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## PLATES

There are no plates in this chapter.

## VOLUME II: FIGURES (ES VOLUME II, EN070009/APP/6.3)

No figures associated with this chapter.

## VOLUME III: APPENDICES (ES VOLUME III, EN070009/APP/6.4)

No appendices associated with this chapter.

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## 24.0 SUMMARY OF SIGNIFICANT EFFECTS

### 24.1 Introduction

24.1.1 Chapters 8 to 23 of this Environmental Statement (ES) have considered the potential environmental impacts and effects of the Proposed Development. This chapter provides a summary of those significant adverse and beneficial environmental effects identified at this stage in the Proposed Development.

### 24.2 Significant Environmental Effects and Proposed Mitigation Measures

24.2.1 As outlined in Chapter 2: Assessment Methodology (ES Volume I, EN070009/APP/6.2), for the purposes of this Environmental Impact Assessment (EIA), an effect is considered to be 'Significant' if it is assessed to be Moderate (Adverse or Beneficial) or Major (Adverse or Beneficial).

24.2.2 Table 24-1 summarises the significant environmental effects of the Proposed Development that have been identified throughout the EIA.

24.2.3 Table 24-1 makes reference to minor and / or negligible effects in this chapter where a 'Significant' (Moderate or Major) effect has been reduced to a 'Not Significant' effect following mitigation and / or wider contextualisation of the environmental impact.

24.2.4 Table 24-1 also summarises the environmental effects that are identified as 'Significant', following implementation of the embedded mitigation or impact avoidance measures included in the design of the Proposed Development (as detailed in Chapters 8 to 23, ES Volume I, EN070009/APP/6.2, where relevant).

24.2.5 For each topic, the reasonable worst-case scenario is assessed, including the construction programme scenario and design parameters, by applying the Rochdale Envelope, as set out in Chapter 4: Proposed Development and Chapter 5: Construction and Programme Management (ES Volume I, EN070009/APP/6.2). Where applicable, the reasonable worst-case appropriate for each assessment is described in Chapters 8 to 23.

24.2.6 Impacts have been assessed for the construction, operation ((including maintenance) and commissioning in Chapter 20: Major Accidents and Disasters only (ES Volume I, EN070009/APP/6.2)) and decommissioning scenarios and subsequently significant effects have been determined from this.

Table 24-1: Summary of Significant Effects

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Chapter 8: Air Quality				
Construction	No significant effects are predicted to occur.	N/A	N/A	N/A
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 9: Surface Water, Flood Risk and Water Resources				
Construction	No significant effects are predicted to occur.	N/A	N/A	N/A
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 10: Geology, Hydrogeology and Contaminated Land				
Construction	No significant effects are predicted to occur.	N/A	N/A	N/A
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 11: Noise and Vibration				
Construction	<p>Noise effects during construction of the Connection Corridors:</p> <ul style="list-style-type: none"> <li>• Up to Major Adverse (Significant) effects at the NSR H1 during the daytime for trenchless construction of the Buried Pipeline and trenchless construction of the Buried Pipeline.</li> <li>• Up to Moderate Adverse (Significant) effects at the non-residential NSR H4 for the buried pipeline construction works and ROW Fencing.</li> <li>• Up to Major Adverse (Significant) effects during the evening and weekend period at NSR H1 for the Buried Pipeline construction methods, Trenchless construction for pipelines, Testing and Street Works and, during Saturday 13:00</li> </ul>	Up to Major Adverse (Significant)	Further detailed assessment particularly regarding working outside of daytime working hours. This will be determined during detailed design.	Minor adverse or less (Not Significant) on the basis that BS 5228 ABC noise limits are met.

