



ENVIRONMENTAL STATEMENT: 6.1 CHAPTER 22: SUMMARY OF EFFECTS

DECARBONISATION

Cory Decarbonisation Project

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22. SUMMARY OF EFFECTS

22.1. INTRODUCTION

22.1.1. The chapter specific impact assessments are presented in **Chapter 5: Air Quality (Volume 1)** to **Chapter 21: Cumulative Effects (Volume 1)** and have considered the potential environmental impacts and likely significant effects of the Proposed Scheme. This chapter provides a summary of the likely effects reported in the chapters and this is provided **Table 22-1** below.

22.2. SIGNIFICANCE OF EFFECTS

22.2.1. As set out in **Section 4.11 of Chapter 4: EIA Methodology (Volume 1)**, effects, whether adverse or beneficial, assessed as having “moderate” or “major” significance are deemed to be significant. Effects determined to be “minor” or “negligible” are deemed to be not significant. Any deviation from this approach is detailed in the methodology for each assessment within **Chapter 5: Air Quality (Volume 1)** to **Chapter 21: Cumulative Effects (Volume 1)**.

22.2.2. **Table 22-1** includes the following information:

- a description of the effect;
- the sensitive receptor;
- a summary of the significance of likely effects prior to the implementation of additional mitigation;
- a summary of the additional mitigation measures to be implemented to minimise the significance of the effects (further information is provided in each technical chapter); and
- the residual significance of these effects assuming all proposed additional mitigation is implemented.

22.2.3. Due to the nature of the assessment, the summary of likely effects assessed within **Chapter 20: Major Accidents and Disasters (Volume 1)** is presented separately in **Table 22-2**.

Table 22-1: Summary of Likely Environment Effects

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Chapter 5: Air Quality					
Construction Phase					
Dust, PM₁₀ and PM_{2.5}	Dust soiling effects during works	Nearby places of work	Minor to Moderate Adverse (Not Significant)	Mitigation set out in Section 5.9 of Chapter 5: Air Quality (Volume 1) .	Negligible (Not Significant)
	Human health effects during works	Nearby places of work	Minor Adverse (Not Significant)	Mitigation set out in Section 5.9 of Chapter 5: Air Quality (Volume 1) .	Negligible (Not Significant)
	Ecological effects works	Crossness LNR	Minor Adverse (Not Significant)	Mitigation set out in Section 5.9 of Chapter 5: Air Quality (Volume 1) .	Negligible (Not Significant)

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Emissions of NO₂, PM₁₀ and PM_{2.5} from NRMM	Potential effects on human health and ecological sites	Nearby places of work and Crossness LNR	Minor Adverse (Not Significant)	Mitigation set out in Section 5.9 of Chapter 5: Air Quality (Volume 1) .	Negligible (Not Significant)
Road traffic emissions of NO₂, PM₁₀ and PM_{2.5}	Potential effects on human health	Roadside residential properties	Negligible (Not Significant)	Not required.	Negligible (Not Significant)
	Potential effects on ecological sites	Crossness LNR	Negligible (Not Significant)	Not required.	Negligible (Not Significant)
Marine vessel emissions of NO₂, NO_x, SO₂, PM₁₀ and PM_{2.5}	Potential effects on human health	Anywhere with exposure, but primarily the England Coast Path (FP1/NCN1)	Negligible (Not Significant)	Not required.	Negligible (Not Significant)

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Potential effects on ecological sites	All ecological sites, primarily Crossness LNR and Inner Thames Marshes/Rainham Marshes	Negligible (Not Significant)	Not required.	Negligible (Not Significant)
Full Proposed Scheme Impact (Road + Marine, including existing stack emissions)	Potential effects on human health	Anywhere with exposure	Negligible (Not Significant)	Not required.	Negligible (Not Significant)
	Potential effects on ecological sites	All ecological sites, primarily Crossness LNR and Inner Thames Marshes/Rainham Marshes	Negligible (Not Significant)	Not required.	Negligible (Not Significant)
Operation Phase					

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Changes To Emissions of Pollutants at Riverside Campus as a result of the Carbon Capture Facility	Potential effects on human health (including within local authorities and air quality focus areas)	Any location of relevant exposure	Negligible (Not Significant) for all pollutants except SO ₂ , nitrosamines, nitramines and aldehydes for which effects are Slight Adverse (Not Significant)	Not required beyond embedded mitigation measures	Slight Adverse (Not Significant)
	Potential effects on ecological sites	Detailed assessment shown in Chapter 7: Terrestrial Biodiversity (Volume 1) for Inner Thames Marshes SSSI, Rainham Marshes LNR, Lesnes Abbey Woods LNR and Crossness LNR.			
	Potential effects on ecological sites	All designated sites except those above	Negligible (Not Significant)	N/A	Negligible (Not Significant)

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Emissions of NO₂, PM₁₀ and PM_{2.5} From New Backup Power Generators (Ancillary Infrastructure)	Potential effects on human health	Any location of relevant human exposure	Negligible (Not Significant)	Generator is positioned as far away from sensitive receptors as is practicable	Negligible (Not Significant)
	Potential effects on ecological sites	Crossness LNR	Negligible (Not Significant)	Generator is positioned as far away from sensitive receptors as is practicable	Negligible (Not Significant)
Marine vessel emissions of NO₂, NO_x, SO₂, PM₁₀ and PM_{2.5}	Potential effects on human health	Anywhere with exposure, but primarily England Coast Path (FP3/NCN1)	Negligible (Not Significant)	Not required	Negligible (Not Significant)
	Potential effects on ecological sites	All ecological sites, primarily Crossness LNR and Inner Thames Marshes/Rainham Marshes	Negligible (Not Significant)	Not required	Negligible (Not Significant)

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Human Health Risk Assessment	Potential effects on human health	Anywhere with long term exposure	Negligible (Not Significant)	Not required	Negligible (Not Significant)
Full Proposed Scheme Impact	Potential effects on human health (including within local authorities and air quality focus areas)	Any location of relevant exposure	Negligible (Not Significant) for all pollutants except SO ₂ , nitrosamines, nitramines and aldehydes for which effects are Slight Adverse (Not Significant)	Not required beyond embedded mitigation measures	Slight Adverse (Not Significant)
	Potential effects on ecological sites	Detailed assessment shown in Chapter 7: Terrestrial Biodiversity (Volume 1) for Inner Thames Marshes SSSI, Rainham Marshes LNR, Lesnes Abbey Woods LNR and Crossness LNR.			

