TABLE OF CONTENTS

TABLES

PLATES

16.0 LANDSCAPE AND VISUAL AMENITY

16.1 Introduction

16.1.1 This chapter of the Preliminary Environmental Information (PEI) Report identifies the potential impacts and effects on landscape character and visual amenity as associated with the Proposed Development. The Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with good practice guidance, including the Guidelines for LVIA (GLVIA) third edition (GLVIA3) (Institute of Environmental Management and Assessment (IEMA), 2013).

16.1.2 This chapter is supported by the following figures (PEI Report, Volume II) and technical appendices (PEI Report, Volume III):

- Figure 16-1: Landscape Context;
- Figure 16-2: Landscape Character;
- Figure 16-3: Zone of Theoretical Visibility and Potential Viewpoint Locations;
- Figure 16-4: Topography;
- Figure 16-5: Zone of Theoretical Visibility and Representative Viewpoint Locations;
- Figures 16-6-1 to 16-6-14: Winter Viewpoint Photography;
- Figures 16-7-1 to 16-7-14: Summer Viewpoint Photography;
- Figures 16-8-1 to 16-8-8: Photowires;
- Appendix 16A: Landscape Character;
- Appendix 16B: Landscape and Visual Proposed Methodology; and
- Appendix 16C: Potential Viewpoints.

16.2 Legislation and Planning Policy Context

16.2.1 The following section provides an overview of legislation and planning policy and guidance that is relevant to landscape character and visual amenity.

Legislative Background

The European Landscape Convention (2007)

16.2.2 The European Landscape Convention (ELC) (Council of Europe, 2020) was signed by the UK Government in 2006 and came into effect in March 2007. The ELC recognises landscape in law. It focuses specifically on landscape issues and highlights the importance of integration of landscape into areas of policy, to promote protection, management and planning of all landscapes including the assessment of landscape and analysis of landscape change.

Planning Policy Context

16.2.3 This assessment has been undertaken taking into account relevant national, regional and local planning policy, as summarised below.

National Planning Policy

Overarching National Policy Statement (NPS) for Energy (EN-1) (2011)

16.2.4 The Overarching National Policy Statement (NPS) for Energy (EN-1) (DECC, 2011) includes a number of statements pertinent to landscape and visual impacts of energy infrastructure.

16.2.5 Section 5.9 of EN-1 sets out the requirements for assessing and mitigating landscape and visual impacts of proposed nationally significant energy infrastructure projects (NSIPs). The scope of the assessment should include construction phase effects as well as the effects of the completed facility and its operation on landscape components, landscape character and views and visual amenity. The assessment should also consider the potential effects associated with the decommissioning of the development.

16.2.6 In terms of mitigation, EN-1 encourages the reduction in the scale of the project, taking into consideration function, appropriate siting and design, including colours and materials, and landscaping schemes to mitigate adverse landscape and visual impacts.

16.2.7 Paragraphs 5.9.15 to 5.9.16 to EN-1 state:

> *"The scale of such projects means that they will often be visible within many miles of the site of the proposed infrastructure. The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project.*
>
> *In reaching a judgment, the Secretary of State should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable."*

16.2.8 Paragraph 5.9.18 of EN-1 states:

> *"All proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites.*
>
> *The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project."*

16.2.9 Paragraph 5.9.8 of EN-1 states:

> *"Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate."*

16.2.10 Section 5.10 of EN-1 establishes the requirements for identifying and mitigating impacts of energy infrastructure projects on open space, including Green Infrastructure (GI).

16.2.11 An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space and GI.

16.2.12 Where GI is affected, the Secretary of State (SoS) should consider imposing requirements to ensure the connectivity of the GI network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact.

National Policy Statement (NPS) for Gas and Oil Pipelines (EN-4) (2011)

16.2.13 The National Policy Statement (NPS) for Gas and Oil Pipelines (EN-4) (DECC, 2011) includes a number of statements pertinent to landscape and visual impacts of pipeline infrastructure.

16.2.14 Section 2.21 of EN-4 Paragraph 2.21.1 states:

"Additional considerations apply during the construction of a pipeline (which, without mitigation, can affect both landscape and ecology).

