

The Lake Lothing (Lowestoft) Third Crossing Order 201[*]



Lake Lothing
**THIRD
CROSSING**

Document SCC/LLTC/EX/21: Mitigation Route Map Table 1-1

Revision 1

Planning Act 2008

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009**

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Foreword

This document has been produced to address Written Question number 1.9 of the Examining Authority which states:

A Mitigation Route Map [APP-135] has been provided which sets out the proposed controls and mitigation measures which the Applicant considers are necessary. Whilst a range of information is supplied to support such an approach it is deficient in key respects. Mitigation measures proposed need to be cross-referenced to specific provisions/ Requirements within the dDCO and Deemed Maritime Licence (DML). Can the Applicant please provide a summary table for all factors that identifies the receptor, impact, likely effects prior to mitigation, the specific mitigation measure, any residual effects following implementation of the mitigation, and any proposed monitoring that may be necessary?

This document therefore provides an updated version of table 1-1 of the Mitigation Route Map. It identifies the categories of receptors that are assessed within the ES, the impact upon them prior to mitigation, the mitigation that has been proposed, the subsequent residual effect, and any monitoring that has been suggested through the EIA process. In doing so, the table refers back to the application Mitigation Route Map (APP-135) so that the Examining Authority can see how the original has fed through to this updated table.

Included within the table are the categories of receptors that have been considered, although the table has not been, for practical reasons, expanded to consider each individual receptor within that category. For example, Built Heritage is included as a receptor which includes Listed Buildings, Conservation Areas and other locally or non-designated buildings of historic interest rather than the 18 individual assets that have been subject to assessment. For that reason, a range of effects before mitigation and residual effects are presented that covers the range of effects for each individual asset.

RECEPTOR	CONSTRUCTION/OPERATION	LIKELY EFFECTS PRIOR TO MITIGATION	SPECIFIC MITIGATION MEASURES	RESIDUAL EFFECTS	PROPOSED MONITORING	HOW THE MITIGATION/MONITORING IS SECURED
Air Quality						
Air Quality sensitive receptors; including residential receptors and other air quality sensitive buildings and ecological receptors.	Construction	Medium to high risk	<p>Fugitive releases of construction phase dust including particulates such as PM₁₀.</p> <p>Measures including but not limited to:</p> <ul style="list-style-type: none"> Dust generating activities (e.g. cutting, grinding and sawing) to be minimised and weather conditions considered prior to conducting potentially dust emitting activities; Fine material to not be stockpiled to an excessive height in order to prevent exposure to wind and/or dust nuisance; Roads and accesses to be kept clean; Where possible, plant to be located away from site boundaries that are close to residential areas; Water to be used as a dust suppressant, where applicable; Drop heights from excavators to crushing plant to be kept to a minimum; Distances from crushing plant to stockpiles to be kept to the minimum practicable to control dust generation associated with the fall of materials; Skips to be securely covered; Soiling, seeding, planting or sealing of completed earthworks to 	Slight adverse	<p>Monitoring of dust and PM₁₀ monitoring for medium to high risk sites will be implemented and shall include:</p> <ul style="list-style-type: none"> Regular onsite and offsite inspection where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when requested; Increasing the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry and/or windy conditions; Agreeing dust deposition and/or real-time continuous PM₁₀ monitoring locations 	<p>Mitigation secured through the interim CoCP (SCC/LLTC/EX/29) (section 3.2)</p> <p>Monitoring secured through the interim CoCP (section 3.3)</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4.</p>

RECEPTOR	CONSTRUCTION/OPERATION	LIKELY EFFECTS PRIOR TO MITIGATION	SPECIFIC MITIGATION MEASURES	RESIDUAL EFFECTS	PROPOSED MONITORING	HOW THE MITIGATION/MONITORING IS SECURED
			<p>be completed as soon as reasonably practicable following completion of earthworks;</p> <ul style="list-style-type: none"> Dust suppression and the maintenance of the surface of access routes to be appropriate to avoid dust as far as practicable, taking into account the intended level of trafficking; Wheel wash facilities to minimise trackout of dust; Material to not be burnt on site; and Engines to be switched off when not in operation. <p>[Previously MRP Reference Number AQ1]</p> <p>To ensure the mitigation measures in AQ1 are implemented effectively, continually monitored and updated accordingly:</p> <ul style="list-style-type: none"> Appointing a responsible environmental manager; Notification procedures (significant dust generating activities) and method statements for the control of dust and complaint receipt; and Management procedures to 		<p>with the county planning authority in consultation with Waveney District Council, with baseline monitoring taking place at least three months before construction works commence.</p> <p>[Previously MRP Reference Number AQ3]</p>	

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			<p>ensure issues are addressed should they be raised by the public or other complainant.</p> <p>[Previously MRP Reference Number AQ2]</p>			
Air Quality sensitive receptors; including residential receptors and other air quality sensitive buildings and ecological receptors	Operation	Not significant	N/A	N/A	N/A	N/A
Cultural Heritage						
Built Heritage: Listed Buildings, Conservation Areas and non-designated buildings	Construction	Minor/Negligible/No change	<p>42 Waveney Drive (79) will be demolished and this asset will be subject to a programme of building recording in advance of commencement of development.</p> <p>[Not previously referenced in MRP]</p> <p>Indirect effects on the setting of conservation areas, listed buildings and non-designated buildings mitigated through the noise and air quality mitigation measures set out</p>	Slight/Neutral	N/A	This is a requirement of the Written Scheme of Investigation for Evaluation and Mitigation (SCC/LLTC/EX/30), compliance with which is secured through requirement 10 of the DCO.