Description of Effect		Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Potential effects on ecological sites	All designated sites except those above	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Air Quality Neutral Assessment and Air Quality Positive Statement	The Proposed Scheme complies with the philosophy of Air Quality Neutral, since there is no material change in emissions of nitrogen dioxide and particulate matter during its operation. The Proposed Scheme has been designed to minimise emissions to air and to minimise exposure to emissions and An Air Quality Positive Statement has been prepared to illustrate these impacts. Further detail is provided within Appendix 5.4 – Air Quality Positive Statement (Volume 3) .			N/A	N/A
Chapter 6: Noise and Vibration					
Construction Phase					
Construction Noise (landside receptors)	C1 – Clydesdale Way	Moderate (Significant)		The duration of any construction works within 180m of the receptors is limited to less than 10 or more days or nights in any 15 consecutive days or	Moderate (Not Significant) The impact of construction noise is moderate given the

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			nights or a total number of days not exceeding 40 in any six consecutive months.	predicted noise levels at the receptor; however, given the duration will be limited the effect is not significant.
	C2 – North Road	Minor (Not Significant)	N/A	Minor (Not Significant)
	C3 – Little Brights Road	Minor (Not Significant)	N/A	Minor (Not Significant)
	C4 – Travellers' site located off Jenningtree Way	Minor (Not Significant)	N/A	Minor (Not Significant)
	C5 – Travelodge London Belvedere hotel	Moderate (Significant)	The CoCP will limit the duration of any construction works within 180m of the receptors to less than 10 or more days or nights in any 15 consecutive days or nights and a total number of days exceeding 40 in any six consecutive months.	Moderate (Not Significant) The impact of construction noise is moderate given the predicted noise levels at the receptor; however, given the duration will be

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
				limited the effect is not significant.
Construction Road Traffic Noise	N/A	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Operation Phase				
Operational Noise (landside receptors)	C1 – Clydesdale Way	Minor Adverse (Not Significant)	Selecting quieter ASHP fans, locating plant further away and behind the water heating facility from sensitive receptors, erecting an acoustic barrier around the ASHP fans.	Minor Adverse (Not Significant)
	C5 – Travelodge London Belvedere hotel	Moderate Adverse (Significant)		Minor Adverse (Not Significant)
Chapter 7: Terrestrial Biodiversity				
Construction Phase				
Habitat loss and fragmentation	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal	Moderate Adverse (Significant)	Habitat creation and enhancement both within the Carbon Capture Facility, the Mitigation and Enhancement Area and	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Tributaries MSINC, Coastal and floodplain grazing marsh HPI, Intertidal mudflats HPI, open mosaic habitat HPI, reedbed HPI, breeding birds, wintering birds.		BNG. Opportunity Area, pursuant to the Outline LaBARDS (Document Reference 7.9) , comprising: <ul style="list-style-type: none"> • Enhancement of floodplain grazing marsh, other neutral grassland and woodland within the Mitigation and Enhancement Area. • Enhancement of mudflat habitat within the River Thames. • Creation of new habitats within the Mitigation and Enhancement Area and Carbon Capture Facility comprising floodplain grazing marsh, other neutral grassland, reedbed, woodland and ditches. Including buffer planting to provide physical and visual screening between the Carbon Capture Facility 	

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			and Mitigation and Enhancement Area/Crossness LNR. <ul style="list-style-type: none"> • Enhancement of other neutral grassland at the BNG Opportunity Area. • Creation of new open mosaic habitat and reedbed habitat at the BNG Opportunity Area. • Creation/enhancement of habitats would provide supporting habitat. 	
Habitat loss and fragmentation	Modified grassland, other neutral grassland, mixed scrub, standing water, notable plants and invasive species, terrestrial invertebrates	Minor Adverse (Not Significant)	Habitat creation and enhancement both within the Carbon Capture Facility, the Mitigation and Enhancement Area and BNG Opportunity Area, pursuant to the Outline LaBARDS (Document Reference 7.9) , comprising: <ul style="list-style-type: none"> • Enhancement of floodplain grazing marsh, other neutral grassland 	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>and woodland within the Mitigation and Enhancement Area.</p> <ul style="list-style-type: none"> • Enhancement of mudflat habitat within the River Thames. • Creation of new habitats within the Mitigation and Enhancement Area and Carbon Capture Facility comprising floodplain grazing marsh, other neutral grassland, reedbed, woodland and ditches. Including buffer planting to provide physical and visual screening between the Carbon Capture Facility and Mitigation and Enhancement Area/Crossness LNR. • Enhancement of other neutral grassland at the BNG Opportunity Area. 	

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<ul style="list-style-type: none"> • Creation of new open mosaic habitat and reedbed habitat at the BNG Opportunity Area. • Creation/enhancement of habitats would provide supporting habitat. 	
Habitat loss and fragmentation	Water vole	Moderate Adverse (Significant)	<p>Proposals for habitat creation and enhancement (pursuant to the Outline LaBARDS (Document Reference 7.9)), including creation of new ditch habitat targeted at water voles pursuant to a licence.</p> <p>Capture and captive breeding of water voles during works and establishment of new ditch habitat, with release of water voles upon completion of construction and readiness of new</p>	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			habitat pursuant to a licence.	
Habitat loss and fragmentation	Bats, reptiles	Negligible (Not Significant)	<p>Habitat creation and enhancement both within the Site and offsite pursuant to the Outline LaBARDS (Document Reference 7.9).</p> <p>Search and removal of reptiles from the works area prior to works and establishment of temporary reptile exclusion fencing to avoid reptiles entering the works area pursuant to the Outline CoCP (Document Reference 7.4).</p>	Negligible (Not Significant)
Habitat loss and fragmentation	Aquatic macroinvertebrates, freshwater fish (including European eel), macrophytes.	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Noise and vibration	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, breeding birds, wintering birds.	Moderate Adverse (Significant)	Timing of certain works to avoid sensitive periods (e.g. vegetation clearance in bird breeding season, wintering period for certain birds and fish migration and spawning periods) pursuant to the Outline CoCP (Document Reference 7.4) .	Minor Adverse (Not Significant)
Noise and vibration	Terrestrial invertebrates, water vole	Minor Adverse (Not Significant)	Timing of certain works to avoid sensitive periods (e.g. summer flying period for insects) pursuant to the Outline CoCP (Document Reference 7.4) .	Negligible (Not Significant)
Noise and vibration	Bats, reptiles	Negligible (Not Significant)	Timing of certain works to avoid sensitive periods (e.g. at night when bats are active) pursuant to the Outline CoCP (Document Reference 7.4) .	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Noise and vibration	Freshwater fish (including European eel).	Negligible (Not Significant)	Timing of certain works to avoid sensitive periods (e.g. fish migration and spawning periods). Avoid works in watercourses where possible pursuant to the Outline CoCP (Document Reference 7.4) .	Negligible (Not Significant)
Dust	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, deciduous woodland HPI, coastal and floodplain grazing marsh HPI, intertidal mudflats HPI, coastal saltmarsh HPI, open mosaic habitat HPI, reedbed	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	<p>HPI, river habitat, modified grassland, other neutral grassland, mixed scrub, standing water, bats, breeding birds, notable plants and invasive species, reptiles, terrestrial invertebrates, water vole, wintering birds, freshwater fish (including European eel), aquatic macroinvertebrates, macrophytes.</p>			
<p>Surface water run-off</p>	<p>Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal</p>	<p>Negligible (Not Significant)</p>	<p>None.</p>	<p>Negligible (Not Significant)</p>