These comprise the effect upon specific landscape elements within and adjacent to the pipeline route, such as grasslands, field boundaries (hedgerows, hedgebanks, drystone walls, fences), trees, woodlands, and watercourses."

"There will also be temporary visual impacts caused by the need to access the working corridor and to remove flora and soil."

"The working width of the pipeline will vary depending on the surrounding terrain. Temporary impacts could include large excavations where deep pits are needed for boring beneath rivers, roads and sensitive features."

16.2.15 Section 2.21 of EN-4 Paragraph 2.21.2 states:

"Long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. They are likely to include:

• limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline; and

• structures and indication points necessary to identify the pipeline route and provide it with service access."

16.2.16 Section 2.21 of EN-4 Paragraph 2.21.3 states:

"…The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work."

"Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape."

National Policy Statement (NPS) for Electrical Networks Infrastructure (EN-5) (2011)

16.2.17 The National Policy Statement (NPS) for Electrical Networks Infrastructure (EN-5) (DECC, 2011) includes a number of statements pertinent to landscape and visual impacts of electrical networks infrastructure.

16.2.18 Paragraph 2.8.9 states:

> "*The impacts and costs of both overhead and underground options vary considerably between individual projects (both in absolute and relative terms). Therefore, each project should be assessed individually on the basis of its specific circumstances and taking account of the fact that Government has not laid down any general rule about when an overhead line should be considered unacceptable. The IPC should, however only refuse consent for overhead line proposals in favour of an underground or sub-sea line if it is satisfied that the benefits from the non-overhead line alternative will clearly outweigh any extra economic, social and environmental impacts and the technical difficulties are surmountable. In this context it should consider:*
>
> *a) the landscape in which the proposed line will be set, (in particular, the impact on residential areas, and those of natural beauty or historic importance such as National Parks, AONBs and the Broads);*
>
> *b) the additional cost of any undergrounding or sub-sea cabling (which experience shows is generally significantly more expensive than overhead lines but varies considerably from project to project depending on a range of factors, including whether the line is buried directly in open agricultural land or whether more complex tunnelling and civil engineering through conurbations and major cities is required. Repair impacts are also significantly higher than for overhead lines as are the costs associated with any later uprating.); and*
>
> *c) the environmental and archaeological consequences (undergrounding a 400kV line may mean disturbing a swathe of ground up to 40 metres across, which can disturb sensitive habitats, have an impact on soils and geology, and damage heritage assets, in many cases more than an overhead line would).*"

Draft Overarching NPS for Energy (EN-1) (2023)

16.2.19 The Government is currently reviewing and updating the Energy NPSs to reflect its policies and strategic approach for the energy system that is set out in the Energy White Paper (December 2020), and to ensure that the planning policy framework enables the delivery of the infrastructure required for the country's transition to net zero carbon emissions.

16.2.20 The detail of the Draft Overarching National Policy Statement for Energy (EN-1) (Draft NPS EN-1) (DECC, 2023) is currently subject to ongoing consultation. Section 5.10 of the draft EN-1 sets out the requirements for assessing and mitigating landscape and visual impacts.

16.2.21 Given the role and importance of the NPS under the Planning Act 2008 (PA 2008), the EIA approach takes account of these new emerging documents and any subsequent

formal adoption of new NPSs for energy infrastructure will be considered where relevant during the production of the Environmental Statement (ES).

Draft National Policy Statement (NPS) for Gas and Oil Pipelines (EN-4) (2023)

16.2.22 The Daft National Policy Statement (NPS) for Gas and Oil Pipelines (EN-4) (DESNZ, 2023) includes a number of statements pertinent to landscape and visual impacts of pipeline infrastructure.

16.2.23 Section 2.21 of Draft EN Paragraph 2.22.6 states:

"Mitigation measures to protect the landscape, visual amenity and ecology could include reducing the working width required for the installation of the pipeline to reduce the impact on the landscape where it will not be possible to fully reinstate the route."