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<p>to 16:00 for ROW Fencing and Prep.</p> <ul style="list-style-type: none"> <li>Up to Moderate Adverse (Significant) effects at NSR H3 for above ground pipeline construction methods (only Saturday 13:00 to 16:00).</li> <li>Up to Major Adverse (Significant) effects during the night-time period at NSR H1 for buried pipeline construction methods, Testing and Street Works construction methods of the Hydrogen Pipeline Corridor.</li> </ul>			
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 12: Ecology and Nature Conservation (Including Aquatic Ecology)				
Construction	Although the Teesmouth and Cleveland Coast SPA overlaps with the Proposed Development, direct habitat loss within the designated site	Major Adverse (Significant)	Works in proximity to the SPA at Greatham Creek will be completed between September and November to	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<p>will be avoided through the use of HDD i.e. the Hydrogen Distribution Network will pass underneath the SPA and not intersect this directly. Launch pits and working areas will be located outside of the SPA site boundary.</p> <p>There will be temporary loss of functionally linked land for birds, and noise and visual disturbance of qualifying bird species where works are required in proximity to the SPA. Mitigation embedded within the Framework CEMP (EN070009/APP/5.12) will prevent dust, pollution and changes in water quality.</p>		<p>avoid the most sensitive periods for breeding and wintering birds.</p> <p>The Report to inform HRA (EN070009/APP/5.10) and Framework CEMP (EN070009/APP/5.12) includes details of visual screening of works and the use of noise abatement / reduction measures (such as close-board acoustic fencing or other barriers).</p>	
Construction	<p>Although the Teesmouth and Cleveland Coast Ramsar overlaps with the Proposed Development, direct habitat loss within the designated site will be avoided through the use of HDD. Launch pits and working areas</p>	Major Adverse (Significant)	<p>Works in proximity to the Ramsar at Greatham Creek will be completed between September and November to avoid the most sensitive periods for breeding and wintering birds.</p> <p>The Report to inform HRA (EN070009/APP/5.10) includes details of</p>	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<p>will be located outside of the Ramsar site boundary.</p> <p>There will be temporary loss of functionally linked land for birds, and noise and visual disturbance of qualifying bird species where works are required in proximity to the Ramsar. Mitigation embedded within the Framework CEMP (EN070009/APP/5.12) will prevent dust, pollution and changes in water quality.</p>		<p>visual screening of works and the use of noise abatement/reduction measures (such as close-board acoustic fencing or other barriers).</p>	
Construction	<p>Although the Teesmouth and Cleveland Coast SSSI overlaps with the Proposed Development, direct habitat loss within the designated site will be avoided through the use of HDD. Launch pits and working areas will be located outside of the SSSI site boundary. There will be no direct effects upon sand dunes or salt marsh habitats.</p> <p>There is potential for noise and visual disturbance of the bird assemblage or</p>	Major Adverse (Significant)	<p>Works in proximity to the SPA at Greatham Creek will be completed between September and November to avoid the most sensitive periods for breeding and wintering birds.</p> <p>The Report to inform HRA (EN070009/APP/5.10) (includes details of visual screening of works and the use of noise abatement/reduction measures (such as close-board acoustic fencing or other barriers).</p>	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	harbour seal where works are required in proximity to the SSSI. Mitigation embedded within the Framework CEMP (EN070009/APP/5.12) will prevent dust, pollution and changes in water quality.			
Construction	There is potential for noise and visual disturbance of birds / seals, to affect the Teesmouth and Cleveland Coast National Nature Reserve.	Major Adverse (Significant)	Works in proximity to the NNR at Greatham Creek will be completed between September and November to avoid the most sensitive periods for breeding and wintering birds. The Report to inform HRA (EN070009/APP/5.10) includes details of visual screening of works and the use of noise abatement/reduction measures (such as close-board acoustic fencing or other barriers).	Minor Adverse (Not Significant)
Construction	Direct loss of woodland habitat. The Framework CEMP details measures to prevent and control damage to retained woodland due to soil impacts or pollution during construction.	Not Significant (Minor Adverse)	Retained trees will be protected in accordance with BS 5837 (2012). Measures to prevent harm to retained habitats will be detailed within the Final CEMP(s). Any habitat lost will be reinstated post construction as detailed	Not Significant (Minor Adverse)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	Retained woodland will be protected in accordance with BS 5837 (2012).		within the Outline Landscape and Biodiversity Management Plan (LBMP) (EN070009/APP/5.9).	
Construction	There will be direct loss of floodplain grazing marsh where connection corridors are proposed. This loss will be temporary. Mitigation embedded within the Framework CEMP (EN070009/APP/5.12) will prevent dust, pollution and changes in water quality and hydrology.	Major Adverse (Significant)	An Ecological Clerk of Works (ECow) will be appointed to oversee works required adjacent to sensitive habitats. Floodplain grazing marsh will be restored post construction as detailed within the LBMP (EN070009/APP/5.9).	Minor Adverse (Not Significant)
Construction	There will be some temporary loss of open mosaic habitat within the connection corridors. Mitigation embedded within the Framework CEMP (EN070009/APP/5.12) will prevent dust, pollution and changes in water quality and hydrology.	Major Adverse (Significant)	Open mosaic habitat will be allowed to re-establish following construction (refer to the LBMP (EN070009/APP/5.9)). The re-establishment of vegetation consistent with open mosaic habitat is likely to be well advanced within two to three growing seasons of the original construction disturbance.	Minor Adverse (Not Significant)
Construction	Changes in water quality (chemical or physical) resulting from watercourse	Effects range from:	Where minor watercourses and ditches are crossed, they will be reinstated, and bankside vegetation restored.	Negligible (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<p>crossings or a pollution event in the River Tees and Greatham Creek. The River Tees and Greatham Creek will be crossed by non-intrusive methods.</p> <p>The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control pollution of aquatic habitats during construction.</p>	<p>Negligible / Minor Adverse (Not Significant) to Moderate Adverse (Significant)</p> <p>Refer to Chapter 9: Surface Water, Flood Risk and Water Resources (ES Volume I, EN070009/APP/6.2).</p>		
Construction	<p>Direct loss of woodland habitat within Cowpen Bewley Local Wildlife Site / Local Nature Reserve.</p> <p>The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control damage to retained woodland due to soil impacts or pollution during construction.</p> <p>Retained woodland will be protected in accordance with BS 5837 (2012).</p>	<p>Moderate Adverse – potential for medium term habitat loss (Significant)</p>	<p>Where possible habitat lost will be reinstated post construction as detailed within the Outline LBMP (EN070009/APP/5.9).</p> <p>Compensation in the form of woodland planting will be provided Cowpen Bewley Open Space Replacement Land. Woodland loss with Cowpen Bewley Woodland Park LWS cannot be avoided. Chapter 6: Need, Alternatives and Design Evolution (ES Volume I, EN070009/APP/6.2) describes why this land is required.</p>	<p>Moderate Adverse (Significant)</p>