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			below.			
Built Heritage: Listed Buildings, Conservation Areas and non-designated buildings	Operation	Minor/ Negligible/ No change	Embedded mitigation for the Scheme has been included through the form, aesthetics and landmark nature of the proposed bridge structure. [Previously Part of MRP Reference TVIA1]	Slight/Neutral	N/A	Through compliance with the Design Guidance Manual (SCC/LLTC/EX/17), which is secured through requirement 3 of the DCO.
Archaeological remains	Construction	Slight / Neutral	The mitigation measures are set out in a Written Scheme of Investigation (WSI) for Future Evaluation and Mitigation (APP-179) and include: preservation of archaeological, built heritage and historic landscape assets in-situ; investigations such as geophysical survey, trial trenching, shovel test pitting, controlled site stripping, building recording; a preservation by record of heritage assets involving part or all of the following: topographic survey, excavation and recording, detailed measurement, mapping and photographic recording of heritage assets and their setting; and interpretation and dissemination of information gathered as a result of any of the above to ensure that knowledge of heritage assets of local, regional, national or international significance is preserved or enhanced. [Previously	Slight / Neutral	The WSI includes requirements for monitoring, such as during trial trenching.	This is a requirement of the Written Scheme of Investigation for Evaluation and Mitigation (SCC/LLTC/EX/30), compliance with which is secured through requirement 10 of the DCO.

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			MRP Reference Number CH1]¹.			
Archaeological remains	Operation	N/A	N/A	N/A	N/A	N/A
Historic landscapes	Construction and Operation	Negligible	N/A	Negligible	N/A	N/A
Townscape and Visual Impact						
Townscape Character and Visual amenity	Construction	Moderate adverse / slight adverse / Neutral	No specific mitigation measures considered necessary.	N/A	N/A	N/A
Townscape Character and Visual amenity	Operation	Moderate adverse / Slight adverse / Neutral / Slight Beneficial	<p>The Scheme has been designed to provide an enhancement of the crossing of Lake Lothing and setting of the surrounding townscape through the form, aesthetics and landmark nature of the proposed bridge structure.</p> <p>The design has followed a 'marine tech' theme. A development of the rolling bascule bridge has led to a striking design, as has been recognised by CABE.</p> <p>Design for the control tower is aimed at complementing the existing buildings within the townscape setting,</p>	Slight adverse, neutral, slight beneficial (Year 10 after opening).	N/A	Through compliance with the Design Guidance Manual (SCC/LLTC/EX/17), which is secured through requirement 3 of the DCO.

¹ Please note that further to agreement with SCC's archaeological advisor and Historic England, reference to a trial pits (MRP Reference CH2) is no longer required (see SoCG submitted pre-Examination (AS-007)).

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			<p>ensuring that this does not detract from the design of the main bridge; and landscape design (see Figure 5.7 of the ES) has encompassed the tie-in for the northern approach with the existing townscape through the proposed formation of sensitively landscaped areas with associated links for Non-Motorised Users (NMUs).</p> <p>[Previously MRP Reference Number TVIA1].</p>			
Nature Conservation						
<i>Species</i>						
Bats	Construction	Slight adverse	<p>Pre-construction surveys shall be undertaken on any building with the potential for roosting bats that could be disturbed during construction to ascertain whether they have colonised since the surveys that have informed the ES [Previously MRP Reference Number NC4].</p> <p>To minimise the risk of effects on foraging and commuting bats, the use of artificial lighting during construction will be kept to a minimum. Where temporary artificial lighting is used, only the immediate area of works shall</p>	Neutral	N/A	<p>Mitigation secured through the interim CoCP (paragraphs 4.3.1 and 4.3.2)</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p>

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			be illuminated by using as sharp a downward angle of lighting as possible and avoid light being directed at, or close to adjacent vegetation. Shields or hoods shall be used to control or restrict lightspill outside the area to be lit. Specialist advice from the EoCW shall be sought on all temporary lighting proposals prior to installation [Previously MRP Reference Number NC5] .			
	Operation	Neutral	N/A	Neutral	N/A	N/A
Breeding birds including black redstart and peregrine.	Construction	Slight adverse	Breeding Birds - In order to minimise the risk of disturbing breeding birds, the removal of woody vegetation will be undertaken outside of the breeding season (typically March to July inclusive) wherever practical. If tree and vegetation removal has to take place within this period, the vegetation will be checked prior to removal for the presence of nests by an appropriately experienced ecologist. If nests that are in use are present, it may be necessary to delay work in immediate proximity to the nest until the young have fledged [Previously MRP Reference Number NC6] .	Neutral	Black redstart - A watching brief for the presence of the species will be maintained throughout the construction period by the ECoW. Should black redstart be present, specialist advice from ECoW shall be sought to take appropriate action in the interests of its protection [Previously MRP Reference Number NC9] . Peregrine - The ECoW will maintain a watching brief to ensure that no adverse effects occur to peregrine [Previously MRP	Mitigation secured through the interim CoCP (paragraph 4.3.3). Monitoring secured through the interim CoCP (paragraph 4.3.4). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4.