16.2.24 Section 2.21 of Draft EN Paragraph 2.21.29 states:

"Long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. They are likely to include:

• limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline; and

• structures and indication points necessary to identify the pipeline route and provide it with service access."

16.2.25 Section 2.21 of Draft EN Paragraphs 2.21.31 to 2.21.32 state:

"The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work.

Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape."

Draft National Policy Statement (NPS) for Electrical Networks Infrastructure (EN-5) (2023)

16.2.26 The Daft National Policy Statement (NPS) for Electrical Networks Infrastructure (EN-5) (DESNZ, 2023) includes a statement pertinent to landscape and visual impacts of pipeline infrastructure.

16.2.27 Paragraph 2.2.8 states:

"There will usually be a degree of flexibility in the location of the development's associated substations, and applicants should consider carefully their placement in the local landscape, as well as their design."

16.2.28 National Planning Policy Framework (NPPF) (2021) The National Planning Policy Framework (NPPF) (MHCLG, 2021) was last updated in July 2021 and sets out the government's planning policies for England and provides guidance on their

application. Consultation on the NPPF ran from December 2022 to March 2023 and is outlined within the NPPF: draft text for consultation.

16.2.29 Although paragraph 5 of the NPPF confirms that NSIPs are to be determined in accordance with the decision-making framework of the PA 2008 and relevant NPSs, decisions on NSIPs should also take account of any other matters that are "relevant", which may include the NPPF.

16.2.30 The NPPF has a strong emphasis on sustainable development, with a presumption in favour of such development. It sets out requirements for planning policies and decisions to ensure developments are visually attractive, including through appropriate landscape design, are sympathetic to the local character and landscape setting, and create or maintain a strong sense of place.

16.2.31 In relation to the natural environment, NPPF states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".*

The National Planning Practice Guidance (NPPG): Natural environment (2019)

16.2.32 Paragraph 36 of the NPPG (MHCLG, 2019) explains the key issues and planning policies relating to the conservation and enhancement of the landscape.

16.2.33 Paragraph 37 of the guidance states that an LVIA can be used to demonstrate the likely effects of a proposed development on landscape character.

Local Planning Policy

Redcar and Cleveland Local Plan (2018)

16.2.34 The Redcar & Cleveland Local Plan (adopted May 2018) (RCBC, 2018) includes a number of policies relevant to landscape and visual considerations as described below.

16.2.35 Policy N1: Landscape aims to protect and enhance the local landscape and states that developments will not be permitted where they would lead to the loss of features important to the character, quality and distinctiveness of the landscape, unless the benefits clearly outweigh landscape considerations. This policy also identifies Locally Important Landscapes, categorising them as either:

- Sensitive Landscapes, in which much landscape structure is present to give high 'strength of character' which is sensitive to change. Priority is placed on the retention of important landscape characteristics/features within these areas.
- Restoration Landscapes, where the landscape structure has been lost to varying degrees and would benefit from restoration, with opportunities sought to achieve this as part of development.

16.2.36 Policy LS1: Urban Area Spatial Strategy aims to protect and enhance the character and special qualities of the Eston Hills.

16.2.37 Policy SD4: General Development Principles sets out a series of criteria against which the suitability of a site or location to development will be considered, highlighting that important environmental, built and historic assets should be protected.

Redcar and Cleveland Local Development Framework: Landscape Character Supplementary Planning Document (SPD) (2010)

16.2.38 The SPD (RCBC, 2010) sets out guidance to be used when designing proposed developments and is to be used in conjunction with the Redcar and Cleveland Landscape Character Assessment (refer to Section 16.4).

16.2.39 The SPD identifies the classification of the rural landscape into the two categories as outlined in Policy NE1 of the Redcar and Cleveland Local Plan above, and provides guidance on habitat creation, species selection, and built design within each of the defined Broad Landscape Areas.