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Construction	Direct loss of swamp habitat. The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control pollution during construction.	Up to Moderate Adverse – temporary reversible damage to swamp in the medium term (Significant)	Areas of swamp will be avoided where possible. Where habitats cannot be avoided, such as North of Greatham Creek and at Cowpen Bewley Woodland Park, they will be reinstated post construction. A Final CEMP(s) will detail measures to prevent and control pollution during construction.	Up to Moderate Adverse (Significant)
Construction	Habitat loss, killing, injury or disturbance of Great Crested Newt.	Moderate Adverse (Significant)	Strategic mitigation to be implemented under the District Local Licensing scheme.	Negligible (Not Significant)
Construction	Killing or injury of common reptile species (common lizard). The Framework CEMP (EN070009/APP/5.12) outlines precautionary working methods to prevent harm to reptiles during construction.	Major Adverse – injury or direct mortality (Significant)	An ECoW will be appointed to oversee works required within or adjacent to suitable habitats (North Gare and within Teesworks). Precautionary pre-works check to be completed prior to works commencing. A method statement will detail the working methods required to prevent harm to reptiles during construction. Any reptiles found during works will be moved to the adjacent dunes.	Negligible (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Construction	<p>Death or injury to fish or degradation of their habitats.</p> <p>The River Tees and Greatham Creek will be crossed by non-intrusive methods.</p> <p>The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control pollution to watercourses during construction.</p>	Moderate Adverse (Significant)	Where minor watercourses and ditches are crossed, they will be reinstated, and bankside vegetation restored.	Negligible (Not Significant)
Construction	<p>Harm to or disturbance of water vole. Damage or destruction of water vole burrows.</p> <p>The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control pollution to watercourses during construction.</p> <p>The Appendix C: Indicative Lighting Strategy (Construction) (EN070009/APP/5.12) outlines measures to avoid disturbance watercourses from lighting.</p>	Major Adverse (Significant)	Current survey data shows no water vole burrows present at proposed crossing points and therefore a licence is not required. However update surveys will need to be completed once design is fixed to confirm continued absence or to inform licence requirements. If burrows are present, a mitigation licence from Natural England will be sought to permit derogation from legislation. The licence will detail the appropriate timing and supervision of construction to permit the temporary dispersal of water vole from the working	Negligible (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			area. Habitat will be reinstated following the completion of the works.	
Construction	<p>Temporary disturbance of otter resting places.</p> <p>The Framework CEMP (EN070009/APP/5.12) details measures to prevent and control pollution to watercourses during construction.</p> <p>The Appendix C: Indicative Lighting Strategy (Construction) (EN070009/APP/5.12) outlines measures to avoid disturbance watercourses from lighting.</p>	Moderate Adverse (Significant)	<p>No otter holts have been identified within 200 m of the Proposed Development Site, however habitats are suitable, and a precautionary pre-construction check will be completed to make sure there are no new otter holts or couches present prior to construction.</p> <p>The CEMP details measures to prevent and control pollution during construction.</p>	Negligible (Not Significant)
Construction	Spread of INNS resulting in a legal offence.	Moderate Adverse (temporary or permanent effect) (Significant).	An INNS method statement will be confirmed in Final CEMP(s). This plan will set out the measures which will be implemented to avoid the spread of INNS during construction and ensure legal compliance.	Negligible (Not Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Decommissioning	In Teesmouth and Cleveland Coast SPA: Noise and visual disturbance of breeding and non-breeding birds. Physical or chemical pollution resulting in degradation of habitats.	Major Adverse (Significant)	Mitigation measures to prevent and control pollution, noise and visual disturbance will be detailed within the Decommissioning Environmental Management Plan (DEMP). This will include the use of noise abatement / reduction measures (such as close-board acoustic fencing or other barriers) to reduce noise to an acceptable level.	Minor Adverse (Not Significant)
Decommissioning	In Teesmouth and Cleveland Coast Ramsar: Noise and visual disturbance of breeding and non-breeding birds. Physical or chemical pollution resulting in degradation of habitats.	Major Adverse (Significant)	Mitigation measures to prevent and control pollution, noise and visual disturbance will be detailed within the DEMP. This will include the use of noise abatement / reduction measures (such as close-board acoustic fencing or other barriers) to reduce noise to an acceptable level.	Minor Adverse (Not Significant)
Decommissioning	In Teesmouth and Cleveland Coast SSSI: Noise and visual disturbance of breeding and non-breeding birds.	Major Adverse (Significant)	Mitigation measures to prevent and control pollution, noise and visual disturbance will be detailed within the DEMP.	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	Physical or chemical pollution resulting in degradation of habitats.		This will include the use of noise abatement / reduction measures (such as close-board acoustic fencing or other barriers) to reduce noise to an acceptable level.	
Decommissioning	In Teesmouth and Cleveland Coast NNR: Noise and visual disturbance of breeding and non-breeding birds. Physical or chemical pollution resulting in degradation of habitats.	Major Adverse (Significant)	Mitigation measures to prevent and control pollution, noise and visual disturbance will be detailed within the DEMP. This will include the use of noise abatement/reduction measures (such as close-board acoustic fencing or other barriers) to reduce noise to an acceptable level.	Minor Adverse (Not Significant)
Decommissioning	Dust and / or physical or chemical pollution resulting in degradation of coastal sand dune habitats	Moderate Adverse (Significant)	Mitigation measures to prevent and control dust and pollution will be detailed within the DEMP.	Negligible (Not Significant)
Decommissioning	Physical or chemical pollution to watercourses.	Moderate Adverse (Significant)	The DEMP will detail measures to prevent and control pollution.	Negligible (Not Significant)
Decommissioning	Killing or injury of common reptile species (common lizard).	Moderate Adverse (Significant)	Update surveys will be completed as necessary to inform the DEMP.	Negligible (Not Significant)
Decommissioning	Spread of INNS resulting in a legal offence.	Moderate Adverse (Significant)	Update surveys will be completed as necessary to inform the DEMP.	Negligible (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			The DEMP will include measures to avoid the spread of INNS (if present).	