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					Reference Number NC10].	
	Operation	Neutral	N/A	N/A	N/A	N/A
Reptiles	Construction	Slight adverse	To ensure that individual reptiles are not affected during the works, precautionary measures shall be undertaken and shall ensure that reptiles will be excluded from the proposed works area through habitat manipulation and natural refugia removal. Habitat manipulation involves strimming the vegetation within the works area prior to commencement of works to reduce the vegetation to a sward height that would encourage reptiles to move offsite and into adjacent areas (this shall be undertaken when reptiles are active, i.e. between mid-April to mid-October when the temperature is at least 12°C), strimming cuts vegetation to a height of approximately 150mm to avoid reptiles present and shall be completed in phases ensuring that all clearance works shall be carried out using hand tools. [Previously MRP Reference Number NC1].	Neutral	Works are supervised by Ecological Clerk of Works [Previously MRP Reference Number NC1].	Mitigation secured through the interim CoCP (paragraph 4.3.6 – 4.3.8). Monitoring secured through the interim CoCP (paragraph 4.2.1). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4.
	Operation	Neutral	To support mitigation measures specified in NC1, areas of habitat creation for reptiles shall be provided	Slight beneficial	N/A	Ecological area shown on Landscaping Plans (SCC/LLTC/EX/19).

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			<p>within the land. This will include artificial hibernation sites (hibernacula) created using site won materials, such as felled timber, brash, tree roots and inert rubble. These materials may be covered in soil and grass so as not conflict with the aesthetics of landscaping proposals. Hibernacula shall be located away from the footpath/cycle lane so as to minimise risk of disturbance [Previously MRP Reference Number NC2].</p> <p>Areas of exposed substrate explained in NC1 and NC2 shall be included within the landscape design of the Scheme for the benefit of reptiles. In combination with provision of a structurally varied vegetation, this will help to provide a mosaic of habitats suitable for use by reptiles [Previously MRP Reference Number NC3].</p>			<p>Requirement 5 (landscaping) requires details of landscaping scheme to be approved by county planning authority. Requirement provides that this scheme must be in general accordance with the Landscaping Plans, and that in any event, the landscaping scheme to be approved must include details of the ecological areas to be provided.</p>
Terrestrial Invertebrates	Construction	Slight adverse	Five-Banded Weevil-Wasp - The land required for construction purposes only which supports habitat for the five-banded weevil-wasp (see Figure 5.6) must be reinstated post construction to be suitable for use by this species [Previously MRP	Slight adverse	N/A	<p>Mitigation secured through the interim CoCP (paragraph 4.3.9).</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4.</p>

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			Reference Number NC11].			
	Operation	Slight adverse	N/A	N/A	N/A	N/A
Marine Invertebrates	Construction	Slight adverse	Control measures shall be implemented within the full CoCP to prevent the spread of the following invasive species: <ul style="list-style-type: none"> • <i>Theora lubrica</i>; • <i>Austrominius modestus</i>; • <i>Hydroides ezoensis</i>; • <i>Bugula neritina</i>; • <i>Asciidiella aspersa</i>. [Previously MRP Reference Number NC12 – now updated to include additional species following MMO comments].	Neutral		Mitigation secured through the interim CoCP (section 4.4). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4
	Operation	Neutral	N/A	N/A	N/A	N/A
Fish (general i.e. other than eel).	Construction	Neutral	N/A	N/A	N/A	
Eel	Construction	Neutral	All piling operations in Lake Lothing will have a 'soft start' that will gradually increase noise to encourage noise sensitive species to move away from the area. [Not previously in MRP].	Neutral	N/A	Secured through the DML (Schedule 12 of the DCO).
	Operation	Neutral	N/A	N/A	N/A	N/A
Other Species		Neutral	Marine mammals - Construction methods will follow the Statutory	Neutral	Hedgehogs - A watching brief shall be maintained	Mitigation secured through the interim CoCP (paragraph 4.4.2).

