads. Adjoining roads will be regularly inspected for any soil or debris deposited by construction traffic associated with the site. If necessary, roads will be cleaned.	Prior to commencement of works and during construction	The draft CTMP is an appendix of the CEMP Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO Working hours are set out in Chapter 3 of the CEMP The CEMP requires that the draft CTMP must be finalised

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
				with approval by TC
	Impacts on pedestrian and cycle linkages	An Active Travel Study has developed measures to improve the pedestrian and cycle linkages between the proposed development and Tilbury which includes: • Provision of a shared footway / cycleway adjacent to the proposed Link Road; • Delivery of a new toucan crossing on St Andrew's Road to the east of the Hairpin pedestrian / cycle bridge; • Footway widening along Calcutta Road and conversion into shared use; • Widening of existing cycle lanes along Brennan Road, potentially extending to Hume Avenue; • Improvements to Thames Estuary Path towards East Tilbury; • Resurfacing of Footpath 144 (south of link road); • Diversion of Footpath 146 to achieve 2.0m headroom clearance at the proposed RoRo bridge;	During construction	Measures outlined in the Active Travel Study are secured either by inclusion in the DCO or secured under section 106

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• Enhancement of existing uncontrolled crossing at the A1089 Ferry Road / Hyundai / Fort Distribution Park and A1089 Ferry Road / Fort Road roundabout; • Creation of a quiet way along A1089 Ferry Road and Fort Road, with traffic to be encouraged to use the proposed Link Road; and • Provision of Wayfinding signs along main pedestrian and cycle routes.		
	Impacts on road safety	The draft CTMP outlines the following measures will be put in place to any road incidents: • Security hoardings would be placed along the compound boundaries • Access to the site will be securely locked at the end of the working day • The contractor would use companies with Fleet Operator Recognition Scheme (FORS) accreditation when selecting companies to make deliveries to the site and give preference to those meeting the Construction Logistics and Community Safety (CLOCS) standard for construction	Prior to commencement of works and during construction	The draft CTMP is an appendix of the CEMP Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO The CEMP requires that the draft CTMP must be finalised with approval by TC

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		logistics.		
	~~Construction impacts on the marine environment~~	~~In constructing the marine elements of the proposals, to ensure that construction vessels do not impact on navigation, the Contractor must comply with the recommendations set out in the Navigation Risk Assessment (NRA).~~	~~Prior to commencement of works and during construction and operation.~~	~~Compliance with the NRA is secured by a requirement in Schedule 2 to the DCO~~
	Transport related effects from the completed development	To mitigate the transport related effects of the completed development, a Framework Travel Plan (FTP) and Sustainable Distribution Plan (SDP) have been developed. These documents comply with the aims of national, regional and local transport policy guidance with the aim to deliver sustainable new development, whilst providing assistance in resolving existing transport issues in the area. The purpose of the FTP is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives e.g. walking, cycling and public transport, in connection with the proposals and through this to thereby reduce the demand for travel by less sustainable modes. Tenant Travel Plans will be provided by the end-users of the proposals, in accordance with the FTP. As set out in the FTP, the Tenant Travel Plans will include various	During operation	Compliance with the FTP and the SDP is secured by requirements in Schedule 2 to the DCO Delivery of the Asda roundabout works is set out in Schedule 2 to the DCO.

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		measures aimed at influencing modal choice for employees / visitors of the new development. The SDP aims to ensure that HGV movements that can be avoided on the network are investigated and measures are promoted to reduce HGV impact on the network. Works are also required to the Asda Roundabout to cater for the traffic movements assessed to arise from the proposals.		
ES Chapter 14 - Navigation	Impacts on navigation from movement of construction vessels	A Navigation Risk Assessment (NRA) has been prepared for the proposals which identifies five hazards and proposals to deal with them, as well as a number of plans following detailed design. The construction methodology, including the timing of deliveries and the location and positioning of barges will be implemented in such a way that it avoids any impacts on the rights of navigation. The marine construction methodology will be prepared and agreed with the PLA in advance of any works commencing, pursuant to protective provisions with the PLA in the DCO. Temporary and permanent navigation aids	Prior to commencement of works and during construction and operation.	Compliance with the recommendations of the NRA is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		and lighting will installed pursuant to the DCO and will be in accordance with PLA requirements.		