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Tributaries MSINC, coastal and floodplain grazing marsh HPI, intertidal mudflats HPI, reedbed HPI, coastal saltmarsh HPI, river habitat, standing water, bats, breeding birds, reptiles, terrestrial invertebrates, water vole, wintering birds, aquatic macroinvertebrates, freshwater fish (including European eel), macrophytes.			
Lighting	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River	Moderate Adverse (Significant)	Control of construction phase lighting to focus it on construction areas pursuant to the Outline CoCP	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Thames and Tidal Tributaries MSINC, bats, breeding birds, reptiles, terrestrial invertebrates, water vole, wintering birds, aquatic macroinvertebrates, macrophytes and freshwater fish.		(Document Reference 7.4).	
Changes in air quality	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, deciduous woodland HPI, coastal and floodplain grazing marsh HPI, intertidal mudflats HPI, open mosaic habitat HPI,	Moderate Adverse (Significant)	Measures to reduce emissions from idling vehicles, pursuant to the Outline CoCP (Document Reference 7.4).	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	reedbed HPI, coastal saltmarsh HPI, river habitat, notable plants and invasive species, freshwater fish (including European eel).			
Changes in air quality	Modified grassland, other neutral grassland, mixed scrub, standing water, aquatic macroinvertebrates.	Minor Adverse (Not Significant)	Measures to reduce emissions from idling vehicles, pursuant to the Outline CoCP (Document Reference 7.4) .	Negligible (Not Significant)
Changes in air quality	Macrophytes	Negligible (Not Significant)	None.	Negligible (Not Significant)
Shading	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, coastal and floodplain grazing marsh HPI,	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	open mosaic habitat HPI, reedbed HPI, modified grassland, other neutral grassland, mixed scrub, standing water, bats, breeding birds, notable plants and invasive species, reptiles, terrestrial invertebrates, water vole, wintering birds, aquatic macroinvertebrates, freshwater fish (including European eel), macrophytes.			
Operation Phase				
Noise and vibration	Crossness LNR, Erith Marshes MSINC, Belvedere	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Dykes SINC, River Thames and Tidal Tributaries MSINC, Bats, breeding birds, reptiles, terrestrial invertebrates, water vole, wintering birds, freshwater fish (including European eel).			
Maintenance activities	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, bats, breeding birds, water vole, wintering birds.	Negligible (Not Significant)	None.	Negligible (Not Significant)
Surface water run-off	Crossness LNR, Erith Marshes MSINC, Belvedere	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Dykes SINC, River Thames and Tidal Tributaries MSINC, coastal and floodplain grazing marsh HPI, intertidal mudflats HPI, reedbed HPI, coastal saltmarsh HPI, river habitat, standing water, bats, breeding birds, reptiles, terrestrial invertebrates, water vole, wintering birds, aquatic macroinvertebrates, freshwater fish (including European eel).			
Lighting	Crossness LNR, Erith Marshes	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, bats, breeding birds, reptiles, terrestrial invertebrates, water vole, wintering birds, aquatic macroinvertebrates, freshwater fish (including European eel), macrophytes.			
Changes in air quality	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, River Thames and Tidal Tributaries MSINC, 18 further SINC's outside of the Site, deciduous woodland	Potentially up to Moderate Adverse (Significant)	None.	Moderate Adverse (Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	HPI, coastal and floodplain grazing marsh HPI, intertidal mudflats HPI, reedbed HPI, coastal saltmarsh HPI, river habitat (River Thames), notable plants and invasive species.			
Changes in air quality	Inner Thames Marshes SSSI, Ingrebourne Marshes SSSI, Rainham Marshes LNR, modified grassland, other neutral grassland, mixed scrub, ditches/standing water, macrophytes.	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Changes in air quality	Freshwater fish (including European eel)	Moderate Adverse (Significant)	Habitat management and improvement to buffer potential vegetation changes resulting from air quality changes, pursuant to the Outline LaBARDS (Document Reference 7.9) .	Negligible (Not Significant)
Changes in air quality	Aquatic Macroinvertebrates	Minor Adverse (Not Significant)	Habitat management and improvement to buffer potential vegetation changes resulting from air quality changes, pursuant to the Outline LaBARDS (Document reference 7.9) .	Negligible (Not Significant)
Shading	Reedbed HPI, water voles	Moderate Adverse (Significant)	Habitat creation and enhancement pursuant to the Outline LaBARDS (Document Reference 7.9) . Proposals for habitat creation and enhancement, including creation of new	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>ditch habitat targeted at water voles pursuant to a licence.</p> <p>Capture and captive breeding of water voles during works and establishment of new ditch habitat, with release of water voles upon completion of construction and readiness of new habitat, pursuant to a licence.</p>	
Shading	Aquatic macroinvertebrates	Minor (Not Significant)	Habitat management and improvement pursuant to the Outline LaBARDS (Document reference 7.9) .	Negligible (Not Significant)
Shading	Crossness LNR, Erith Marshes MSINC, Belvedere Dykes SINC, Coastal	Negligible (Not Significant)	None.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	and floodplain grazing marsh HPI, modified grassland, other neutral grassland, mixed scrub, standing water, bats, breeding birds, notable plants and invasive species, reptiles, terrestrial invertebrates, water vole, wintering birds, freshwater fish and macrophytes.			
Chapter 8: Marine Biodiversity				
Construction Phase				
	Medway Estuary MCZ	Negligible (Not Significant)	None required.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Loss or disturbance of habitats^a	River Thames and its Tidal Tributaries SINC	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine habitats and associated intertidal and subtidal communities	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine plants and Macroalgae	Negligible (Not significant)	None required.	Negligible (Not significant)
	Fish	Negligible (Not Significant)	None required, however enhancements listed in Section 8.9 of Chapter 8: Marine Biodiversity (Volume 1) . Including the potential creation of additional habitat through tidal terracing on the existing river wall and the	Negligible (Not Significant)

^a This includes for either of the potential removal or retention of the Belvedere Power Station Jetty (disused) (with modifications).