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			Nature Conservation Agency (SNCA) protocol (a document produced by Natural England, The Countryside Council for Wales and the JNCC) for minimising the risk of injury to marine mammals including harbour porpoise from piling noise [Previously MRP Reference Number NC8].		during the vegetation clearance works to protect individual hedgehogs that may be present [Previously MRP Reference Number NC7] Works are supervised by Ecological Clerk of Works [Previously MRP Reference Number NC1].	Monitoring secured through the interim CoCP (paragraph 4.3.10 and 4.2.1). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4.
	Operation	Neutral	N/A	N/A	N/A	N/A
Schedule 9: Invasive Species	Construction	Moderate adverse	Japanese Knotweed - Schedule 9 Invasive Species. The CoCP shall include measures to control Japanese knotweed within the Order limits and measures to minimise the risk of its spread, in line with the guidance recommended by the Environment Agency. Details of the specific measures to be implemented will be specified in the full CoCP. Measures to restrict the spread of Wakame during the construction of the Scheme shall be included within any relevant CoCP [Previously MRP Reference Number NC13].	Moderate beneficial	N/A	Mitigation secured through the interim CoCP (paragraphs 4.3.11 and 4.3.12). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4
	Operation	Neutral	N/A	Moderate beneficial	N/A	N/A
<i>Habitats</i>						

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Including, amenity grassland, hard standing, tall ruderal, unimproved neutral grassland, standing/tidal water and benthic.	Construction	Neutral	N/A	Neutral	N/A	N/A
	Operation	Neutral	N/A	Neutral	N/A	N/A
Geology, Soils and Contamination						
Geology and Soils	<p>Construction</p> <p>Impacts upon soils and geology in the operational phase is scoped out of the assessment.</p>	Neutral	<p>The Scheme shall adhere to pollution prevention guidance and best practice during the construction works [Previously MRP Reference Number GSC1].</p> <p>Good working practices and housekeeping during construction such as sealing or covering stockpiles of contaminated soils and treating water removed from excavations prior to discharge shall be undertaken to reduce the environmental risks [Previously MRP Reference Number GSC2].</p> <p>Piling for the Scheme must be carried out utilising the conventional method to include:</p>	Not significant	<p>The Contractor must maintain a watching brief during the works (excavation and piling in particular) to identify any unforeseen potential contamination.</p> <p>[Not previously identified in MRP]</p>	<p>Mitigation secured through the interim CoCP (section 5).</p> <p>Monitoring secured through the interim CoCP (paragraph 5.2.2).</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p> <p>Process of dealing with unexpected contaminated land secured through DCO Requirement 8.</p>

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			<ul style="list-style-type: none"> • placing steel casing in the upper portions of ground to provide support followed by drilling or augering within the casing to the required pile base level, utilising either a bentonite slurry or polymer to ensure stability of the pile bore and to minimise the risk of contaminants migrating downwards during excavation. • bringing all arisings including any potentially contaminated soils to the surface (and placing them on an impermeable membrane, if necessary) and allowing transfer to appropriately licensed waste disposal facilities. • positive hydrostatic pressure of the concrete to prevent voids and pathways being created along the soil/ concrete interface. [Previously MRP Reference Number GSC3 – first paragraph amended to reflect updated CoCP]. <p>The Contractor will develop method statements and risk assessments for the various construction activities to manage risks to human health [Previously MRP Reference Number</p>			

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			<p>GSC7].</p> <p>The Contractor must include in any relevant CoCP, where relevant, having regard to information on ground conditions, measures to mitigate potential impacts from ground conditions on the proposed infrastructure, such as chemical resistant water pipes. [Previously MRP Reference Number GSC8].</p> <p>Structures such as concrete foundations shall be designed accordingly so that onsite infrastructure shall not be impacted by the geology and soils during the operational phase, such as introducing new contamination pathways through piled foundations [Previously MRP Reference Number GSC10²].</p> <p>Guidance should be sought from the county planning authority about the publication of locations of asbestos or other contaminated material which could be considered sensitive</p>			

² There were two references to GSC10 in the Mitigation Route Map and the second of these should logically have been numbered GSC10.

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			<p>information, before preparing a relevant CoCP.</p> <p>Notwithstanding the testing which may be required the Contractor will undertake testing of all excavated soils. The Generic Assessment Criteria (GAC) will be used to identify their suitability for re-use on site.</p> <p>All site won topsoil, or topsoil brought to site, will be tested prior to use as required by BS3882.</p> <p>[Not previously in MRP]</p> <p>A process of investigation and risk assessment, remediation if considered necessary and a verification report, shall be followed in the event that contaminated land, including groundwater, which was not previously identified in the ES is found at any time when carrying out the authorised development.</p> <p>[Not previously in MRP]</p>			

