

National Grid

Cable Tunnel Replacement
Project

Environmental Statement
Volume V

Chapter 24 Summary

December 2023



Quality information

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24 Summary

24.1 Overview

- 24.1.1 This chapter of the Environmental Statement (ES) summarises the results of the Environmental Impact Assessment of the construction and operation of the Tilbury to Grain and Tilbury to Kingsnorth (TKRE) Cable Tunnel Replacement Project (hereafter the Proposed Development).
- 24.1.2 The assessment of the potential residual effects has been predicted after due consideration of those embedded and additional mitigation (where appropriate) that have been developed and committed to at this stage, as identified in each technical chapter.
- 24.1.3 Table 24-1 summarises the significant residual environmental effects for Tilbury and Table 24-2 for Gravesend, split by each technical topic.

Table 24-1: Summary of Environmental Impact Assessment - Tilbury

ES Chapter reference	Summary of Environmental Impact Assessment	Summary of Likely Significant Effects
Chapter 7: Biodiversity - Tilbury	The Proposed Development is situated approximately 1.3km south-east (southern bank of Thames) and 1.9km east (northern bank of Thames) of the Thames Estuary & Marshes Special Protection Area (SPA) and Ramsar site, and the Mucking Flats & Marshes Site of Special Scientific Interest (SSSI). The Tilbury Power Station Local Wildlife Site is partly within the Tilbury site. All widespread reptile species are known to occur at Tilbury. Ornithology surveys have recorded gadwall; little egret; avocet; whimbrel; black tailed godwit; dunlin; and redshank. There are no badgers setts at Tilbury, but they are known to be active in the local area. No bats, great crested newts, otter/water vole were recorded at Tilbury. Invertebrate surveys at Tilbury undertaken in 2023 identified a total of 334 species of which 35 are regarded as 'key species'. This is a high total species list for a three visit survey, substantially higher than average, and suggests that the Tilbury survey area is a very diverse site for invertebrates. However, there is considerable variation in importance between areas, with some of very high importance (in particular the tall fescue dominated areas) and others of much lower importance. Russian olive (<i>Elaeagnus angustifolia</i>), an invasive non-native plant species (not subject to legal constraints but invasive species in nature) is present. The design of the Proposed Development has sought to minimise impacts on both the existing Tilbury Power Station LWS and the proposed extension to the Mucking Flats and Marshes SSSI, through targeting the construction and storage activities to areas of existing hard-standing. Spoil created by the tunnelling process will be disposed of by barge utilising either an existing berth at the Port of Tilbury or the existing Inglebourne Valley jetty to the south-east of the proposed Tilbury SEC. This will minimise the potential for adverse impacts on both marine receptors and bird populations utilising the River Thames estuary through use of existing shipping routes and no requirement to construct a new project specific jetty. The potential impacts from the construction phase of the Proposed Development considered in the assessment included habitat loss/gain/degradation, species mortality, species disturbance/displacement, fragmentation/ connectivity of population or habitats and the introduction of will include habitat loss from non-statutory designated sites. The potential impacts from the operational phase of the Proposed Development considered habitat degradation/disturbance from operational lighting only. It was identified that additional mitigation would be required to mitigate and compensate for potential impacts on terrestrial invertebrate populations, in particular the tall fescue planthopper. Tall fescue tussocks will be translocated from the affected areas between mid-July and end of August. Once construction is complete these tussocks and associated soil will be transferred to the area of hardstanding surrounding the proposed Tilbury SEC and utilised to provide enhancement of the habitats to be created in these areas. In summary, there would be no likely significant residual effects on ecological receptors during either the construction or operational phases of the Proposed Development.	No likely significant effects
Chapter 8: Landscape and Visual - Tilbury	The Proposed Development is situated in the immediate context of the existing TKRE 400 kV cable and infrastructure. It is also situated within the industrial landscape of this area of the River Thames and the associated heavy industrial sites at	No likely significant effects