Stockton-on-Tees Local Plan (2019)

16.2.40 The Stockton-on-Tees Local Plan (adopted January 2019) (STBC, 2019) includes the following policies relevant to landscape and visual considerations:

- Policy SD5: Natural, Built and Historic Environment, which aims to ensure the conservation and enhancement of the environment;
- Policy ENV5: Preserve, Protect and Enhance Ecological Networks, Biodiversity and Geodiversity, which states "*development proposals will be supported where they enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation particularly in or adjacent to Biodiversity Opportunity*

Areas in the River Tees Corridor, Teesmouth and Central Farmland Landscape Areas";

- Policy ENV6: Green Infrastructure, Open Space, Green Wedges and Agricultural Land, which aims to "*protect and support the enhancement, creation and management of all green infrastructure to improve its quality, value, multi-functionality and accessibility*"; and
- Policy SD8: Sustainable Design Principles, which states "*new development to be designed to the highest possible standard, taking into consideration the context of the surrounding area*". The policy aims to ensure new development fits in with the surrounding area.

Hartlepool Local Plan (2018)

16.2.41 Hartlepool Local Plan (adopted 2018) (HBC, 2018) includes the following policies relevant to landscape and visual considerations:

- Policy RUR1: Development in the Rural Area, which aims "*to ensure the rural area is protected and enhanced to ensure that its natural habitat, cultural and built heritage and rural landscape character are not lost*"; and
- Policy NE1: Natural Environment, which states "*the borough council will protect, manage and enhance Hartlepool's natural environment*".

16.3 Assessment Methodology and Significance Criteria

Study Area

16.3.1 The extent of the Study Area is determined by the potential visibility of the Proposed Development in the surrounding landscape. It is proportionate to the size and scale of the Proposed Development and nature of the surrounding landscape. GLVIA3 (IEMA, 2013) states that the Study Area should include "*the full extent of the wider landscape around it which the proposed development may influence in a significant manner*".

16.3.2 For the purposes of this assessment, the Study Area has been defined by a combination of Zone of Theoretical Visibility (ZTV) analysis and professional judgement. Professional judgements made during survey work based upon the tallest element of the Proposed Development being the flare (100 m Above Ground Level (AGL)), it is considered that it is highly unlikely that significant effects would be experienced further than 10 km from the Main Site. The Study Area therefore extends 10 km from the Main Site.

16.3.3 Based upon the nature of the works required within the connection corridors (taking account of all permanent above ground structures) and professional judgement, it is considered highly unlikely that significant effects will be experienced further than 2 km from them. Therefore, a Study Area of 2 km has been applied for the connection corridors.

16.3.4 The Study Areas overlap to the north, east, and south of the Study Area, as illustrated by Figure 16-1: Landscape Context (PEI Report, Volume II).

Impact Assessment Methodology

16.3.5 The LVIA has been undertaken based on the following good practice guidance:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA 3) (IEMA, 2013);
- Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations (Landscape Institute, 2021);
- Technical Guidance Note 04/2020: Infrastructure (Landscape Institute, 2020); and
- Technical Guidance Note 06/2019: Visual Representation of Development Proposals (Landscape Institute, 2019).

Sources of Information

16.3.6 Four site visits were undertaken by a landscape architect, under the supervision of a chartered landscape architect. The winter survey and viewpoint photography were carried out between February 2023 and April 2023 and the summer survey and viewpoint photography was carried out in July 2023 to better understand the existing landscape character of the area and the potential impacts of the Proposed Development upon the surrounding community, and to record views from representative viewpoints.

16.3.7 As stated above, OS maps, aerial photographs, LPA landscape character assessment documents and Natural England's national character mapping have also been utilised to inform the baseline.

16.3.8 Baseline data has been gathered from a study of Ordnance Survey (OS) maps and aerial photographs, publicly available documents such as landscape character assessment documents from local planning authorities (LPAs) within the immediate area and national character mapping available from Natural England. A site visit has also been undertaken to assess the existing character and impact of the Proposed Development on receptors such as residents and to record views from representative viewpoints.

16.3.9 A detailed description of the assessment methodology is included in Appendix 16B: Landscape and Visual Impact Assessment Methodology (PEI Report, Volume III) and is summarised below.