Chapter 13: Ornithology				
Construction	<p><i>Main site</i> Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development:</p> <ul style="list-style-type: none"> <li>• Teesmouth and Cleveland Coast SPA; and,</li> <li>• Teesmouth and Cleveland Coast Ramsar site</li> </ul>	Major Adverse (Significant)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Minor Adverse (Not Significant)
Construction	<p><i>Connection corridors</i> Habitat losses within functionally linked land resulting in losses of breeding, roosting and/or feeding habitats. Noise, visual and lighting disturbance of breeding and non-breeding birds resulting in displacement of birds</p>	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and	Negligible (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<p>from regularly used habitats within statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development:</p> <ul style="list-style-type: none"> <li>• Teesmouth and Cleveland Coast SPA; and,</li> <li>• Teesmouth and Cleveland Coast Ramsar site</li> </ul>		<p>Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPA Saltholme Reserve;</p> <p>The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.</p> <p>Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.</p>	
Construction	<p><i>Main site</i> Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within</p>	Major Adverse (Significant)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	statutory designated site (SSSI, NNR) adjacent to the Proposed Development: <ul style="list-style-type: none"> <li>● Teesmouth and Cleveland Coast SSSI; and</li> <li>● Teesmouth NNR</li> </ul>		Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	
Construction	<p><i>Connection Corridors</i></p> Habitat losses within functionally linked land resulting in losses of breeding, roosting and/or feeding habitats.                     Noise, visual and lighting disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within statutory designated site (SSSI, NNR) adjacent to the Proposed Development: <ul style="list-style-type: none"> <li>● Teesmouth and Cleveland Coast SSSI; and</li> <li>● Teesmouth NNR</li> </ul>	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPB Saltholme Reserve; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	
Construction	<p><i>Connection corridors</i> Habitat losses within Cowpen Bewley Woodland Park (Local Nature Reserve) resulting in losses of breeding, roosting and / or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.</p>	Moderate Adverse (Significant) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)	Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park. The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance / disturbance thresholds at HDD locations.	Minor Adverse (Not Significant)
Construction	<p><i>Connection corridors</i> Habitat losses within Cowpen Bewley Woodland Park Local Wildlife Site</p>	Moderate Adverse (Significant)	Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park.	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	resulting in losses of breeding, roosting and / or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	(Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)	The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	
Construction	<p><i>Main site</i> Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within non-statutory designated sites (LWS and RSPB reserve) that overlap with the Proposed Development:</p> <ul style="list-style-type: none"> <li>● Saltholme RSPB reserve;</li> <li>● Greenabella Marsh LWS;</li> <li>● Greatham Creek North Bank Saltmarsh LWS;</li> <li>● Cowpen Bewley Woodland Park LWS; and</li> <li>● Coatham Marsh LWS</li> </ul> Those that are located closest to the Proposed Development:	Moderate Adverse (Significant)	The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance / disturbance thresholds at HDD locations.	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<ul style="list-style-type: none"> <li>● Phillips Tank Farm Grassland LWS; and,</li> <li>● Saltern Saltmarsh LWS</li> </ul>			
Construction	<p><i>Connection corridors</i></p> <p>Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats used habitats within non-statutory designated sites (LWS and RSPB reserve) that overlap with the Proposed Development:</p> <ul style="list-style-type: none"> <li>● Saltholme RSPB reserve;</li> <li>● Greenabella Marsh LWS;</li> <li>● Greatham Creek North Bank Saltmarsh LWS;</li> <li>● Cowpen Bewley Woodland Country Park LWS; and</li> <li>● Coatham Marsh LWS</li> </ul> <p>Those that are located closest to the Proposed Development:</p> <ul style="list-style-type: none"> <li>● Phillips Tank Farm Grassland LWS; and,</li> </ul>	Moderate Adverse (Significant)	<p>At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds;</p> <p>The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPA Saltholme Reserve.</p>	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<ul style="list-style-type: none"> <li>Saltern Saltmarsh LWS</li> </ul>			
Construction	<p><i>Connection corridors</i> Habitat losses resulting in losses of breeding, roosting and/or feeding habitats for avocet (breeding). Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.</p>	Major Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Minor Adverse (Not Significant)
Construction	<p><i>Connection corridors</i> Habitat losses resulting in losses of breeding, roosting and/or feeding habitats for common tern (breeding). Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.</p>	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Minor Adverse (Not Significant)
Construction	<p><i>Connection corridors</i> Ruff (non-breeding)</p>	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			<p>September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds;</p> <p>The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.</p> <p>Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.</p>	
Construction	<p><i>Connection corridors</i></p> <p>Noise and visual disturbance of shoveler (non-breeding) resulting in displacement of birds from regularly used habitats.</p>	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds;	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			<p>The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance / disturbance thresholds at HDD locations.</p> <p>Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.</p>	
Construction	<p><i>Main Site (little ringed plover and barn owl)</i></p> <p>Temporary habitat losses resulting in losses of breeding, roosting and/or feeding habitats.</p> <p>Noise and visual disturbance of little ringed plover, barn owl and yellow wagtail (breeding) resulting in</p>	Moderate Adverse (Significant)	<p>Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds</p> <p>Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing.</p>	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	displacement of birds from regularly used habitats.			