ES Chapter reference	Summary of Environmental Impact Assessment	Summary of Likely Significant Effects
	Tilbury. The Proposed Development site at Tilbury is adjacent to industrial areas and is therefore likely to be perceived as part of, and an extension to, this existing industrial landscape. Construction would be short-term, reversible and occur in a wholly industrialised context. No landscape elements of value would be lost as a result of the construction, with effects being temporary and of negligible effects. Construction of above ground infrastructure/overhead cables would result in a minor to negligible effect in the view for the majority of potential viewers, including the most sensitive groups of residents in Tilbury/Gravesend, and recreational receptors. Viewers in proximity to the site at Tilbury would be limited in number and experience the additional infrastructure in the context of more prominent industrial elements, limiting the magnitude of change and resulting effect. Receptor groups using this section of the River Thames are likely to view the site within the wider industrial context of the area. Similarly, in operation the effects on landscape character would be negligible. Any change in character would be small scale and with a localised geographical extent of influence. It would involve no loss of landscape elements of value and occur within the existing context. The net loss of two OHLs and reinstatement of priority habitat type would be negligible beneficial. Once operational the Proposed Development would result in a barely perceptible change in the view for the majority of potential viewers and would be perceived as part of, and an extension to, this existing industrial landscape. Residual effects on visual amenity would be negligible adverse or neutral. Once established the network of drainage channels, marshland habitat improvements and scrub planting would provide increased landscape connectivity and habitat improvement to the local landscape character and visual amenity. In summary, there would be no likely significant landscape or visual effects during either the construction or operational phases of the Proposed Development.	
Chapter 9: Historic Environment - Tilbury	The historic environment desk-based assessment prepared to inform this report has identified two designated heritage assets and two non-designated heritage assets within the combined study area of the Proposed Development. The desk-based assessment also identified potential for the survival of previously unknown palaeoenvironmental and prehistoric remains dating to the Mesolithic to Iron Age within the Proposed Development. Construction of the Proposed Development has the potential to result in a temporary effects on the setting of the Tilbury Fort Scheduled Monument (NHLE 1021092) and the Tilbury Fort Officers Barracks (NHLE 1375568), however, these effects are not considered to be significant. The Tilbury Clock Tower War Memorial (NHLE 1471691) will not experience any effects as a consequence of the Proposed Development. There is potential for adverse effects on the surviving non-designated extant pillbox (MEX31812) or any non-designated archaeological remains associated with the Medieval Sea Wall (MEX6629) in addition to previously unknown buried archaeological and palaeoenvironmental remains within the Proposed Development. It is concluded that the potential adverse effects arising from the loss or disturbance of these remains arising from construction of the Proposed Development could be mitigated by an appropriate programme of archaeological investigation, sampling and recording developed in consultation with the Historic Environment Officers at Essex County Council. It is therefore not anticipated that the Proposed Development would give rise to any residual significant effects on the historic environment.	No likely significant effects

ES Chapter reference	Summary of Environmental Impact Assessment	Summary of Likely Significant Effects
Chapter 10: Traffic and Transport - Tilbury	It is considered that each of the potential impacts and environmental risks relating to traffic and transport associated with the works can be managed through the application of accepted good practice and compliance with mitigation measures. Cumulative traffic increases have been identified for the A1089 (South) and the A1089/Station Approach junction following the inclusion of the cumulative schemes (with an associated increase in magnitude of change). However, this remains the case without the Proposed Development, which is in itself expected to have a low or negligible impact with no environmental effects on these parts of the local highway network as a result of construction-related traffic. The high proportional traffic flow increases identified on Station Approach arise due to very low baseline flows and it is not considered that the cumulative increase in traffic would have the potential to result in any significant impacts with respect to traffic and transport. As a result, the Proposed Development is not in itself expected to result in any significant environmental effects in terms of traffic and transport.	No likely significant effects
Chapter 11: Noise and Vibration - Tilbury	There are no identified Noise Important Areas and Noise Action Plan Priority Areas within the Noise and Vibration Study Area. Baseline noise monitoring was undertaken at the Tilbury site from 18th April to 14th June 2023. The nearest sensitive noise receptors to the Tilbury Site are non-residential office buildings (Tilbury Substation Offices and Tarmac Tilbury offices) on the wider industrial area. The nearest residential receptors to the Tilbury Site are those on Sandhurst Road, approximately 800m to the northwest of the Tilbury site. The noise and vibration assessment considers the following: • Noise and vibration associated with construction works; • Road traffic associated with construction works; and • Noise associated with operational activities associated with the tunnel headhouses (ventilation fans). Mitigation measures have been embedded into the design of the Proposed Development, these measures are provided in the Outline CEMP (ES Volume VI Appendix 3.1) and include a set of generic best practice working methods referred to as Best Practicable Means, as well as closed board fencing to be installed around construction compounds. The assessment concludes with no significant residual effects expected during the during the construction or operational phases.	No likely significant effects