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			addition of ecological enhancements e.g., the inclusion of rope on pier legs to mimic algae and marine plants. These enhancement measures could be applied to the Proposed Jetty structure.	
	Marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Change in suspended sediment levels and subsequent sediment deposition	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae,	Negligible (Not Significant)	None required	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	plankton, fish and marine mammals			
Changes in water quality and release of contaminants	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC	Moderate Adverse (Significant)	As described in Appendix 11-1: Water Framework Directive Assessment (Volume 3) sediment sampling at depth will be undertaken to inform detailed design. Information gathered through this sampling will inform subsequent additional mitigation if sediments are shown to be elevated in contaminant concentrations. Should contamination be identified which is considered to pose a risk to sensitive receptors then appropriate measures will be undertaken. Potential measures could include	Minor Adverse (Not Significant)
	Marine habitats and associated intertidal and subtidal communities	Minor Adverse (Not Significant)		

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>dredging for a reduced time period each day; use of a closed grab for dredging; dredging on a certain phase of the tide; and avoidance of very elevated levels at depth – the appropriate measures would be able to confirmed as part of discharging conditions under the DML. A silt curtain will also be considered; however, it may be impractical in this location due to tidal flows. Sediment sampling will follow standard MMO guidelines¹ in order to procure a DML, this includes sediment sampling, as described in the Draft DCO (Document Reference 3.1).</p>	

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Marine plants and macroalgae and plankton	Negligible (Not Significant)	None Required	Negligible (Not Significant)
	Fish	Moderate Adverse (Significant)	As described in Appendix 11-1: Water Framework Directive Assessment (Volume 3) sediment sampling at depth will be undertaken to inform detailed design. Information gathered through this sampling will inform subsequent additional mitigation if sediments are shown to be elevated in contaminant concentrations. Should contamination be identified which is considered to pose a risk to sensitive receptors then appropriate measures will be undertaken. Potential measures could include dredging for a reduced time	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>period each day; use of a closed grab for dredging; dredging on a certain phase of the tide; and avoidance of very elevated levels at depth– the appropriate measures would be able to confirmed as part of discharging conditions under the DML. A silt curtain will also be considered; however, it may be impractical in this location due to tidal flows. Sediment sampling will follow standard MMO guidelines¹ in order to procure a DML, this includes sediment sampling, as described in the Draft DCO (Document Reference 3.1).</p>	
	Marine mammals	Negligible (Not Significant)	None Required	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Noise and Vibration^a	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, fish, marine mammals	Negligible (Not Significant)	None Required	Negligible (Not Significant)
Lighting^a	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae, plankton, fish and marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Vessel Strike^a	Marine Mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Increased wave wash	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae, fish and marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Spread of INNS ^a	Medway Estuary MCZ	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	River Thames and its Tidal Tributaries SINC	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine habitats and associated intertidal and subtidal communities	Negligible (Not Significant)	None required	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Marine plants and macroalgae	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Fish	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Operation Phase				
Loss or disturbance of habitat	Medway Estuary MCZ	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	River Thames and its Tidal Tributaries SINC	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine habitats and associated intertidal and subtidal communities	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine plants and macroalgae	Negligible (Not Significant)	None required.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Fish	Negligible (Not Significant)	None required.	Negligible (Not Significant)
	Marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Changes in suspended sediment concentrations and subsequent sediment deposition	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae, fish and marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Water quality and release of contaminants	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC	Moderate Adverse (Significant)	As described in Appendix 11-1: Water Framework Directive Assessment (Volume 3) sediment sampling at depth will be undertaken to inform	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>detailed design. Information gathered through this sampling will inform subsequent additional mitigation if sediments are shown to be elevated in contaminant concentrations. Should contamination be identified which is considered to pose a risk to sensitive receptors then appropriate measures will be undertaken. Potential measures could include dredging for a reduced time period each day; use of a closed grab for dredging; dredging on a certain phase of the tide; and avoidance of very elevated levels at depth – the appropriate measures would be able to confirmed as part of</p>	

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>discharging conditions under the DML. A silt curtain will also be considered; however, it may be impractical in this location due to tidal flows. Sediment sampling will follow standard MMO guidelines¹ in order to procure a DML, this includes sediment sampling, as described in the Draft DCO (Document Reference 3.1).</p>	
	<p>Marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae and plankton</p>	<p>Negligible (Not Significant)</p>	<p>None required.</p>	<p>Negligible (Not Significant)</p>

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Fish	Moderate Adverse (Significant)	As described in Appendix 11-1: Water Framework Directive Assessment (Volume 3) sediment sampling at depth will be undertaken to inform detailed design. Information gathered through this sampling will inform subsequent additional mitigation if sediments are shown to be elevated in contaminant concentrations. Should contamination be identified which is considered to pose a risk to sensitive receptors then appropriate measures will be undertaken. Potential measures could include dredging for a reduced time period each day; use of a closed grab for dredging; dredging on a certain phase of the tide; and avoidance of	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>very elevated levels at depth– the appropriate measures would be able to confirmed as part of discharging conditions under the DML. A silt curtain will also be considered; however, it may be impractical in this location due to tidal flows. Sediment sampling will follow standard MMO guidelines¹ in order to procure a DML, this includes sediment sampling, as described in the Draft DCO (Document Reference 3.1).</p>	
	Marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Noise and vibration	Medway Estuary MCZ, River Thames and its Tidal	Negligible (Not Significant)	None required.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Tributaries SINC, fish and marine mammals			
Lighting	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae, plankton, fish and marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Vessel strikes	Marine mammals	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Increased wave wash	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC,	Negligible (Not Significant)	None required.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae, fish and marine mammals			
Spread of INNS	Medway Estuary MCZ, River Thames and its Tidal Tributaries SINC, marine habitats and associated intertidal and subtidal communities, marine plants and macroalgae and fish	Negligible (Not Significant)	None required.	Negligible (Not Significant)
Chapter 9: Historic Environment				
<i>Construction Phase</i>				

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
<p>Demolition of non-designated above ground heritage assets within the Site during the construction phase.</p>	<p>Belvedere Power Station Jetty (disused) (A1g), if demolished as part of the Proposed Scheme</p>	<p>Moderate Adverse (Significant)</p>	<p>Should the Belvedere Power Station Jetty (disused) be demolished, an Historic England Level 2 Historic Building Recording will be required, undertaken prior to demolition to offset the predicted effects. This will ensure that an accurate record of the Jetty is produced prior to its loss, for future research and understanding of heritage significance (value).</p>	<p>Minor Adverse (Not Significant)</p>
<p>Potential physical effects on unknown buried heritage assets within the Site (archaeological remains), including</p>	<p>Palaeoenvironmental Remains</p>	<p>Minor Adverse (Not Significant)</p>	<p>Undertaking the programme of Archaeological Mitigation. Further evaluation and mitigation, if required (e.g. targeted excavation and watching brief).</p>	<p>Minor Adverse (Not Significant)</p>

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
<p>potential submerged remains within the Thames foreshore (marine).</p>	<p>Potential Prehistoric Remains</p>	<p>Moderate Adverse (Significant)</p>	<p>The updated Geoarchaeological Deposit Model may provide further information on prehistoric terrain (higher ground indicated by former vegetation surfaces). Further evaluation and mitigation, if required (e.g. targeted excavation and watching brief) as part of Archaeological Mitigation Strategy.</p>	<p>Minor Adverse (Not Significant)</p>
	<p>Potential Roman Remains</p>	<p>Moderate Adverse (Significant)</p>	<p>The updated Geoarchaeological Deposit Model may provide further information on Roman period terrain (higher ground indicated by former vegetation surfaces). Further evaluation and mitigation, if required (e.g.</p>	<p>Minor Adverse (Not Significant)</p>