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Water Environment	Construction	Neutral	<p>Silt pollution. The silt pollution caused by working within Lake Lothing shall be minimised by keeping water out of the works area using appropriate isolation techniques, such as cofferdams, pile jackets, by-pass channels, silt curtains or the use of special excavation plant [Previously MRP Reference Number GSC4].</p> <p>Water removed from any excavations shall be disposed of in accordance with Environment Agency requirements [Previously MRP Reference Number GSC5].</p> <p>During construction, any soil stockpiles shall be located away from Lake Lothing and shall be sealed and if necessary covered to minimise runoff during heavy rainfall [Previously MRP Reference Number GSC6].</p> <p>A suitable drainage system shall be incorporated into the proposed scheme to mitigate to acceptable levels the risk of contamination that could arise from traffic emissions entering the water environment (see ES, Chapter 17 Water Environment) [Previously MRP Reference Number GSC9].</p>	N/A	N/A	<p>Silt mitigation secured through the interim CoCP (paragraph 8.1.5 bullet point 4 and 8.1.6-8.1.8)</p> <p>Methods of Water removal secured through paragraph 8.1.7 of the CoCP and the operation of the EA's Protective Provisions.</p> <p>Soil stockpile locations and covering secured through paragraph 8.1.5 bullet points 5 and 10 of the interim CoCP.</p> <p>DCO requirement 6 requires surface water drainage system to be approved by the county planning authority. The requirement requires that the drainage system put forward must be in accordance with the drainage strategy (SCC/LLTC/EX/39), which includes measures to mitigate the risk of contamination.</p>

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Site Users and Adjacent Site Users including Construction Workers	Construction	Neutral	<p>Due to the presence of asbestos within the made ground, a potential contaminant linkage through inhalation of dust is likely to be present. In addition, slightly elevated lead, polyaromatic hydrocarbons and pH were identified in the soils although these are minor exceedances. In presenting its full CoCP for approval, the Contractor should set out if its construction methodology requires (or if it does not, why not):</p> <ul style="list-style-type: none"> • further assessment of the locations where asbestos was recorded and if necessary excavation of those areas if they are to be located in landscaping areas, and/or • placement of an inert subsoil and topsoil capping with a geotextile membrane within landscaping areas to break the pathway between the contaminants and the receptors [Previously MRP Reference Number GS10]. 	N/A	N/A	<p>Monitoring secured through the interim CoCP (paragraph 5.2.5).</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p>
Site Users and Adjacent Site Users	Operation	N/A	N/A	N/A	N/A	N/A
Noise and Vibration						
Noise	Construction	Major /	The Contractor shall implement and	Major /	Noise monitoring and	Mitigation and Monitoring secured

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Sensitive Receptors During Construction; residential properties and other noise sensitive buildings.		Moderate / Negligible	<p>control noise emissions from the construction site through the following measures to be put forward in an application for a section 61 consent:</p> <ul style="list-style-type: none"> • Arrangements for communicating construction details, and likely noisy activities, with local communities and residents, including points of contact and initiatives that could include one or more of leaflet drops, posters, public meetings, exhibitions and guided site visits. These requirements will be addressed as part of wider communications through the stakeholder and community engagement plan; · • Detailed methodologies for each construction activity (to the extent that they are relevant to the control of noise); · • Detailed timescales for each phase of construction (to the extent that they are relevant to the control of noise); · • Identification of the construction activities likely to generate the highest levels of noise, based on working areas; 	Moderate / Negligible	<p>reporting procedures to form part of application for section 61 consent</p> <p>[Previously part of MRP reference number NV1, amended to take account of updated CoCP].</p>	<p>through the interim CoCP (part 6).</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p>

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			<ul style="list-style-type: none"> • Prediction of noise levels from these activities following methods given in BS 5228-1; · • Identification, in consultation with WDC, of appropriate hours of working and construction noise limits; · • An assessment of predicted impacts against the agreed construction noise limits; · • Identification of appropriate noise mitigation measures; and · <p>[Previously MRP Reference Number NV1 amended to take account of updated CoCP].</p> <p>Noise mitigation measures shall include the implementation of Best Practicable Means (BPM). These shall be finalised in detailed design as part of a noise and vibration management plan : ·</p> <ul style="list-style-type: none"> • Provision of contact details for a site representative so that noise and vibration complaints arising from construction works are dealt with pro-actively and that subsequent resolutions are communicated to the 			

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			<p>complainant; ·</p> <ul style="list-style-type: none"> • Careful planning of construction activities and selection of plant to reduce noise emissions; · • Acoustic hoarding to a specification appropriate to the construction methodology utilised; • Locating static noisy plant in use as far away from NSRs as is feasible for the particular activity; · • Using suitable equipment and ensuring such equipment is properly maintained and operated by trained staff; · • Using silenced equipment where reasonably practicable, in particular silenced power generators if night-time power generation is required for site security or lighting; · • Ensuring that vehicles and mobile plant are well maintained such that loose body fittings or exhausts do not rattle or vibrate; · • Engine compartments should be closed when equipment is in use and the resonance of body panels 			

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			<p>and cover plates reduced through the addition of suitable dampening materials; ·</p> <ul style="list-style-type: none"> • Ensuring plant machinery is turned off when not in use; · • Ensuring that vehicles do not park or queue for long periods outside NSRs with engines running unnecessarily; · • Generators and water pumps required for 24-hour operation should be silenced and/or screened as appropriate; · • Crane spindles, pulley wheels, telescopic sections and moving parts of working platforms should be adequately lubricated in order to prevent undue screeching and squealing; and • Where possible, the use of mains electricity rather than generators [Previously MRP Reference Number NV2 updated to reflect updated CoCP]. <p>Where works are necessary outside standard hours, the use of silenced equipment and plant is proposed, or temporary barriers installed in order to</p>			