ES Chapter reference	Summary of Environmental Impact Assessment	Summary of Likely Significant Effects
Chapter 12: Air Quality - Tilbury	There is currently one Air Quality Management Area in Tilbury, AQMA 24, declared by TC due to exceedances of the annual mean nitrogen dioxide (NO₂) air quality objective. The AQMA is located in an area which encompasses Calcutta Road, Dock Road and St Chads Road, in Tilbury. Monitoring of NO₂, PM₁₀ and PM_{2.5} has been undertaken within the red line boundary at both Gravesend and Tilbury sites. This was undertaken for a period of 3 months, between the 18th of April and 24th of July 2023, using Turnkey Osiris monitors (for PM₁₀ and PM_{2.5}) and diffusion tubes (for NO₂). The Proposed Development has the potential to impact on local air quality through construction dust and PM₁₀ emissions generated by vegetation clearance and removal of top soil, NO_x, PM₁₀ and PM_{2.5} emissions from construction phase traffic; and emissions associated with the on-site generators used to supply the energy required for high energy demand construction activities such as shaft sinking and tunnelling. These impacts have the potential to impact on amenity, human health and nature conservation receptors close to the site, and human health sensitive receptors adjacent to the road network on the construction traffic route. The dispersion modelling completed for various scenarios associated with the use of on-site generators has identified that impacts at the nearby potential SSSI and LWS are well above either the Critical Level for annual mean NO_x and/or the relevant Critical Load for nitrogen deposition, even with a notable stack height. Subject to the selection of the generator specification, additional mitigation is likely to be required. Such mitigation would likely involve a suitable emissions release height and the use of Selective Catalytic Reduction (SCR) technology to bring NO_x emissions in line with the EU Stage 5 (US EPA Tier IV) emission standard for NO_x. Other mitigation has been embedded into the design of the project which was taken into account when assessing the impacts of the Proposed Development on air quality. This includes the removal of tunnel and shaft spoil at Tilbury via barge, as well as the good traffic management outlined within the CTMP (ES Volume VI Appendix 10.1). Mitigation measures are also secured within the Outline CEMP (ES Volume VI Appendix 3.1) that will be required to mitigate against the effects on local air quality. The assessment concludes with no residual significant effects on air quality.	No likely significant effects

ES Chapter reference	Summary of Environmental Impact Assessment	Summary of Likely Significant Effects
Chapter 13: Water Environment - Tilbury	The South Essex Thurrock Chalk Water Body underlies the Tilbury Site. The Thames Estuary is located approximately 350m south of the Proposed Development. It is considered a Main River and the only Water Framework Directive (WFD) designated surface water body within the site boundary and study area. The Proposed Development is surrounded by a number of ditches. The Tilbury Site is located within Flood Zone 3. The Environment Agency Flood Risk from Surface Water map indicates a medium to high risk from surface water flooding. A number of activities during construction and operation and maintenance that are likely to generate impacts, which have the potential to affect the water environment, including vegetation clearance, removal of topsoil, areas for plant maintenance, site offices and compound areas, storage areas for construction and for excavated materials; and dust generation. A number of standard and embedded measures have been identified, which would be implemented during construction to manage the impacts and reduce the effects that the construction of the Proposed Development would have on the water environment. For example, suitable spoil material would be sent via River Thames to a suitable receiver. Additional mitigation is required which is detailed in the Outline CEMP (Appendix 3.1) which when implemented, will manage the construction site runoff and sediment effectively, as well as spillage risk and flood risk. The assessment concludes with no likely significant effects on the water environment during construction and operational phases.	No likely significant effects
Chapter 14: Materials and Waste - Tilbury	The Proposed Development lies within the boundary of one historic landfill (Tilbury B Power Station Fort Road authorised for inert waste with first input in 1978) and two authorised landfills (R W E n Power plc Tilbury B Power Station Fort Road and Ingrebourne Valley Ltd Tilbury Ash Disposal Tip). There are no other permitted waste sites or waste site applications in the vicinity (within 500m) of the Proposed Development. The Thurrock Council Core Strategy and Policies for Management of Development safeguards MSAs, mineral and waste sites however, the associated Policies Map does not show any MSAs or safeguarded mineral or waste sites (policy “CSTP32 Safeguarding Mineral Resources”, “CSTP29 Waste Strategy” and “Strategic Spatial Objective SSO15”). The assessment of effects has been carried out on a project wide basis, covering both the development at Tilbury and Gravesend. The Proposed Development will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the internationally recognised waste hierarchy. Additional mitigation is required which is detailed in the Outline CEMP (ES Volume VI Appendix 3.1) and includes such commitments as producing a Materials Management Plan and Site Waste Management Plan. The assessment concludes with no likely significant effects on materials and waste during the construction phase.	No likely significant effects