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			targeted excavation and watching brief) as part of Archaeological Mitigation Strategy.	
	Potential Medieval Remains	Minor Adverse (Not Significant)	If required, terrestrial evaluation and mitigation (e.g. targeted excavation and watching brief).	Minor Adverse (Not Significant)
	Unrecorded Post-medieval and Modern Remains	Minor Adverse (Not Significant)	Further survey of the capital dredge area, followed by archaeological mitigation if required, i.e., targeted excavation/recording, watching brief or preservation in-situ. If required, terrestrial evaluation and mitigation (e.g. targeted excavation and watching brief).	Minor Adverse (Not Significant)
Operation Phase				

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Potential permanent effects on non-designated above ground heritage assets located within the Site through changes to setting.	Belvedere Power Station Jetty (disused) (A1g), if retained as part of the Proposed Scheme	Minor Adverse (Not Significant)	Should the Belvedere Power Station Jetty (disused) be retained, no additional measures are proposed for this asset.	Minor Adverse (Not Significant)
Potential permanent effects on designated above ground heritage assets located beyond the Site Boundary and within the Study Area through changes to setting.	Crossness Pumping Station (A2-A4 and A6)	Minor Adverse (Not Significant)	No additional measures are proposed during the operation phase for above ground heritage assets.	Minor Adverse (Not Significant)
	No. 4 Jetty and Approach (A5)	Minor Adverse (Not Significant)		Minor Adverse (Not Significant)
Potential indirect effects on unknown buried heritage assets within the Site (archaeological)	Palaeoenvironmental Remains	Minor Adverse (Not Significant)	Production and publication of an updated Geoarchaeological Deposit Model, ideally following Site-wide geotechnical	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
remains), including potential submerged remains within the Thames foreshore (marine).			investigations, secured via a requirement in the DCO. Further survey of the proposed dredged channel, followed by mitigation if required.	
	Potential Submerged Remains	Uncertain	Further survey of the capital dredge area, followed by archaeological mitigation if required, i.e. targeted excavation/recording, watching brief or preservation in-situ.	Uncertain
Chapter 10: Townscape and Visual				
<i>Construction Phase</i>				
<u>Potential Effects on Townscape Character</u>				
Change of character and vegetation cover within the Site Boundary	Site Character	Moderate-Large Adverse (Significant)	No further mitigation measures beyond those outlined in the Outline	Moderate-Large Adverse (Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			CoCP (Document Reference 7.4).	
Change in local townscape character (within 2km of the Site Boundary)	Townscape Character	Slight-Moderate adverse (Not Significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight-Moderate adverse (Not Significant)
<u>Potential Effects on Visual Amenity (including locally designated views)</u>				
Change in character and visual amenity from Accessible Open Land	Accessible Open Land	Moderate Adverse (Significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Moderate Adverse (Significant)
Change in character and visual amenity from Study Area open spaces	Study Area open spaces	Slight Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight Adverse (not significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Change in visual amenity for users of the England Coast Path (FP3/NCN1)	PRoW	Slight-Moderate Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight-Moderate Adverse (not significant)
Change in visual amenity for users of PRoW within and in the vicinity of the Site Boundary (FP1/FP2/FP4)	PRoW	Moderate Adverse (significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Moderate Adverse (significant)
Change in visual amenity for users of the London Loop Section 24	PRoW	Slight Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight Adverse (not significant)
Change in visual amenity for users of Norman Road	Road Network	Slight-Moderate Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight-Moderate Adverse (not significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Change in visual amenity for users of Eastern Way	Road Network	Slight Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight Adverse (not significant)
Change in visual amenity for users of Junction between Eastern Way/A2016/Yarnton Way	Road Network	Slight Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight Adverse (not significant)
Change in visual amenity from Belvedere residential area	Residential	Slight-Moderate Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight-Moderate Adverse (not significant)
Change in visual amenity from Thamesmead residential area	Residential	Slight Adverse (not significant)	No further mitigation measures beyond those outlined in the Outline CoCP (Document Reference 7.4) .	Slight Adverse (not significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
<i>Operation Phase</i>				
<u>Potential Effects on Townscape Character</u>				
Change in Site character and vegetation cover	Site Character	Moderate-large Adverse (Significant) (Year 1) Moderate Adverse (Significant) (Year 15)	PRoW and access improvements. Biodiversity Net Gain (BNG) Opportunity Area improvements.	Moderate-large Adverse (Significant) (Year 1) Moderate Adverse (Significant) (Year 15)
Change in local townscape character (within 2km of the Site Boundary)	Townscape Character	Slight-Moderate Adverse (Not Significant) (Year 1) Slight-Moderate Adverse (Not Significant) (Year 15)		Slight-Moderate Adverse (Not Significant) (Year 1) Slight-Moderate Adverse (Not Significant) (Year 15)
Change in night-time townscape character (within 2km of the Site Boundary)	Night-time Townscape Character	Slight-Moderate Adverse (Not Significant)	N/A	Slight-Moderate Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
<u>Potential Effects on Visual Amenity (including locally designated views)</u>				
Change in character and visual amenity from Accessible Open Land	Accessible open spaces	Large Adverse (Not Significant) (Year 1) Moderate-large Adverse (Not Significant) (Year 15)	PRoW and access improvements. Biodiversity Net Gain (BNG) Opportunity Area improvements.	Large Adverse (Significant) (Year 1) Moderate-large Adverse (Significant) (Year 15)
Change in character and visual amenity from Study Area open spaces	Study Area open spaces	Slight-Moderate Adverse (Significant) (Year 1) Slight-Moderate Adverse (Significant) (Year 15)		Slight-Moderate Adverse (Significant) (Year 1) Slight-Moderate Adverse (Significant) (Year 15)
Change in visual amenity for users of the England Coast Path (FP3/NCN1)	PRoW	Slight-Moderate Adverse (Not Significant) (Year 1) Slight-Moderate Adverse (Not Significant) (Year 15)		Slight-Moderate Adverse (Not Significant) (Year 1) Slight-Moderate Adverse (Not Significant) (Year 15)
Change in visual amenity for users of	PRoW	Moderate Adverse (Significant) (Year 1)		Moderate Adverse (Significant) (Year 1)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
PRoW within and in the vicinity of the Site Boundary (FP1/FP2/FP4)		Moderate Adverse (Significant) (Year 15)		Moderate Adverse (Significant) (Year 15)
Change in visual amenity for users of the London Loop Section 24	PRoW	Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)		Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)
Change in visual amenity for users of Norman Road	Road Network	Slight-moderate Adverse (Not Significant) (Year 1) Slight-moderate Adverse (Not Significant) (Year 15)		Slight-moderate Adverse (Not Significant) (Year 1) Slight-moderate Adverse (Not Significant) (Year 15)
Change in visual amenity for users of Eastern Way	Road Network	Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)		Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)
Change in visual amenity for users of Junction between	Road Network	Slight Adverse (Not Significant) (Year 1)		Slight Adverse (Not Significant) (Year 1)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Eastern Way/A2016/Yarnton Way		Slight Adverse (Not Significant) (Year 15)		Slight Adverse (Not Significant) (Year 15)
Change in visual amenity from Belvedere residential area	Residential	Slight-moderate Adverse (Not Significant) (Year 1) Slight-moderate Adverse (Not Significant) (Year 15)		Slight-moderate Adverse (Not Significant) (Year 1) Slight-moderate Adverse (Not Significant) (Year 15)
Change in visual amenity from Thamesmead residential area	Residential	Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)		Slight Adverse (Not Significant) (Year 1) Slight Adverse (Not Significant) (Year 15)
Chapter 11: Water Environment and Flood Risk				
<i>Construction Phase</i>				
Change in quality and quantity of surface water features.	River Thames Marsh Dykes Ponds Crossness LNR	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Chemical and physical alteration of the Superficial Deposit Aquifers	Thanet Sand and Lambeth Group (bedrock) Secondary A aquifer Superficial deposit aquifers designated Secondary Undifferentiated aquifers (Alluvium and Head Deposits) and Secondary A aquifer (Taplow Gravel Member)	Negligible (Not Significant)	Chapter 17: Ground Conditions and Soils (Volume 1) describes additional mitigation measures related to groundwater impacts.	Negligible (Not Significant)
Chemical and physical alteration of the Principal Aquifer	Bedrock aquifer designated a Principal aquifer (Chalk Group)	Slight Adverse (Not Significant)	Chapter 17: Ground Conditions and Soils (Volume 1) describes additional mitigation measures related to groundwater impacts.	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Pollution of the groundwater abstractions for non-potable use	Groundwater Abstractions for non-potable use	Slight Adverse (Not Significant)	Chapter 17: Ground Conditions and Soils (Volume 1) describes additional mitigation measures related to groundwater impacts.	Slight Adverse (Not Significant)
Change in the biological, physico-chemical and hydromorphological quality elements of the WFD designated water bodies.	River Thames (including Thames Middle Transitional WFD Water Body) Greenwich Tertiaries and Chalk WFD Groundwater Body	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)
Changes to sediment processes and habitats	River Thames	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)
Change in local flood risks (from all sources of flooding)	NPPF less vulnerable land NPPF more vulnerable land	Slight Adverse (Not Significant)	Additional mitigation is outlined in Section 11.9 .	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	NPPF essential infrastructure NPPF water compatible land Secondary A aquifer (Taplow Gravel Member)			
Increase in demand for potable water	Potable Water/London Water Resource Zone	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)
Operation Phase				