Construction	<p><i>Connection Corridors (Yellow wagtail, barn owl, little ringed plover)</i></p> <p>Temporary habitat losses resulting in losses of nesting and/or feeding habitats.</p> <p>Noise and visual disturbance of little ringed plover, barn owl and yellow wagtail (breeding) birds resulting in displacement of birds from regularly used habitats.</p>	Moderate Adverse (Significant)	<p>The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.</p> <p>Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.</p>	Minor Adverse (Not Significant)
Construction	<p><i>Connection Corridors</i></p> <p>Habitat losses resulting in losses of nesting and/or feeding habitats.</p> <p>Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.</p>	Moderate Adverse (Significant) (Option A of the Transmission and Distribution Infrastructure	<p>Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park.</p> <p>The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.</p>	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
		Connection at Cowpen Bewley only)		
Construction	<i>Main Site</i> Noise and visual disturbance of breeding birds assemblages at Coatham Dunes resulting in displacement of birds from regularly used habitats.	Moderate Adverse (Significant)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing.	Minor Adverse (Not Significant)
Construction	<i>Main Site</i> Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds.	Moderate Adverse (Significant)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing.	Minor Adverse (Not Significant)
Construction	<i>Connection Corridors</i> Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds.	Moderate Adverse (Significant)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
			<p>to below significance/disturbance thresholds at HDD locations.</p> <p>Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.</p>	
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	<p>Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development:</p> <ul style="list-style-type: none"> <li>• Teesmouth and Cleveland Coast SPA; and,</li> </ul>	Moderate Adverse (Significant)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	<ul style="list-style-type: none"> <li>Teemouth and Cleveland Coast Ramsar site.</li> </ul>			
Decommissioning	<p>Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within statutory designated site (SSSI) adjacent to the Proposed Development:</p> <ul style="list-style-type: none"> <li>Teemouth and Cleveland Coast SSSI.</li> </ul>	Moderate Adverse (Significant)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Minor Adverse (Not Significant)
Decommissioning	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within non-statutory designated site RSPB Saltholme at Bran Sands Bay.	Moderate Adverse (Significant)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Minor Adverse (Not Significant)
Decommissioning	Noise and visual disturbance resulting in displacement of birds from regularly used habitats for breeding bird assemblage including Coatham Dunes.	Moderate Adverse (Significant)	The use of noise abatement / reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Minor Adverse (Not Significant)
Decommissioning	Noise and visual disturbance resulting in displacement of birds from	Moderate Adverse (Significant)	The use of noise abatement / reduction measures (such as close-board acoustic	Minor Adverse (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	regularly used habitats for non-breeding water bird assemblage across the entire Teesside area.		fencing) to reduce noise and visual disturbance to below significance thresholds.	
Chapter 14: Marine Ecology				
Construction	Changes in the airborne soundscape during construction, due to the proximity of the HDD activities to Greatham Creek and Seal Sands, some disturbance effects may occur as a result of the 2 dB increase in sound exposure level above ambient.	Moderate Adverse (Significant)	To minimise the impact of airborne sound on seals hauled-out at Seal Sands and using habitat within Greatham Creek during the use of trenchless technologies for the Proposed Development at the Greatham site, noise abatement barriers (such as close-board acoustic fencing or other barriers) will be installed at this location to reduce the amount of perceptible change in airborne sound.	Minor Adverse (Not Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 15: Traffic and Transportation				
Construction	Proposed Development plus other Developments: Link 2 (A1085 Trunk Road, 1.34 km south of West	Severance: Moderate Adverse (Significant)	Classification of effect can be downgraded because Link 2 is located within areas that are considered to be	Minor (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	Coatham Lane) is predicted to have two significant adverse effects, one in terms of severance and one in terms of fear and intimidation.	Fear and intimidation: Moderate Adverse (Significant)	largely industrial with no residential properties and are therefore unlikely to have non-motorised users, and when assessing just the Proposed Development, the effects were negligible.	
Construction	Proposed Development plus other Developments: Link 4 (A1085 Trunk Road, 500 m north of A1053 Tees Dock Road) is predicted to have a significant adverse effect in terms of fear and intimidation.	Fear and intimidation: Moderate Adverse (Significant)	Classification of effect can be downgraded because Link 4 is located within areas that are considered to be largely industrial with no residential properties and are therefore unlikely to have non-motorised users, and when assessing just the Proposed Development, the effect was negligible.	Minor (Not Significant)
Construction	Proposed Development plus other Developments: Link 11 (A1053 Greystone Road, 600 m north of the A174/ A1053 Greystones roundabout) is predicted to have two significant adverse effects, one in terms of severance and one in terms of fear and intimidation.	Severance: Moderate Adverse (Significant) Fear and intimidation: Moderate Adverse (Significant)	Classification of effect can be downgraded because Link 11 is located within areas that are considered to be largely industrial with no residential properties and are therefore unlikely to have non-motorised users, and when assessing just the Proposed Development, the effects were negligible.	Minor (Not Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 16: Landscape and Visual Amenity				
Construction (and decommissioning)	Impact on recreational users at viewpoint 7 England Coastal Path – during construction activities	Moderate Adverse (Significant)	None proposed <sup>1</sup>	Moderate Adverse (Significant)
Construction (and decommissioning)	Impact on recreational users at viewpoint 8 Redcar seafront during construction activities	Moderate Adverse (Significant)	None proposed <sup>1</sup>	Moderate Adverse (Significant)
Operation	Impact on recreational users at viewpoint 7 England Coastal Path – during opening	Moderate Adverse (Significant)	None proposed <sup>1</sup>	Moderate Adverse (Significant)
Chapter 17: Cultural Heritage				
Construction	Loss or truncation of undated enclosure and boundary ditches south-east of Cowpen Bewley (GS Site 2).	Moderate Adverse (Significant)	Programme of archaeological investigations prior to or during construction	Minor Adverse (Not Significant)