Table 24-2: Summary of Environmental Impact Assessment - Gravesham

Topic	Summary of Environmental Impact Assessment	Conclusion
Chapter 15: Biodiversity - Gravesend	The Proposed Development is situated approximately 30m south of the Thames Estuary & Marshes Ramsar site and South Thames Estuary and Marshes SSSI, and approximately 520m northeast Thames Estuary & Marshes SPA. The site is within the Canal and Grazing Marsh, Higham LWS. Reptiles slow worm, common lizard and grass snake are known to occur at Gravesend. Ornithology surveys have recorded Cetti's Warbler, Skylark, Song Thrush, Dunnock and Linnet. No bats, great crested newts, otter/water vole were recorded at Gravesend. Badger is also assumed to be currently absent from Gravesend. Invertebrate surveys at Gravesend undertaken in 2023 identified a total of 307 species of which 27 are regarded as 'key species'. This is a higher than average total species list for a three visit survey, and suggests that the Gravesend survey area is a diverse site for invertebrates. A total of 4 accurately rated Rare Key Species were found. Japanese knotweed (<i>Reynoutria japonica</i>) is present to the north of Wharf Road adjoining the Site. It is listed under Schedule 9 of the Wildlife and Countryside Act (1981 as amended) making it an offence to plant or cause its spread in the wild. The design of the Proposed Development has sought to minimise impacts on the Canal and Grazing Marsh, Higham LWS. Spoil removal at the Gravesend Site will be limited to that generated by the sinking of the shaft. All spoil from the tunnelling process will be removed and disposed of at the Tilbury Site, this limiting the requirement for vehicle movements and a larger working area at Gravesend. Habitat creation includes a biodiverse headhouse roof, new wet scrapes, tussocky grassland and grazed pasture as detailed in the Outline Landscape and Ecology Management Plan. A number of general environmental management controls will be secured as part of the CEMP as well as ecology specific measures relating to protected and notable species. The potential impacts from the construction phase of the Proposed Development considered in the assessment included habitat loss/gain/degradation, species mortality, species disturbance/displacement, fragmentation/connectivity of population or habitats and the introduction of will include habitat loss from non-statutory designated sites. The potential impacts from the operational phase of the Proposed Development considered habitat degradation/disturbance from operational lighting only. No additional mitigation has been identified to be required. The assessment concludes with no likely significant effects.	No likely significant effect.
Chapter 16: Landscape and Visual - Gravesend	The Proposed Development is situated in the immediate context of the existing TKRE 400 kV cable and infrastructure. It is also situated within the industrial landscape of this area of the River Thames and the associated heavy industrial sites at both Tilbury and the Gravesend Industrial hinterland. The Proposed Development site at Gravesend is adjacent to industrial areas and is therefore likely to be perceived as part of, and an extension to, this existing industrial landscape. Construction would be short-term, reversible and occur in an industrialised context. No landscape elements of value would be lost as a result of the construction, with effects being temporary and of minor adverse or negligible effects. Construction of above ground infrastructure/overhead cables would result in a negligible effect in the view for the majority of potential viewers, including the most sensitive groups of residents in Tilbury/Gravesend, and	No likely significant effect.