Change in the quality of surface water features	River Thames Marsh Dykes (main rivers) Marsh Dykes (ordinary watercourses) Ponds	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Pollution impacts to groundwater quality	Superficial deposit aquifers designated Secondary Undifferentiated aquifers (Alluvium and Head Deposits) and Secondary A aquifer (Taplow Gravel Member)	Slight Adverse (Not Significant)	Chapter 17: Ground Conditions and Soils (Volume 1) and Appendix 17-1 Preliminary Risk Assessment (Volume 3) describes additional mitigation measures related to groundwater impacts.	Slight Adverse (Not Significant)
Changes to groundwater flow paths (including groundwater flow barriers)	Superficial deposit aquifers designated Secondary Undifferentiated aquifers (Alluvium and Head Deposits) and Secondary A aquifer (Taplow Gravel Member)	Neutral (Not Significant)	Chapter 17: Ground Conditions and Soils (Volume 1) and Appendix 17-1 Preliminary Risk Assessment (Volume 3) describes additional mitigation measures related to groundwater impacts.	Neutral (Not Significant)
Change in the biological, physico-chemical and hydromorphological	River Thames (including Thames)	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
quality elements of the WFD designated water bodies	Middle WFD Water Body) Greenwich Tertiaries and Chalk WFD Groundwater Body			
Changes to the sediment processes and habitats	River Thames	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)
Change in local flood risk	NPPF less vulnerable land; NPPF more vulnerable land; NPPF essential infrastructure; and NPPF water compatible land.	Slight Adverse (Not Significant)	Additional mitigation is outlined in Section 11.9 .	Slight Adverse (Not Significant)
Increase in demand for potable water	Potable Water/London Water Resource Zone	Slight Adverse (Not Significant)	No additional measures.	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Chapter 12: Climate Resilience				
Taking into account the additional mitigation measures presented in Section 12.9 of Chapter 12: Climate Resilience (Volume 1) , the consequence of the climate hazards will be reduced to Minor (Not Significant) for both the construction and operation phases.				
Chapter 13: Greenhouse Gases				
<i>Construction Phase</i>				
GHG Emissions	Global Atmosphere	Moderate Adverse (Significant)	Construction emissions could be minimised through design optimisation in line with PAS 2080:2023 ² principles to reflect the carbon reduction hierarchy as well as other measures detailed in Section 13.8 of Chapter 13: Greenhouse Gases (Volume 1) .	Minor Adverse (Not Significant)
<i>Operation Phase</i>				
GHG Emissions	Global Atmosphere	Beneficial (Significant)	No additional mitigation required. Enhancement	Beneficial (Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			measures are to review opportunities to improve operational performance in line with BAT and maintenance to ensure efficient process operations.	
Chapter 14: Population, Human Health and Land Use				
Construction Phase				
Effects on Terrestrial Businesses	Munster Joinery UK Limited	Major Adverse (Significant)	The Applicant has sought to reach an agreement with Munster Joinery on a relocation site. However, an agreement between the Applicant and Munster Joinery has not been reached at the time of writing.	Major Adverse (Significant)
	Iron Mountain Records Storage Facility	Moderate Adverse (Significant)	Further engagement with local business.	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			Signage to advertise that businesses are open and operating as normal.	
	Asda Belvedere Distribution Centre	Moderate Adverse (Significant)	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	Minor Adverse (Not Significant)
	Travelodge London Belvedere	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Snap Fitness	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	The Morgan	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Starbucks Coffee Drive Thru	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Lidl Belvedere Regional Distribution Centre	Moderate Adverse (Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Minor Adverse (Not Significant)
	Tap'in 3PL Ltd	Minor Adverse (Not Significant)	Engagement with local business.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			Signage to advertise that businesses are open and operating as normal.	
	HS Carlsteel Engineering Ltd	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Freshasia Foods Ltd.	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Intersped Logistics (UK) Limited	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Howdens Joinery	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
	Ctr Group	Minor Adverse (Not Significant)	Engagement with local business. Signage to advertise that businesses are open and operating as normal.	Negligible (Not Significant)
Effects on Businesses that rely upon access to the River Thames	Ford Dagenham	Negligible (Not Significant)	Engagement with local business. Development of a Passage Plan.	Negligible (Not Significant)
	Thames Water – Crossness Water Treatment Works	Negligible (Not Significant)	Engagement with local business. Development of a Passage Plan.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Effects on Walkers and Cyclists	England Coast Path	Moderate Adverse (Significant)	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	Moderate Adverse (Significant)
	NCN1	Moderate Adverse (Significant)	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	Moderate Adverse (Significant)
	FP1	Minor Adverse (Not Significant)	Engagement with users.	Negligible (Not Significant)
	FP2	Moderate Adverse (Significant)	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen).	Moderate Adverse (Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			Measures such as banksmen and diversions to be clearly publicised.	
	FP3	Moderate Adverse (Significant)	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	Moderate Adverse (Significant)
	FP4	Moderate Adverse (Significant)	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	Moderate Adverse (Significant)
	FP242	Minor Adverse (Not Significant)	Engagement with users.	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Effects on Terrestrial Recreation	Accessible Open Land	Moderate Adverse (Significant)	Further engagement with users.	Moderate Adverse (Significant)
	Land used by graziers	Minor Adverse (Not Significant)	Further engagement with users.	Minor Adverse (Not Significant)
Effects on Recreational Users of the Thames	Recreational users	Minor Adverse (Not Significant)	Further engagement with users.	Negligible (Not Significant)
	Erith Rowing Club	Minor Adverse (Not Significant)	Further engagement with users.	Negligible (Not Significant)
	Erith Yacht Club	Minor Adverse (Not Significant)	Further engagement with users.	Negligible (Not Significant)
	Thamesmead fishing mark	Minor Adverse (Not Significant)	Further engagement with users.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Erith Pier fishing mark	Minor Adverse (Not Significant)	Engagement with users.	Negligible (Not Significant)
Effects on Human Health	Local Population	Minor Adverse (Not Significant)	Further engagement with the local community.	Negligible (Not Significant)
Effects on Mental health and wellbeing	Local Population	Minor Adverse (Not Significant)	Further engagement with the local community. Additional mitigation set out in the relevant topic chapters.	Negligible (Not Significant)
Operation Phase				
Effects on Businesses that rely upon access to the River Thames	Ford Dagenham	Negligible (Not Significant)	No additional measures	Negligible (Not Significant)
	Thames Water – Crossness Water Treatment Works	Negligible (Not Significant)	No additional measures	Negligible (Not Significant)
Effects on Walkers and Cyclists	England Coast Path	Negligible (Not Significant)	New information boards detailing the Proposed	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>Scheme and other points of interest.</p> <p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	
	NCN1	Negligible (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	FP1	Minor Adverse (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	Minor Adverse (Not Significant)
	PRow, permissive paths and way marked circular active routes	Minor Beneficial (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture</p>	Minor Beneficial (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			including benches, bins and signage.	
	FP2	Minor Adverse (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRoW to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	Minor Adverse (Not Significant)
	FP3	Minor Adverse (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRoW to ensure they are accessible for all user groups.</p>	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			Inclusion of/updates to existing street furniture including benches, bins and signage.	
	FP4	Minor Adverse (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	Minor Adverse (Not Significant)
	FP242	Negligible (Not Significant)	New information boards detailing the Proposed Scheme and other points of interest.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			<p>Improvements to PRow to ensure they are accessible for all user groups.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	
Effects on Terrestrial Recreation	Accessible Open Land	Negligible (Not Significant)	<p>New information boards detailing the Proposed Scheme and other points of interest.</p> <p>Inclusion of/updates to existing street furniture including benches, bins and signage.</p>	Negligible (Not Significant)
	Land used by graziers	Negligible to Minor Adverse (Not Significant)	No additional measures.	Negligible to Minor Adverse (Not Significant)
Effects on Recreational Users of the Thames	Recreational users	Negligible (Not Significant)	No additional measures.	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
	Erith Rowing Club	Negligible (Not Significant)	No additional measures.	Negligible (Not Significant)
	Erith Yacht Club	Negligible (Not Significant)	No additional measures.	Negligible (Not Significant)
	Thamesmead fishing mark	Minor Adverse (Not Significant)	No additional measures.	Negligible (Not Significant)
	Erith Pier fishing mark	Minor Adverse (Not Significant)	No additional measures.	Negligible (Not Significant)
Effects on Human Health	Local Population	Minor Adverse (Not Significant)	<p>Further engagement with the local community through project information boards surrounding the site and updates on operational activities and planned maintenance via the Applicant's website.</p> <p>Additional mitigation set out in the relevant topic chapters.</p>	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Effects on Mental health and wellbeing	Local Population	Minor Adverse (Not Significant)	Further engagement with the local community through project information boards surrounding the site and updates on operational activities and planned maintenance via the Applicant's website. Additional mitigation set out in the relevant topic chapters.	Negligible (Not Significant)
Chapter 15: Socio-economics				
Construction Phase				
Employment Generation	Economic receptors	Minor Beneficial (Not Significant)	N/A	Minor Beneficial (Not Significant)
GVA Generation	Economic receptors	Minor Beneficial (Not Significant)	N/A	Minor Beneficial (Not Significant)
Operation Phase				