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			reduce noise at NSR below BS 5228-1 threshold values where practicable [Previously MRP Reference Number NV3].			
Noise Sensitive Receptors During Operation; residential properties and other noise sensitive buildings	Operation	Negligible, minor, moderate, major	Impacts of road traffic noise cannot be mitigated as significant effects arise due to the change in flow upon existing highway where the inclusion of mitigation measures such as acoustic barriers is unfeasible. N/A	Negligible, minor, moderate, major	N/A	N/A
Materials during construction (operational impacts upon materials was scoped out of the ES)						
Depletion of natural resources including waste arisings	Construction	Negligible for natural resources used and slight adverse for waste arisings	The Contractor will be required to dispose of waste in accordance with the waste hierarchy, which is to consider waste management in the following order: prevention; preparing for reuse; recycling; other recovery, including energy recovery; and disposal [Previously MRP Reference Number M1]. To follow waste management as set out in M1, the Contractor will consider how to deliver the Scheme through reduced raw materials costs; reduced waste destined for landfill; reduced	Negligible for natural resources used and slight adverse for waste arisings	N/A	Mitigation secured through the interim CoCP (part 7). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4

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			<p>waste disposal costs; and meeting of the legislative requirements [Previously MRP Reference Number M2].</p> <p>Material will be met from the following in order of priority: on site reuse/recycled; off-site reuse/recycled; and new materials [Previously MRP Reference Number M3].</p> <p>The material shall be segregated by recyclable waste materials at source and provide suitable storage on site within the construction compounds where wood, metal, plastic and contaminated packaging can be source segregated to maximise the opportunity for reducing the amount of waste that needs to be disposed [Previously MRP Reference Number M4].</p> <p>The Contractor will prepare a SWMP as part of any relevant CoCP [Not previously mentioned in MRP].</p>			
Embodied Carbon Emissions	Construction	Negligible	As above [MRP Reference Numbers M1, M2, M3 & M4].	N/A	N/A	<p>Mitigation secured through the interim CoCP (part 7).</p> <p>Development to be carried out in</p>

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						accordance with interim CoCP secured through DCO Requirement 4
Private Assets						
Private Assets (excluding port operations)	Construction	N/A	<p>Network Rail: A clearance of 4.98m over the East Suffolk Line has been agreed with Network Rail and is provided for within the Reference Design. The Contractor must not restrict use of the East Suffolk at all times, except when possession of the line is required to facilitate construction of the bridge over it. Such possession must be notified in advance to Network Rail. There may be a need for an infrequent possession of the railway line during the operational phase for maintenance of the Scheme, though these will be rare occasions and agreed with Network Rail in advance [Previously MRP Reference Number PA2].</p> <p>Access to businesses: Access from the public highway to Nexen Trucks, Motorlings and affected residences to be maintained during the construction of the Scheme save for exceptional circumstances. Parties must be notified in advance of any need to limit</p>	Substantial adverse / Moderate adverse / Slight adverse / Negligible	N/A	<p>Protection for Network Rail, utilities and statutory undertakers is provided through the operation of their protective provisions within the DCO.</p> <p>Continued access mitigation save in exception circumstances secured through the interim CoCP (para 2.6.1).</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p>

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			<p>access, and for what duration. [Previously MRP Reference Number PA3, updated to reflect updated CoCP].</p> <p>Utility and statutory undertakers. There are statutory undertakers within the Order limits whose services will need to be diverted during the construction of the Scheme. [Previously MRP Reference Number PA4].</p>			
	Operation	Negligible	N/A	Negligible ³	N/A	N/A
Port Operations	Construction	Slight adverse	<p>Associated British Ports (ABP). The navigation channel shall be maintained at all times, except when a possession of the entire channel or a restriction on navigation is required to facilitate construction. Such occasions will be notified in advance with ABP pursuant to article 20 of the DCO. The access shall be maintained for port operations at all times, except by agreement with ABP. This access will</p>	Slight adverse	N/A	<p>Through the protective provisions of ABP in the DCO ABP will be able to approve the possession and acquisition of land, construction methodologies and bridge design to the extent that it affects their undertaking as the Statutory Harbour Authority. Article 5 (limits of deviation) also ensures that no works in the lake can be constructed between the</p>

³ Where a private asset is to be lost during the construction of the Scheme this has not been assessed in the operational phase. The ES presents this as an 'overall' effect.