ES Chapter 15 - Hydrogeology and Ground Conditions	Impacts on ground conditions underlying the site	The CEMP (Chapter 8) identifies that the contractor must incorporate various steps into the pre-construction design process. This includes a further assessment of the ground conditions underlying the Site and incorporation of mitigation/remedial measures in the design to reduce impacts from ground instability, soil compaction/settlement and contamination~~. This assessment should involve:~~; involving: • Additional ground investigation, the scope of which will be agreed with TC's Contaminated Land Officer and an EA Groundwater and Contaminated Land Officer prior to the works. • Following the investigation, a Generic Quantitative Risk Assessment (GQRA) will be undertaken, with the findings submitted to TC's Contaminated Land Officer and an EA Groundwater and Contaminated Land Officer for approval. • If the findings of the GQRA determine that a Detailed Quantitative Risk Assessment, remediation strategy and verification report are required,	Prior to commencement of works and during construction	CEMP Chapter 8 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		these will also be completed and submitted to TC's Contaminated Land Officer and an EA Groundwater and Contaminated Land Officer for approval. Consideration as to whether any ground stabilisation is required to reduce settlement to acceptable design levels. • Consideration as to whether any piles, ground bearing floor slabs and reinforced concrete paving may be required to manage physical effects of the proposals and ensure appropriate bearing capacity. • Efforts ~~should~~ to be made to ensure-use soil on site and source local materials. • Efforts ~~should~~ to be made to reduce the transportation of materials on and off site, and the storage of materials on site for significant time. • Efforts ~~should~~ to be made to minimise impacts to identified important mineral resources. • Efforts ~~should~~ to be made to maximise off-site construction which will reduce both materials used and waste generated on site. • Where practicable, recycled and		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		secondary aggregates such as those currently stockpiled at the existing port should be specified in the design and used, thereby reducing the demand for virgin material. • Efforts ~~should~~ to be made to actively reduce the amount of materials of a hazardous nature where viable.		
	Impacts on ground conditions from construction activities	The CEMP states the contractor must carry out the construction activities in the following ways: • Limit the area of earthworks at any one time to reduce temporary effects on topography, soil compaction and erosion. • Limit the duration of soil exposure and timely reinstatement of vegetation or hardstanding to prevent soil erosion. • Manage stockpiles (with measures such as water spraying) and remove them in a timely fashion to prevent windblown dust and surface water run-off. • Minimise impacts to any identified important mineral resources. • Undertake health and safety risk assessments, method statements and	During construction	CEMP Chapter 8 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		appropriate Personal Protective equipment for the protection of construction workers in accordance with the Control of Substances Hazardous to Health regulations. • Implementation of appropriate dust suppression measures to prevent migration of contaminated dust and asbestos fibres (as set out in the Air Quality section of the CEMP). • Appropriately manage groundwater and surface water and ensure that there is no run-off from the works, any material / waste stockpiles, and storage containers into adjacent surface watercourses; in accordance with Pollution Prevention Guideline (PPG): Working at Construction and Demolition Sites. • Piling risk assessment in accordance with EA guidance and implementation of piling techniques deemed appropriate to identify and manage potential risks as a result of creating pathways to groundwater; • Working methods during earthworks, and ground stabilisation works to appropriately manage groundwater and surface water and ensure that there is no		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		run-off from the works, any material / waste stockpiles, and storage containers into adjacent surface watercourses; in accordance with PPG; • Implementation of mitigation in relation to UXO by reference to the UXB Report included in Appendix 15.E; • Implementation of appropriate pollution control measures, to include but not limited to: o plant drip trays; o spill kits; o appropriate and safe storage of fuel, oils and equipment. • Implementation of appropriate and safe storage of fuel, oils and equipment during construction; and • Implementation of an appropriate MMP and site waste management plan.		