<sup>1</sup> In the Summary of Significant Effects for Chapter 16: Landscape and Visual Amenity, where the mitigation is 'None proposed' for significant adverse effects, it is considered no extra essential mitigation can be provided above and beyond what is already proposed in the respective technical chapter.

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Construction	Loss or truncation of linear and rectilinear features likely associated with the Romano-British settlement south-east of Cowpen Bewley (GS Site 3).	Moderate Adverse (Significant)	Programme of archaeological investigations prior to or during construction	Minor Adverse (Not Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 18: Socio-Economics and Land Use				
Construction	Provision of employment and associated multiplier effects.	Moderate Beneficial (Significant)	None	Moderate Beneficial (Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 19: Climate Change				
Construction	No significant effects are predicted to occur.	N/A	N/A	N/A
Operation	H <sub>2</sub> product will help enable transition to a lower carbon economy.	Beneficial (Significant)	None required as it is a beneficial effect	Beneficial (Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 20: Major Accidents and Disasters				
Construction	No significant effects are predicted to occur.	N/A	N/A	N/A
Commissioning	Commissioning of the site will be undertaken in accordance with a Commissioning Plan. It is expected that the Commissioning Plan will be a pre-operational condition of the Environmental Permit, for the Environment Agency, and it will also be supplied to the HSE for approval as part of the COMAH Pre-Construction Notification process.	N/A	N/A	N/A
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	Decommissioning of the Proposed Development is not specifically included at this stage as not enough information is known in relation to decommissioning activities. However, it is likely that impacts during the	N/A	N/A	N/A