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			allow all likely plant and vehicle movements to take place [Previously MRP Reference Number PA1].			bridge fenders and the quay walls. Access to the navigation channel secured through the interim CoCP (para 2.5.1). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4
	Operation	Slight adverse	N/A	Slight adverse	N/A	N/A
Socio-Economics including Recreation						
Procurement	Negligible	Not significant	Procurement. Embedded mitigation for the Scheme, will be provided through SCC's Social Value and Sustainable Procurement Policy (SPP). The Contractor shall be required to adhere to these requirements. Similarly, the contract shall be assessed in accordance with Procurement Policy Note (PPN) 09/16 which is a government policy for the procurement of public works such as the Scheme [Previously MRP Reference Number SER1].	N/A	N/A	The Applicant's status as part of SCC and as a public body means that the relevant procurement policies apply to it.
Supply chain	Minor beneficial	Not significant	Supply Chain. SCC shall require tendering contractors to detail how they will engage local suppliers and	N/A	N/A	The Applicant's status as part of SCC and as a public body means that the relevant procurement

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			labour. This shall include the requirement for a supplier event where local suppliers will be able to meet the contractor to discuss its sub-contracting requirements [Previously MRP Reference Number SER2] .			policies apply to it.
Employment and skills	Negligible	Not significant	Employment and Skills. SCC shall require bidders to detail what their commitment to skills/training will be and how it shall be continued down the supply chain. This shall follow government guidance within PPN 14/15 i.e. include information on the number of apprenticeships the contractor shall create and community initiatives they shall implement [Previously MRP Reference Number SER3] .	N/A	N/A	The Applicant's status as part of SCC and as a public body means that the relevant procurement policies apply to it.
Outcome benefits	Negligible	Not significant	N/A	N/A	N/A	The Applicant's status as part of SCC and as a public body means that the relevant procurement policies apply to it.
Recreational marine users	Construction	Minor adverse	N/A	Minor adverse	N/A	
	Operation	Moderate adverse	Pontoon. A pontoon shall be provided to allow recreational vessels to moor should they need to wait for a bridge opening. This pontoon constitutes essential embedded mitigation that	Moderate adverse	N/A	Requirement 9 of the dDCO provides that the new bridge must not be opened for traffic until the mooring has been made available for use by recreational vessels.

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			has been provided following consultation with the Navigation Working Group [Previously MRP Reference Number SER4].			
Road Drainage and the Water Environment						
Lake Lothing	Construction	Slight adverse / Neutral	<p>For the construction of the pontoon capital dredging will be required within a region of Lake Lothing which is not currently subject to maintenance dredging, although it is within the area for which ABP has a licence to dredge. This will mobilise previously undisturbed sediments; the level of contaminants associated with the sediment in the region of the pontoon is consistent with that of regularly dredged sediments. Removed sediment will be disposed of at sea in line with the current practice for dredged sediments at this site and subject to approval by the MMO through the operation of the DML [Previously MRP Reference Number RWD2].</p> <p>Standard good practice pollution prevention measures must be implemented in construction. This must include, unless not relevant to the Contractor's construction methodology;</p>	Slight adverse / Neutral	A programme of water quality monitoring on Lake Lothing, upstream and downstream of the working corridor shall be implemented throughout the construction phase, beginning at least 6 months prior to construction. (Previously MRP Reference Number RWD4)	<p>Control of the disposal of sea is dealt with in the DML. The DML also requires MMO approvals of method construction method statements (including for dredging) and a marine pollution contingency plan.</p> <p>Mitigation secured through the interim CoCP (para 8.15).</p> <p>Monitoring secured through the interim CoCP (para 8.1.8) and the operation of the Environment Agency's Protective Provisions in the DCO.</p> <p>Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4</p>

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			<ul style="list-style-type: none"> • Installation of oil absorbent booms, as appropriate, on the surface watercourses immediately downstream of the works area, which shall be regularly inspected and maintained; · • temporary cut-off drains shall be used uphill and downhill of the working areas to prevent clean runoff entering and dirty water leaving the working area without appropriate treatment; · • sediment laden water generated on site shall be appropriately treated before discharge (this may be through the use of silt fences, silt traps, filter bunds, settlement ponds and/or proprietary units such as a 'siltbuster'); · control and treatment measures shall be regularly inspected to ensure they are working effectively; local weather forecasts shall be monitored and works scheduled accordingly, in particular earthworks and in-stream works shall be stopped during storm events; · 			

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			<ul style="list-style-type: none"> • emergency response plans will be developed and spill kits made available on site; • Stockpiling, oil storage and refuelling areas to be located at least 10m from watercourses identified in Figure 17.3 of the ES, and at a greater distance where possible; · • fuels and potentially hazardous construction materials will be stored in bunds that have areas with external cut-off drainage; · • fuel will be stored in double skinned tanks with 110% capacity; fuelling and lubrication of construction vehicles and plant will generally be on hardstandings, where reasonably practical, with appropriate cut-off drainage and located away from watercourses <p>[Previously MRP Reference Number RWD3. Reference to 'vegetated strips' in previous version removed as not relevant to the Scheme].</p> <p>The following shall be implemented through CoCP: ·</p>			