	Impacts from materials used onsite	The CEMP states that a Materials Management Plan (MMP), to manage excavated and dredged materials that are used on site or used on another site and not disposed of to landfill, must be produced by	During construction	CEMP Chapter 8 Compliance with the CEMP is secured by a requirement in

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		the Contractor. The Contractor must implement the MMP, which shall include: • A description of the materials in terms of potential use and relative quantities of each category underpinned by an appropriate risk assessment; • Details of where and if appropriate, how these materials ~~should~~ will be stored; • Details of the intended final destination and use of these materials; • Details of how these materials are to be tracked; and • Contingency arrangements that must be put in place prior to movement of these materials (methods for separation and quarantine of non-permitted wastes (e.g. asbestos).		Schedule 2 to the DCO
	Impacts from asbestos	The Contractor must implement the asbestos mitigation/remediation recommendations detailed within the Idom MereBrook asbestos investigation and recommendations report (Appendix 15C) and any other recommendations made by Idom MereBrook following completion of the additional asbestos investigations and risk assessments to be completed pursuant to those	During construction	CEMP Chapter 8 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		recommendations.		
	Impacts from operation	The Site will be operated in accordance with the relevant regulations and best practice guidance in applying Best Available Techniques and pollution prevention, including Safety and Health in Ports and GOV.UK. which are set out in the OMP, and includes: • Hazardous material containers to be identified and to be inspected on a regular basis to identify any leaks / spills as soon as possible. If any leaks are found then a bunded trailer (or similar device) will be immediately be deployed to contain any spillages. • The drainage system of the RoRo port area to be zoned with shut-off valves located downstream of each subzone. This will provide a secondary line of defence to shut off the drainage system in the event of any unplanned spillages. This will be developed as part of the overall drainage strategy for the Site to ensure that leaks / spills cannot enter the ground / groundwater underlying the Site and will not be directly discharged to surface water.	During operation	

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• Implementation of appropriate pollution incident control. Waste will be mitigated through; source segregation of residual and recyclable waste; source segregation of hazardous waste and development of an environmental management plan incorporating waste or a standalone operational waste management plan		
ES Chapter 16 – Water Resources and Flood Risk	Impacts to groundwater and surface water quality	Implementation of the mitigation recommendations in the Level 2 and Level 3 Flood Risk Assessments (FRA) is required. These measures will be implemented as part of the detailed design that have been determined following consultation with the EA. They include mitigation measures for tidal and fluvial flood risk, groundwater, surface water drainage, sewer systems and climate change. Implementation of the recommendations in the Water Framework Directive (WFD) assessment, dredging to be controlled through provisions of the DCO are also required.	Prior to commencement of works and during construction	Compliance with both FRAs is secured by a requirement in Schedule 2 to the DCO The recommendations of the WFD assessment will be secured through the operation of the Deemed Marine Licence and the protective provisions for the benefit of the Environment Agency

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
	Impacts to groundwater and surface water quality during construction	The CEMP the following measures must be followed during construction: • Implement all works in line with the EA's 'Groundwater Protection: Principles and Practice (GP3)' document, which sets out their position on a range of activities, including the storage of pollutants and hazardous substances. • Bund potential contaminant sources such as tanks and excavated soils. • Bunding of vehicle wash-down areas and routing of run-off through interceptors. • Ensure the provision of oil spill clean up equipment. • Undertake construction activity to avoid disturbance or rupture of underground services such as sewers, waste water pipes or fuel lines. • Maintain machinery to minimise risks of leaks and use dip trays where necessary. • Undertake daily visual inspections of the ground for evidence of contamination. • Use of appropriate permits.	During construction	CEMP Chapter 9 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• Undertake earth moving operations that have potential to give rise to contaminated drainage to be undertaken in compliance with BSI Code of Practice for Earthworks BS6031, 2009. • Undertake all works in accordance with the Environment Agency's (EA) Pollution Prevention Guidance (PPG). • Prepare an incident response plan prior to construction, which shall be present on site throughout construction to inform workers of required actions in the event of a pollution incident.		