Topic	Summary of Environmental Impact Assessment	Conclusion
	recreational receptors. Recreational users of the long distance routes which run to the north of the site, would experience minor adverse effects in views in immediate proximity to the site at Gravesend where the construction plant and activity would be apparent within the context of more prominent industrial elements, within their wide, panoramic views across the Thames estuary. Similarly, in operation the effects on landscape character would be negligible. Any change in character would be small scale and with a localised geographical extent of influence. It would involve no loss of landscape elements of value and occur within the existing context. Once operational the Proposed Development including headhouses and OHL infrastructure would result in a barely perceptible change in the view for the majority of potential viewers and would be perceived as part of, and an extension to, this existing industrial landscape. Once established the network of drainage channels, marshland habitat improvements and scrub planting would provide increased landscape connectivity and habitat improvement to the local landscape character and visual amenity. In summary, there would be no likely significant landscape or visual effects during either the construction or operational phases of the Proposed Development.	
Chapter 17: Historic Environment - Gravesend	The historic environment desk-based assessment (Appendix 9-1) prepared to inform this report has identified seven designated heritage assets and 54 non-designated heritage assets within the combined study area of the Proposed Development. The desk-based assessment also identified potential for the survival of previously unknown archaeological and palaeoenvironmental remains within the alluvial deposits at the Headhouse and CES sites and for remains of the Milton Rifle Range to extend within the Proposed Development. Construction and operation of the Proposed Development will not significantly affect the setting of the seven grade II listed buildings, The Readers, a timber-framed house (NHLE 1089019), cottages at 54-58 Vicarage Lane (NHLE 1089005), a farmhouse at 44 Chalk Road (NHLE 1341493) and a cottage at 1 Chalk Road (NHLE 1089043), Granary at Little Filborough Farm (NHLE 1089062), Barn to North West of Filborough Farm (NHLE 1341481) and Filborough Farmhouse (NHLE 1089020). There is potential for adverse effects on any surviving non-designated archaeological remains associated with the Milton Rifle Range (TQ 67 SE 1185) in addition to previously unknown buried archaeological and palaeoenvironmental remains within the Proposed Development. It is concluded that the potential adverse effects arising from the loss or disturbance of these remains arising from construction of the Proposed Development could be mitigated by an appropriate programme of archaeological investigation, sampling and recording developed in consultation with the Archaeological Officers at Kent County Council. It is therefore not anticipated that the Proposed Development would give rise to any residual significant effects on the historic environment.	No likely significant effect.
Chapter 17: Traffic and Transport - Gravesend	No significant effects have been identified as a result of the Proposed Development on traffic and transport during any phase with embedded mitigation in place, as all effects have either been categorised as minor adverse or negligible. As such, no additional mitigation (to that already identified) is considered to be necessary as part of the ES.	No likely significant effect.

Topic	Summary of Environmental Impact Assessment	Conclusion
	Public Right of Way NG2 will need to be temporarily closed to ensure pedestrian safety. Pedestrians will be diverted to PRoW NG1 (Footpath)/ England Coast Path/ Saxon Shore Way, which runs along the southern side of the River Thames. NCN Route 1 along the Thames and Medway Canal (immediately to the south of the site) will be temporarily closed to ensure cyclist safety. Going from west to east, cyclists will be diverted onto Chequers Street (in Lower Higham), Chalk Road, Lower Road, Lower Higham Road, A226 Rochester Road, Raphael Road, Prospect Grove (via a subway) and Norfolk Road	
Chapter 18: Noise and Vibration - Gravesend	There are no identified Noise Important Areas and Noise Action Plan Priority Areas within the Noise and Vibration Study Area. Baseline noise monitoring was undertaken at the Gravesend site from 18th April to 19th June 2023. The nearest sensitive noise receptors to the Gravesend Site are the National Maritime Training Centre (NMTC) and the Metropolitan Police Specialist Training Centre (MPSTC), which are non-residential receptors located directly to the west of the Gravesend Site at a minimum distance of approximately 50m. The nearest residential receptors are located near to Dalefield Way, to the south of the Gravesend Site at a distance of approximately 700m south-east. The noise and vibration assessment considers the following: • Noise and vibration associated with construction works; and • Road traffic associated with construction works. Mitigation measures have been embedded into the design of the Proposed Development, these measures are provided in the Outline CEMP (ES Volume VI Appendix 3.1) and include a set of generic best practice working methods referred to as Best Practicable Means, as well as closed board fencing to be installed around construction compounds. The assessment concludes with no significant residual effects expected during the during the construction or operational phases.	No likely significant effect.
Chapter 19: Air Quality - Gravesend	In 2022, there were three AQMAs located in Gravesend, near the southern construction site. These AQMAs have been declared by GBC due to exceedances of the annual mean NO₂ or PM₁₀ air quality objective: • Northfleet Industrial Area AQMA (Declared 2005 due to elevated PM₁₀); • Gravesham A226 One Way System AQMA (Declared 2005 due to elevated NO₂); and • A227/B621 Wrotham Road/Old Road West Junction AQMA (Declared 2005 due to elevated NO₂). Monitoring of NO₂, PM₁₀ and PM_{2.5} has been undertaken within the red line boundary at both Gravesend and Tilbury sites. This was undertaken for a period of 3 months, between the 18th of April and 24th of July 2023, using Turnkey Osiris monitors (for PM₁₀ and PM_{2.5}) and diffusion tubes (for NO₂). The Proposed Development has the potential to impact on local air quality through construction phase dust emissions, construction phase traffic emissions and construction phase generator plant emissions. These impacts have the potential to impact on amenity, human health and nature conservation receptors close to the site, and human health sensitive receptors adjacent to the road network on the construction traffic route. Mitigation has been embedded into the design of the project which was taken into account when assessing the impacts of the Proposed Development on air quality. This includes the storage and handling of the vast majority	No likely significant effect.