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Employment Generation	Economic receptors	Negligible (Not Significant)	N/A	Negligible (Not Significant)
GVA Generation	Economic receptors	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Chapter 16: Materials and Waste				
<i>Construction Phase</i>				
Consumption of material resources	Material resources	Slight Adverse (Not Significant)	No mitigation required (but Section 16.9 outlines measures being taken in any event).	Slight Adverse (Not Significant)
Disposal and recovery of waste	Landfill void capacity	Slight Adverse (Not Significant)	No mitigation required (but Section 16.9 outlines measures being taken in any event).	Slight Adverse (Not Significant)
<i>Operation Phase</i>				
Consumption of amine-based solvents	Material resources	Slight Adverse (Not Significant)	No mitigation required (but Section 16.9 outlines	Slight Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
			measures being taken in any event).	
Disposal and recovery of waste	Landfill void capacity and Energy from Waste facility capacity.	Neutral or Slight Adverse (Not Significant)	No mitigation required (but Section 16.9 outlines measures being taken in any event).	Neutral or Slight Adverse (Not Significant)
Chapter 17: Ground Conditions and Soils				
Construction Phase				
Effects on Site users, staff and construction staff from potential contamination within the underlying soils/groundwater	Site users and staff (excluding construction staff)	Neutral (Not Significant)	None required.	Neutral (Not Significant)
	Construction staff			
Potential effects on adjacent third party neighbours from potential contamination within the underlying	Third party neighbours	Neutral (Not Significant)	None required.	Neutral (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
soils during construction activities				
Potential effects on controlled waters from contamination within the underlying soils/groundwater	Groundwater within the Secondary Undifferentiated Aquifers and Secondary A Aquifers	Neutral (Not Significant)	None required.	Neutral (Not Significant)
	Groundwater within the Principal Aquifer	Neutral (Not Significant)	None required.	Neutral (Not Significant)
	Surface waters	Neutral (Not Significant)	None required.	Neutral (Not Significant)
Potential effects associated with construction activities impacting below ground services and building structures	Below ground services and building materials	Neutral (Not Significant)	None required.	Neutral (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Potential effects on ecological receptors from contamination within the underlying soils/groundwater	Ecological receptors	Neutral (Not Significant)	None required.	Neutral (Not Significant)
Chapter 18: Landside Transport				
<i>Construction Phase</i>				
Pedestrian and Cyclist Severance	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Pedestrian and Cyclist Delay	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Pedestrian and Cyclist Amenity	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Fear and Intimidation	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Public Transport Network	Public Transport Users	Minor Adverse (Not Significant)	N/A	Minor Adverse (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Driver Delay	Highway Links/Junctions (motorised users)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Accidents and Safety	Highway Links/Junctions (motorised users)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Operation Phase				
Pedestrian and Cyclist Severance	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Pedestrian and Cyclist Delay	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Pedestrian and Cyclist Amenity	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Fear and Intimidation	PRoW (non-motorised user)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Public Transport Network	Public Transport Users	Negligible (Not Significant)	N/A	Negligible (Not Significant)