	Impacts on groundwater quality including the groundwater quality of Principal Aquifer and the River Thames during operation	Implementation of the Drainage Strategy for the proposals which includes: • Water quality treatment such as oil/water separators and 'sediment traps' prior to any discharge into the water environment occurring. This should be applied to both discharges from the Tilbury2 site and the RoRo pavement; • Implementation of a range of SuDS techniques which can include ponds, attenuation tanks, bio-retention systems, filter drains, swales & ditches, previous pavements, trees and green roofs. The drainage strategy should refer to the	During operation	Compliance with the Drainage Strategy is secured by a requirement in Schedule 2 to the DCO The recommendations of the WFD assessment and controls on dredging will be secured through the operation of the Deemed Marine

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		Essex County Council SuDS Design Guide. • Designing the infrastructure corridor with swales in accordance with DMRB to improve water quality through filtration, adsorption, sedimentation and biological treatment of contaminants. • Implementation of the recommendations of the WFD Assessment; • Dredging to be controlled through provisions of the DCO (the Deemed Marine Licence and protective provisions with regulators); As set out in the OMP: • Bunding of potential contaminant sources such as tanks and excavated soils, where appropriate, in accordance with the Control of Pollution (Oil Storage) (England) Regulation 2001; • Obtainment of appropriate permits in relation to surface water and groundwater; • Maintenance of ordinary site machinery in good working order to minimise the risk of leaks and use of drip trays where		Licence and the protective provisions for the benefit of the Environment Agency

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		necessary • The on-site treatment of water used for aggregate washing activities, and Implementation of the recommendations of the Level 2 and Level 3 FRAs.		
ES Chapter 17 – Noise and Vibration	Impacts from noise and vibration during construction	The CEMP also states that the contractor must: • Utilise best practicable means as defined by the Control of Pollution Act 1974 specifically including: ○ Limiting noisy construction activities to daytime hours only; ○ Adoption of low noise or vibration techniques at all times; ○ Locating plant away from noise and vibration sensitive receptors where feasible; ○ Use of well-maintained vehicles and mobile plant such that loose body fittings or exhausts do not rattle or vibrate; and ○ Turning off plant and equipment	During construction	CEMP Chapter 10 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		when not in use. • Introduction of temporary noise screening when constructing the permanent noise barrier for the Infrastructure Corridor (which must be installed prior to the rest of the Infrastructure Corridor works) in close proximity to the sensitive receptors to the north. BS5228 advises that the approximate acoustic attenuation provided by a barrier will be 5 dB when the top of the plant is just visible to the receiver over the noise barrier and 10 dB when the barrier completely hides the noise sources from the receiver. Due to the proximity of NSR in the vicinity of the Infrastructure Corridor works, screening ~~should~~ will be introduced around all static items of plant/work areas which have the potential to give rise to a disturbance whilst at a height which will effectively block line of sight to the surrounding receptors. • Use compaction plant which generates low levels of vibration when undertaking the infrastructure corridor works in close proximity to existing sensitive receptors; i.e. within approx. 35m. • Prior to the commencement of any piling activities and for the entire duration of		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		piling works (either terrestrial or marine), the Contractor will: i. commission a non-intrusive pre commencement condition survey of Tilbury Fort and associated structures including, but not limited, to the tunnels. This survey must be undertaken by a Chartered Building Surveyor with commensurate historic building building/structure experience; and utilise relevant records, drawings and surveys that will be requested from English Heritage and Historic England; ii. on the basis of the results of the survey, develop and implement a monitoring and mitigation regime in consultation with English Heritage and Historic England to monitor and mitigate the vibration effects of piling on Tilbury Fort and its associated structures. The Contractor will not be responsible for rectifying any existing defects to Tilbury Fort and its associated structures, and shall not be required to monitor or mitigate any part of Tilbury Fort and its associated structures that: the surveyor is not able to		

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(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		access to carry out the survey required by paragraph 10.2(i) above, for reasons of safety, or where English Heritage or Historic England do not consent to access within 28 days of a request being made for access to that part of Tilbury Fort and its associated structures; or • where information in relation to that part of Tilbury Fort and its associated structures is not provided by English Heritage or Historic England within 28 days of a request being made for records, drawings and surveys of that part of Tilbury Fort and its associated structures as required by paragraph 10.2(i) above. • Working hours during weekdays (Monday to Friday) would generally be 10 hours (8am to 6pm) and generally 8 hours (8am to 4pm) on Saturdays and Sundays for works that involve use of the indicative plant listed in Appendix 17A and for works on the infrastructure corridor. Extended hours of 7am to 8pm on weekdays are		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		proposed for non-piling marine works in order to minimise the construction programme fo this element of the work. No deliveries to site would be allowed on Saturdays after 12.00pm and none allowed on Sundays.		