Topic	Summary of Environmental Impact Assessment	Conclusion
	of spoil material generated by the tunnelling element of the works at the Tilbury construction site, rather than at the Gravesend site as well as the good traffic management outlined within the CTMP (ES Volume VI Appendix 10.1). Mitigation measures are also secured within the Outline CEMP (ES Volume VI Appendix 3.1) that will be required to mitigate against the effects on local air quality. The assessment concludes with no residual significant effects on air quality.	
Chapter 20: Water Environment - Gravesend	The Thames Estuary is situated approximately 170m north of the Proposed Development. There are a number of water features within the study area, including drains, ditches and ponds but are not designated as WFD water bodies in their own right. This includes the Thames and Medway Canal which is a disused canal situated south of Wharf Road and approximately 80m south of the Proposed Headhouse Location. There are a series of ditches that are part of Eastcourt Marshes which are recognised as Main River which bound the east and south of the Gravesend Site. The Environment Agency Flood Map shows that the Gravesend Site is located within Flood Zone 3. The majority of the Gravesend Site is in an area where there is a reduction in risk of flooding from rivers and the sea due to flood defences present along the banks of the Thames estuary and therefore the fluvial and tidal flooding from the Thames Estuary is said to have a very low risk to low risk of flooding. A number of activities during construction and operation and maintenance that are likely to generate impacts, which have the potential to affect the water environment, including vegetation clearance, removal of topsoil, areas for plant maintenance, site offices and compound areas, storage areas for construction and for excavated materials; and dust generation. A number of standard and embedded measures have been identified, which would be implemented during construction to manage the impacts and reduce the effects that the construction of the Proposed Development would have on the water environment. For example, suitable spoil material would be sent via River Thames to a suitable receiver. Additional mitigation is required which is detailed in the Outline CEMP (Appendix 3.1) which when implemented, will manage the construction site runoff and sediment effectively, as well as spillage risk and flood risk. The assessment concludes with no likely significant effects on the water environment during construction and operational phases.	No likely significant effect.
Chapter 21: Materials and Waste - Gravesend	There are no historic or authorised landfill, permitted waste sites or waste site applications in the vicinity of the Proposed Development. The closest site is the Shamrock Road historic landfill approximately 480m south west of the works. There is a safeguarded wharf (Clubb's Marine Terminal) approximately 420m from the west of the Proposed Development (policies "CS07 Economy, Employment and Skills" and "CS11 Transport" of the Gravesham Council Local Plan and policies map (Ref 14-20) and policy "CSM 6 Safeguarded Wharves and Rail Depots" of the Kent Minerals and Waste Local. There are no safeguarded mineral or waste sites in the vicinity of the Proposed Development. The Proposed Development lies within a MSA for sub-alluvial river terrace deposits (Policy CSM 5 Land-won Mineral Safeguarding). Whilst MSAs are not considered in a materials and waste assessment further consultation with the Minerals Planning Authority may be required prior to the submission of the planning application, and a Minerals Safeguarding Assessment completed if required.	No likely significant effect.