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Driver Delay	Highway Links/Junctions (motorised users)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Accidents and Safety	Highway Links/Junctions (motorised users)	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Hazardous Loads	Highway Links/Junctions (motorised users)	Negligible (Not Significant)	N/A	Negligible (Not Significant)

Chapter 19: Marine Navigation

Construction Phase

As detailed in **Section 7 of Appendix 19-1: Preliminary Navigational Risk Assessment (Volume 3)** effects during the construction phase with the additional mitigation measures in place have been categorised as acceptable and are deemed **Not Significant**.

Operation Phase

As detailed in **Section 7 of Appendix 19-1: Preliminary Navigational Risk Assessment (Volume 3)** effects during the operation phase with the additional mitigation measures in place remain broadly acceptable or tolerable if ALARP and are deemed **Not Significant**.

Description of Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual Effect
Chapter 21: Cumulative Effects				
<i>Construction Phase</i>				
Intra-Project Effect	Users of Accessible Open Land	Moderate Adverse (Significant)	All practicable mitigation has been offered in Chapter 10: Townscape and Visual (Volume 1) and Chapter 14: Population, Health and Land Use (Volume 1) .	Moderate Adverse (Significant)
<i>Operation Phase</i>				
Intra-Project Effect	Users of Accessible Open Land	Moderate Adverse (Significant)	All practicable mitigation has been offered in Chapter 5: Air Quality (Volume 1) , and Chapter 10: Townscape and Visual (Volume 1) .	Moderate Adverse (Significant)

Table 22-2: Summary of Effects for the Assessment of Major Accidents and Disasters

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
Construction Phase				
4	Transport accidents	Marine vessel containing construction materials collides with the Proposed Jetty or other jetties within the Site.	Collapse/damage to structures	Damage to the marine vessel/jetty/other vessel with the potential to cause loss of life or permanent injury which requires ongoing disability support.
6	Engineering accidents and failures	Striking of underground services/utilities.	Fire and/or explosion or release of harmful gas.	Fire and/or explosion affects neighbouring plant, equipment and/or those people in the immediate area. With the potential to cause loss of life or permanent injury; or significant structural property damage.
7	Engineering accidents and failures	Equipment dropped/collapse of Access Trestle onto the England Coast Path (FP3/NCN1).	Harm to people.	Death and/or injury to members of the public.

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
Operation Phase				
12	Industrial and urban accidents	Unconfined vapour explosion on the Carbon Capture Facility initiating a major event on the adjacent COMAH installation.	Fire and/or explosion or release of harmful gas.	Unconfined vapour explosion onsite leading to structural damage and harm to people onsite and users of PRow.
14	Industrial and urban accidents	Major fire on the Carbon Capture Facility initiating a major event on the adjacent COMAH installation due to the lack of fire water capacity.	Fire and/or explosion or release of harmful gas.	Fire contained within the Site with drift of airborne combustion products offsite, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
15	Industrial and urban accidents	Large scale release of CO ₂ resulting from a loss of containment event involving a pipeline and/or storage tank.	Explosion or release of harmful gas.	CO ₂ toxicity and fogging hazard affects neighbouring properties and/or those people in the immediate area (including

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
				users of public rights of way and open spaces) potentially causing loss of life or permanent injury which requires ongoing disability support.
16	Industrial and urban accidents	Large scale release of CO ₂ resulting from a loss of containment event involving a pipeline and/or connection to the marine vessel.	Explosion or release of harmful gas.	CO ₂ toxicity and fogging hazard affects neighbouring properties and/or those people in the immediate area (including users of public rights of way and open spaces) potentially causing loss of life or permanent injury which requires ongoing disability support.
17	Industrial and urban accidents	Major fire at Riverside 1 and/or 2 facilities initiating a major event at the Carbon Capture Facility.	Fire and/or explosion or release of harmful gas.	Fire contained within the site with drift of airborne combustion products offsite, potentially causing permanent or long-lasting damage to environmental

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
				receptor(s) that cannot be restored through minor clean-up and restoration efforts.
18	Transport accidents (waterways)	Large scale release of CO ₂ resulting from a loss of containment event involving a marine vessel.	Explosion or release of harmful gas.	CO ₂ toxicity and fogging hazard affects neighbouring properties and/or those people in the immediate area, potentially causing loss of life or permanent injury which requires ongoing disability support.
20	Pollution accidents (land)	Loss of containment of hazardous materials/ waste into the soil/ groundwater.	Harm to ecological receptors.	Localised contamination of the soil, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
21	Pollution accidents (water)	Loss of containment of hazardous materials/ waste into surface water features.	Harm to ecological receptors.	Localised contamination of surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
24	Pollution accidents (water)	Untreated waste water discharged into the foul sewer which may impact the Thames Water wastewater treatment plant.	Harm to ecological receptors.	Impact on operations of Thames Water wastewater treatment works which may impact surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
26	Pollution accidents (land and water)	Loss of containment of solvent from storage tanks, Capture Plant vessel, pipework or associated equipment into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
27	Pollution accidents (land and water)	Loss of containment of solvent during road tanker unloading into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
28	Pollution accidents (land and water)	Loss of containment of solvent, due to overfilling of the fresh solvent storage tank, into the	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
		soil/groundwater/surface water features.		environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
29	Pollution accidents (land and water)	Loss of containment of waste solvent during road tanker loading into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
30	Pollution accidents (land and water)	Loss of containment of waste solvent, due to overfilling of the road tanker, into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.

Risk Record Entry Number	MA&D Category	Risk Description	Risk Event (High Level)	Reasonable Worst Consequence if Event Did Occur
31	Pollution accidents (land and water)	Loss of containment of hazardous materials during road tanker unloading into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.
32	Pollution accidents (land and water)	Loss of containment of hazardous materials, due to overfilling of chemical storage tanks, into the soil/groundwater/surface water features.	Harm to ecological receptors.	Localised contamination of the soil/surface water features, potentially causing permanent or long-lasting damage to environmental receptor(s) that cannot be restored through minor clean-up and restoration efforts.

22.3. REFERENCES

¹Maritime and Coastguard Agency. (2018). 'Guidance: Control and management of ballast water'. Available at: <https://www.gov.uk/guidance/control-and-management-of-ballast-water>

² PAS 2080:2023. (2023). 'Publicly Available Specifications: 2080 Carbon management in Infrastructure'. Available at: [REDACTED]