	Impacts from noise and vibration during operation	The following measures have ben included in the design: • Inclusion of a 3m high barrier adjacent to the proposed link road and a 1.5m high noise barrier adjacent to the proposed rail spur within the Infrastructure Corridor. The barrier will serve to reduce the noise levels from vehicle and freight train movements on the proposed link road. • Inclusion of a 3m high noise barrier adjacent to the proposed access road within the Tilbury2 site boundary, the barrier will serve to reduce the noise levels from vehicle movements. An OMP to include requirements on PoTLL and tenants to: • Use, where practicable, of low noise plant and equipment on the Tilbury2 site, including conveyor systems and aggregate screeners.	During operation	Compliance with the OMP is secured by a requirement in Schedule 2 to the DCO Delivery of noise barriers and monitoring and mitigation regime is secured by ~~a~~ requirements in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		• Locate doors on the aggregates processing buildings that will limit noise breakout in the direction of the nearest NSR. • Thurrock Council and Gravesham Borough Council will provided with the following information: ○ Details of the sound qualities of the mobile plant, vehicles and conveyors that will be used for all operations on the Tilbury2 site ○ Details of the maintenance scheme for the internal roads on the Tilbury2 site As a requirement of the DCO the following steps will be taken: • Before the opening of the CMAT and RoRo terminal a noise reassessment will be undertaken on the basis of the finalised detailed design and operational procedures to be implemented for those works and the facilities to be constructed on site; • On the basis of that re-assessment if a significant effect is predicted for any receptor, that receptor must be offered a package of mitigation that must include		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		the installation of improved insulation at that receptor; • Following that reassessment an on-going monitoring and mitigation regime will be agreed with Thurrock Council and Gravesham Council. This regime will also identify measures that will be adopted in the event that operational noise levels exceed agreed noise levels, such as improving the sound insulation of properties i.e. offering double or triple glazing and/or mechanical ventilation.		
ES Chapter 18 – Air Quality	Impacts on air quality from dust	The Contractor will implement dust control measures through a Dust Management Plan based on IAQM Construction dust guidance, as required by the Construction Environmental Management Plan. This will be confirmed and agreed with Thurrock Council. Measures to include the following: **Dust Monitoring** • Regular (as a minimum on a daily basis) on-site and off-site visual inspections to monitor dust. Inspection results will be recorded, and the log book made available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100	Prior to commencement of works and during construction	CEMP Chapter 11 Compliance with the CEMP is secured by a requirement 4 in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		m of site boundary, with cleaning provided if necessary. • Develop and implement a dust management plan (DMP). • Monitoring of dust deposition will be undertaken including a three month baseline prior to commencement of works. Locations will be agreed in advance with Thurrock Council and the results shared. The dust deposition monitoring methodology involves using a passive DustDisc-Bracket (DD-B) depositional dust gauge passive monitoring system which is a recommended method in the Institute of Air Quality Management guidance. It is considered to be the most appropriate method for monitoring at nearby properties as it does not require a power supply and provides a good indication of dust deposition on horizontal surfaces such as window sills. • The DD-B uses a clear adhesive dust collection 'sticky pad' which collects dust depositing from the air onto a horizontal surface; typically over seven day intervals. The DustDisc gauge holder comprises a plastic disc with a recess for the DustDiscs and a wooden base with a		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		90˚ angle bracket. DustDisc holders will be installed at unobstructed positions within reach to facilitate sample change over, so that the replacement sticky pads can be slid into place horizontally, but high enough to discourage tampering. Records will be kept of any apparent interference, in that eventuality. • All dust and air quality complaints to be recorded, cause(s) identified and appropriate measures applied to reduce emissions in a timely manner, and the measures taken recorded. • Complaints log to be made available to Thurrock Borough Council when asked. • Any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation to be recorded in the log book. • Regular site inspections to monitor compliance with the DMP with inspection results recorded. The Inspection log to be made available to Thurrock Borough Council when asked. • Frequency of site inspections by the person responsible for air quality and dust issues on site to be increased when		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Dust monitoring locations will include locations within 400m of the site boundary such as Tilbury Fort. • Dust deposition monitoring will be undertaken for a minimum of three months prior to construction and three months at the start of site CMAT operations. The survey will be repeated