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	decommissioning stage would be similar to those assessed for the construction phase i.e. no significant effects are predicted to occur.			
Chapter 21: Materials and Waste				
Construction	Changes in available hazardous landfill void capacity	Moderate Adverse (Significant)	No additional mitigation measures are proposed at this time, however, the hazardous excavated material volume estimates will be further refined following a confirmatory site investigation undertaken post DCO consent, pursuant to a DCO Requirement.	Moderate Adverse (Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A
Chapter 22: Human Health				
Construction	Providing local employment and therefore, an increase in local income	Moderate Beneficial (Significant)	None required as it is a beneficial effect	Moderate Beneficial (Significant)

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Construction	<p>Permanent loss of 18,615 m<sup>2</sup> of open space at Cowpen Bewley Woodland Park.</p> <p>Temporary loss of 37,351 m<sup>2</sup> of open space at Coatham Marsh Nature Reserve and the temporary closure of Public Right of Way.</p>	Moderate Adverse (Significant)	<p>The Applicant intends to mitigate the permanent loss of land at Cowpen Bewley Woodland Park with a replacement area of land that would be of at least the same standard as the land required by the project. The Applicant will work with Stockton-on-Tees Borough Council to agree the layout and planting of this land.</p> <p>At Coatham Marsh Nature Reserve, the loss will be temporary, and the PRoW will be restored to their original condition following the end of the construction activities.</p>	Minor Adverse (Not Significant)
Operation	No significant effects are predicted to occur.	N/A	N/A	N/A
Decommissioning	Providing local employment and therefore, an increase in local income	Moderate Beneficial (Significant)	None required as it is a beneficial effect	Moderate Beneficial (Significant)
Chapter 23: Cumulative and Combined Effects				
Construction	Noise effect at Noise Sensitive Receptor H6 - with the addition of	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	simultaneous noise from construction of the Proposed Development and the other developments			
Construction	Ecology: Construction phase effects on designated sites, habitats and GCN	Major Adverse (Significant)	None proposed as no appropriate mitigation available at this stage	Major Adverse (Significant)
Construction	Ecology: Construction phase effects on open mosaic habitats and invertebrates	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available at this stage	Moderate Adverse (Significant)
Construction	Visual effect: Viewpoint 7 and 8 - would be impacted by views of the construction of the Proposed Development if concurrent with the construction and operation of a number of the identified cumulative developments	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)
Construction	Socio-demographic effect: Construction employment - so many construction schemes ongoing will benefit the construction sector.	Major Beneficial (Significant)	None required as it is a beneficial effect	Major Beneficial (Significant)
Construction	Socio-demographic effect: Local housing market and tourist accommodation – this will be relied	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)