Topic	Summary of Environmental Impact Assessment	Conclusion
	The assessment of effects has been carried out on a project wide basis, covering both the development at Tilbury and Gravesend. The Proposed Development will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the internationally recognised waste hierarchy. Additional mitigation is required which is detailed in the Outline CEMP (ES Volume VI Appendix 3.1) and includes such commitments as producing a Materials Management Plan and Site Waste Management Plan. The assessment concludes with no likely significant effects on materials and waste during the construction phase.	

Table 24-3: Summary of Cumulative Effects Assessment

Topic	Summary of Assessment	Conclusion
Chapter 23: Cumulative Effects Assessment	Combined Effects: Combined effects are where receptors could be affected by more than one type of impact. Where a receptor has been identified as only experiencing one effect or where only one topic has identified effects on that receptor, there is no potential for combined effects. Receptors groups and technical chapters were screen for potential combined effects, and those identified included air quality (dust), noise and vibration, visual and traffic and transport. Each receptor was assessed in turn for potential combined effects and whether any additional mitigation was required. None was identified and the assessment concluded there would be no significant combined effects will arise as a result of the Proposed Development. Cumulative Effects: The approach to cumulative assessment follows a staged approach. The Proposed Development's Zone of Influence was established through consideration of the largest study area of the technical EIA chapters. This was used to identify a Long List of other developments from research of the Planning Inspectorate's website for Nationally Significant Infrastructure Projects and Thurrock Council and Gravesham Borough Councils planning portals. The Long List was narrowed down to a Short List of other developments, by reviewing each development identified and considering developments where the potential for cumulative effects. At total of five developments, consisting of two DCO applications, one planning application from Thurrock Council planning portal and two planning applications from Gravesham Borough Council planning portal were identified for further cumulative assessment on the Short List of Other Developments. There is a physical overlap between the Proposed Developments. Fields to be utilised for the construction of the proposed Gravesend SEC and associated spoil storage do not overlap with land required for the Lower Thames Crossing. However, land required to upgrade the terminal pylon and replacing overhead lines in the southeast corner of the Gravesend Site, also falls within area proposed for the Milton Construction Compound. The access to the Milton Construction Compound will be via Wharf Road which is also the access road for the Gravesend Site. As a worst case if construction works co-inside they may result in a combined temporary direct impact on approximately 8.7ha of habitat within the LWS (14% of the LWS). The extent of disturbance to adjoining habitat will be limited by the CEMP measures and construction area noise fencing proposed under the Proposed Development. The Lower Thames Crossing Environmental Statement reports a moderate adverse effect on the Canal and Grazing Marsh Higham LWS, which is Not Significant. However, the cumulative effect of both schemes happening in parallel would (based on the Proposed Development assessment methodology) likely result in a temporary (approximately 4 years) adverse effect on structure and function of the LWS at the District level which is Significant. The loss of the same areas of habitat for the duration of construction will also increase the impacts on remnant grazing marsh habitats and breeding and wintering bird populations utilising these habitat areas. In both cases they are expected to increase the resulting effects to temporary significant adverse effects at the District level. All of these effects will be reversible following completion of construction and reinstatement.	No likely significant effects.

Topic	Summary of Assessment	Conclusion
	The cumulative effects assessment has identified that Filborough Farmhouse (NHLE 1089020) and Granary at Little Filborough Farm (NHLE 1089062) is likely to experience temporary moderate adverse (significant) cumulative effects from visual intrusion during the construction of the Lower Thames Crossing Project, and the Proposed Development. It should be noted that the residual significant cumulative effects are both driven by the moderate adverse (significant) effects as assessed in the Lower Thames Crossing and Thurrock Flexible Generation Plant assessment. It is considered that the cumulative effect identified in this cumulative effects assessment would be no worse than the effect presented in isolation in the other planning application assessments. It is concluded that no other significant cumulative effects will arise as a result of the Proposed Development and the other identified developments.	