at three years after commencement of operation (or earlier, if considered necessary by the environmental health officer at the local authority, Thurrock Council, and in discussion with Gravesham Borough Council, once the full scale of CMAT operations are in place). **Preparing and maintaining the site** • Site layout to be planned so that machinery and dust causing activities are located away from receptors, as far as is possible. • Where practicable, screening to be placed around dusty activities or the site boundary that are at least as high as any		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		stockpiles on site or where not possible, dust suppression equipment will be made available. • Site specific operations with a high potential for dust production and where the site is active for an extensive period to be enclosed where feasible. • Site runoff of water or mud to be avoided. • Site fencing, barriers and scaffolding to be kept clean using wet methods in accordance with an agreed cleaning regime. • Materials that have a potential to produce dust from site to be removed as soon as possible, unless being re-used on site. If they are being re-used on-site, they will be covered as described below. • Material stockpiles to be covered, seeded or fenced to prevent wind whipping. **Construction operations** • Cutting, grinding or sawing equipment only to be used where fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		local exhaust ventilation systems. • An adequate water supply on the site to be maintained for effective dust/ particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Where appropriate, chutes and conveyors to be enclosed and skips covered. • Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment to be minimised and fine water sprays on such equipment applied wherever appropriate. • Equipment to be readily available on site to clean any dry spillages, and spillages cleaned up as soon as reasonably practicable after the event using wet cleaning methods. • No bonfires and burning of waste materials on site. **Measures specific to earthworks and construction** • Earthworks and exposed areas/soil stockpiles to be re-vegetated to stabilise		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		surfaces as soon as practicable. • Hessian, mulches or trackifiers to be used where it is not possible to re-vegetate or cover with topsoil, as soon as practicable • Where feasible, soil cover only to be removed in small areas during work and not all at once • Scabbling (roughening of concrete surfaces) to be avoided where possible • Sand and other aggregates to be stored in bunded areas and not allowed to dry out, unless this is required for a particular process, in which case the contractor will ensure that appropriate additional control measures are in place. • Bulk cement and other fine powder materials to be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. **Measures specific to trackout** • Water-assisted dust sweeper(s) to be used on the access and local roads, to remove, as necessary, any material		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		tracked out of the site. This may require the sweeper being continuously in use. • Dry sweeping of large areas to be avoided. • Vehicles entering and leaving sites to be covered to prevent escape of materials during transport. • On-site haul routes to be inspected for integrity and any necessary repairs to the surface undertaken as soon as reasonably practicable. • Inspections of haul routes and any subsequent action to be recorded in a site log book. • Hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. • A wheel washing system to be installed at all site access points (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable). • An area of hard surfaced road to be available between the wheel wash facility		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		and the site exit, wherever site size and layout permits. • Access gates to be located at least 10 m from residential receptors. • Any on-site crushing of materials to be undertaken as far as practicable from the boundary of the Site, to minimise the potential for soiling of property, including vehicles in nearby car parks. Crushing and screening equipment will be subject to regulation under the Pollution Prevention and Control (Scotland) Regulations 2000 (SSI 200/323). Equipment should be designed and operated in accordance with DEFRA's PG Note 3/16 for Mobile Crushing and Screening.		
	Impacts on air quality from construction traffic and NRMM Emissions	The CEMP states the following will be required to be undertaken by the Contractor regarding construction traffic and NRMM emissions: • All contractors to switch off vehicle engines when stationary - no idling vehicles. • The use of diesel or petrol powered generators to be replaced with use mains electricity or battery powered equipment	During construction	CEMP Chapter 11 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		where practicable. • A maximum-speed-limit of 10 mph on haul roads and work areas will apply. NRMM used on site will be fitted with a type approved engine which meets the emission standards set in the Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999 (SI 1999/1053) (as amended). The placement of diesel or petrol powered generators ~~should~~ will consider proximity to nearby receptors and exhausts ~~should~~ will discharge vertically and unimpeded. Based on the plant equipment to be used, engine emissions limits must be established, in consultation with TC.		