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			<ul style="list-style-type: none"> Drip trays shall be used during any emergency maintenance/ in the event of plant breakdown and spill kits to be available on site; · construction plant shall be checked regularly for oil and fuel leaks, particularly when construction works are undertaken in or near the existing site waterbodies; waste fuels and other fluid contaminants shall be collected in leak-proof containers prior to removal from site to an approved recycling processing facility. · Sewage generated from site welfare facilities shall be disposed of appropriately. This may be by discharge to the foul sewer or by collection in septic tank for disposal off site. · <p>[Previously MRP Reference Number RWD4].</p>			
Lake Lothing	Operation	Neutral	<ul style="list-style-type: none"> Provision of vegetated ponds which remove hydrocarbons, soluble metals, sediment and sediment-bound pollutants from road drainage discharges whilst 	Neutral	N/A	DCO requirement 6 requires surface water drainage system to be approved by the county planning authority. The requirement requires that the drainage system put forward must be in accordance with

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			attenuating flow; · <ul style="list-style-type: none"> Other flow attenuation systems; · Lined ponds to prevent historic ground contamination from polluting the water within the ponds; · Oil interceptors included for all outfalls; and · Three penstocks to cater for accidental spillage scenarios. [Previously MRP Reference Number RWD1].			the drainage strategy (SCC/LLTC/EX/39), which includes provision for these measures.
Kirkley Stream	Construction and Operation	Slight adverse / Neutral	Same as above [Previously MRP Reference Numbers RWD1, RWD2, RWD3 & RWD4].	Slight adverse / Neutral		As above.
Groundwater	Construction and Operation	Slight adverse / Neutral	Same as above [Previously MRP Reference Numbers RWD1, RWD2, RWD3 & RWD4].	Slight adverse / Neutral		As above.
Flood Risk						
Surrounding Road Infrastructure and road users	Construction	N/A	Embedded mitigation in the form of removable walls to the cofferdam will be employed that will sacrificially flood the cofferdam in the event of a flood event exceeding the height of the quay wall, or adopt an alternative solution which achieves the same	Negligible	N/A	Mitigation secured through the interim CoCP (paragraph 9.1.6). Development to be carried out in accordance with interim CoCP secured through DCO Requirement 4

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			result of a negligible loss of storage within Lake Lothing during such an event [Previously MRP Reference Number FR2 updated to reflect updated CoCP].			
	Operation	N/A	In order to avoid an increase in surface water runoff above the greenfield runoff rate from the Scheme site during the operational phase the attenuation of surface water will be provided by a combination of buried tanks and ponds. A Drainage Strategy (see EAS, Appendix 5A) has been prepared for the Scheme that provides details of the attenuation required as part of the Scheme [MRP Reference Number [Previously MRP Reference Number FR1].	Negligible	N/A	DCO requirement 6 requires surface water drainage system to be approved by the county planning authority. The requirement requires that the drainage system put forward must be in accordance with the drainage strategy (SCC/LLTC/EX/39), which includes measures for attenuation.
Traffic and Transport						
Transport and traffic	Construction	Scoped out due to number of HGV movements	N/A	N/A	N/A	N/A
	Operation	Major ⁴	It is noted that the Scheme is likely to have some temporary impacts on the	Major adverse,	As per the mitigation measures.	Mitigation measures secured through requirement 12 of the

⁴ By definition of having an RFC of >0.85 which is increased, or by being over 0.9

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			<p>local road network especially during construction phase, however it is also noted that once in operation, the Scheme is considered to be a mitigation for existing traffic problems within Lowestoft as it will open up a third crossing of the Lake offering a wider variety of route choice and thereby reducing traffic on existing routes. The implementation of the Scheme will therefore reduce congestion in the town, provide greater journey time reliability for public transport, and increase connectivity for pedestrians and cyclists. The Scheme will act to reduce congestion on the local network including Mutford Bridge and the A47 Bascule Bridge.</p> <p>[Previously MRP Reference Number T1]</p> <p>Junction 7 – B1531 Victoria Road / B1531 Waveney Drive / Kirkley Run Mini Roundabout</p> <ul style="list-style-type: none"> Advanced traffic signal on Waveney Drive arm in 2022 · Full signalisation in 2037 if proven necessary following monitoring. <p>Junction 8a, 8b and 8c – A12 Tom</p>	<p>significant beneficial or not significant .</p>		<p>DCO. Monitoring would be carried out by SCC as highway authority.</p>

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			<p>Crisp Way / Blackheath Road signalised junction</p> <ul style="list-style-type: none"> • Introduction of MOVA urban traffic control system in 2022, and further monitoring of junction performance following this. <p>Junction 14 – A1117 Normanston Drive / A1117 Peto Way roundabout</p> <ul style="list-style-type: none"> • Minor geometric improvements to Peto Way to provide additional entry capacity. <p>Junction 21 – A1117 Millennium Way / B1074 Somerleyton Road Signalised Junction</p> <ul style="list-style-type: none"> • Additional entry lane on Somerleyton Road in 2037, if proven necessary following monitoring. <p>[Previously MRP Reference Number T2]</p>			