DEVELOPMENT STAGE	ENVIRONMENTAL IMPACT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION
	upon considerably to address the need for construction staff.			
Construction	Socio-demographic effect: Demographic effects and community disruption – due to an increase in construction workers in the zone of influence, there will be increased demand on services and community facilities.	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)
Construction	Socio-demographic effect: Cumulative effect of the Proposed Development, HyGreen and NZT on Private Assets is considered to cause minor disruption for businesses and residents.	Moderate Adverse (Significant)	The Applicant notes the issues resulting from the three cumulative projects. The Applicant is committing to work with the respective supply chain and contractors to minimise disruption to private assets resulting from this issue and is planning to put a strategy in place to mitigate this impact.	Moderate Adverse (Significant)
Construction	Human health effect: Employment and Income - construction phases of the Proposed Development and the other cumulative developments would be expected to generate employment which would be beneficial to the local economy.	Major Beneficial (Significant)	None required as it is a beneficial effect	Major Beneficial (Significant)

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Construction	Human health effect: Housing - there is a short-term risk of a temporary accommodation shortage as a result of the cumulative employment impact, especially if most or all of the cumulative developments' construction phases take place simultaneously.	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)
Construction	Human health effect: Health and Social Care Service - the cumulative developments could lead to an increase in the number of people in the area if construction phases are to take place at the same time.	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)
Operation	Visual effect: Viewpoint 7 - would be impacted by views of the operation of the Proposed Development if concurrent with the construction and operation of a number of the identified cumulative developments.	Moderate Adverse (Significant)	None proposed as no appropriate mitigation available	Moderate Adverse (Significant)
Decommissioning	No significant effects are predicted to occur.	N/A	N/A	N/A