	Impacts from operation	The IAQM Minerals Planning Guidance (2016) recommends that minimisation of dust through site design is addressed for each phase of the works operation. The following good practice measures have been included within the scheme design as part of the Operational Management Plan:		The OMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		Operation phase dust emissions • A sufficient water supply to meet the site demand for mitigation and damping through the Drainage Strategy (document reference 6.2 16.E); • An internal road network which minimises haul route distances; • A length of paved road after a wheel or vehicle washer before joining the public highway, where feasible, to reduce the risk of trackout off-site; • A separate paved parking area for off-site vehicles, such as staff cars, with no access to the working areas, to prevent track-out onto the public highway; and • trees and bushes to be retained as far as possible. • For materials handling, the enclosure of transfer points and conveyor discharges from which dust emissions may arise, will be applied as appropriate, for instance where material is dropped or agitated. Drop heights will be minimized where possible. • Processes associated with the CMAT facilities will be controlled and the		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		equipment maintained as appropriate according to the requirements of the environmental permitting regime. The operational dust mitigation measures are set out in an OMP (Document 6.10), which will be secured through the DCO (Document 3.1). **Operation phase odour emissions** • Typically, permit conditions for a roadstone coating plant will require that emissions from the activities are free from odour at levels likely to cause pollution outside the site, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour. • PoTLL would implement an odour management plan which identifies and minimises the risks of pollution from odour if the regulator believed that activities are giving rise to unacceptable odour. **Operation phase transport** • The Framework Travel Plan (document		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		reference 6.2 13.A) and Sustainable Distribution Plan (document reference 6.2 13.B) provide a basis for promoting sustainable travel modes for on-site staff and during operation, such that a modal shift to rail and shipping will be encouraged emissions.		
ES Chapter 19 – Waste and Materials	Impacts from waste during construction, demolition and excavation	The CEMP states the following: • The Contractor must ensure that Waste Electrical and Electronic Equipment produced in the CD&E ~~should be~~is segregated and managed separately from other wastes, with relevant paperwork kept (waste transfer/ consignment notes or an electronic transfer note system). • The Contractor must ensure that all batteries produced in the CD&E ~~should be~~is segregated and managed separately from other wastes. The management processes for batteries and accumulators should be documented. • The Contractor must prepare and maintain a MMP and update the draft SWMP so that waste generation and management can be logged and audited in accordance with the most up to date methodology.	During construction	CEMP Chapter 12 Compliance with the CEMP is secured by a requirement in Schedule 2 to the DCO

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		The Contractor must undertake the following best practice measures: • Design out waste at the initial stage of the project by utilising standardised sizes and materials where possible, and engaging with the designers on the importance of this. This should include working to reduce the wastage rates of the construction waste streams which arise in the greatest quantities and considering options regarding the potential re-use of dredged and excavated material; • Set targets for waste recovery and recycling to enable those working on the project to have a clear understanding of what is expected; • Where practicable, use precast concrete and other materials that can be prepared off site (prior to construction of the concrete manufacturing plant) to minimise waste generation on site; • Not over order materials and using materials brought to site as efficiently as possible; • Organising deliveries so materials arrive on site as they are needed to reduce the possibility of damage and wastage		

(1) Source	(2) Issue	(3) Mitigation or measure to prevent, reduce, offset and minimise impacts	(4) Trigger	(5) Securing mechanism
		occurring; • Having clearly defined and separated skips on site and a clearly demarked waste area(s); and • Training staff to understand how they should sort any waste material and providing regular reminders and updates.		
	Operational impacts on waste	Measures are captured within the OMP and include: • Source segregation of residual and recyclable waste; • Source segregation of hazardous waste; • Development of an environmental management plan or incorporating waste or a standalone operational waste management plan; and • Provision of regular training for staff/sub-contractors.	During operation	Compliance with the OMP is secured by a requirement in Schedule 2 to the DCO