16.3.10 For the purposes of comparison and to establish a 'control' scenario against which the effects of the Proposed Development may be assessed, the baseline conditions are projected forward to produce a future 'no development' (baseline) scenario. The potential impacts of the Proposed Development upon the baseline landscape and receptor views are then identified and the significance of any resulting effect is then assessed. Potential landscape and visual impacts and the resulting effects (both adverse and beneficial) are considered for the following scenarios:

- Construction: Phase 1 from 2025 – 2028 and Phase 2 from 2028 to 2030 (period of 6 years), assumes structures on the former steelworks site have been demolished;

- Operation: 2028 with a life span of 25 years; and
- Decommissioning: 2053 – 2058/9.

16.3.11 Impacts may be temporary, permanent, short-term, medium-term, or long-term. Landscape and visual impacts may be further categorised as being either direct (i.e., originating from the development itself); or indirect and secondary (from consequential change resulting from the development).

16.3.12 The assessment of effects is based on an evaluation of the sensitivity to change and the magnitude of impacts for each landscape or visual receptor, guided by a set of pre-defined criteria, as detailed in Appendix 16B: Landscape and Visual Impact Assessment Methodology (PEI Report, Volume III). This provides a level of consistency and transparency to the assessment and allow comparisons to be made between the various landscape and visual receptors subject to assessment. When assessing the degree of individual effects, these may fall across several different categories and professional judgement is therefore used to determine which level best fits the overall effect on a landscape or visual receptor. In accordance with GLVIA3 this is not a prescriptive process and is provided as a guide to how sensitivity and magnitude are typically combined.

Significance Criteria

Landscape Effects

16.3.13 The assessment of potential effects on landscape character resulting from the Proposed Development involves consideration of the following:

- existing baseline landscape character;
- sensitivity of the landscape to the change proposed; and
- magnitude of likely impacts on the landscape.

16.3.14 The landscape baseline has been determined through a combination of desk-based research and site survey to identify and describe distinct Landscape Character Areas (LCAs) within the Study Area. The value of each landscape receptor is also established as part of the baseline and is often guided by designation and informed by a range of other considerations such as quality and condition, distinctiveness, rarity, function, natural and cultural heritage designation, and perceptual aspects.

16.3.15 The sensitivity of the landscape receptor is a combination of its value and susceptibility to change to the specific type of development being assessed. The susceptibility of the landscape is the degree to which a particular landscape receptor or feature can accommodate change or new features without unacceptable detrimental effects to its essential characteristics.

16.3.16 The magnitude of a predicted landscape impact relates to the size, extent, or degree of change likely to be experienced as a result of the Proposed Development. The magnitude takes into account whether there is a direct impact resulting in the loss of landscape components, or a change beyond the land-take of the Proposed Development that might have an effect on the perceptual qualities or character of the area, and whether the impact is permanent or temporary.

16.3.17 The relationship between sensitivity and magnitude of impact allows an assessment of the significance of predicted landscape effects to be made. Plate 16-1 presents an illustration to demonstrate the relationship between sensitivity and magnitude of impacts in determining the level and significance of effect. As outlined in GLVIA3, this is not a prescriptive process, and the diagram is therefore provided as a guide to how levels of sensitivity and magnitude are typically combined. For the purposes of this assessment, moderate and major effects are deemed 'Significant.'; while minor and negligible effects are considered to be 'Not Significant'.

16.3.18 A full explanation of the criteria used to assess sensitivity, magnitude of impact and classification of landscape effects is included in Appendix 16B: Landscape and Visual Impact Assessment Methodology (PEI Report, Volume III).

Visual Effects

16.3.19 The assessment of potential effects on views and visual receptors resulting from the Proposed Development (see Plate 16-1: Classification of Landscape and Visual Effects) follows a similar process to landscape assessment and involves consideration of the following:

- existing baseline view and visual amenity;
- sensitivity of the view/visual receptor to the change proposed; and
- magnitude of likely impacts experienced by the visual receptor.

16.3.20 Visual receptors are primarily identified through the combination of desk-based study, including ZTV mapping, observation in the field and application of professional judgement. A description of the receptor type and nature and value of the existing view are provided as part of the baseline. The value of the view is often informed by the appearance on OS or tourist maps and in guidebooks, literature or art or identified in policy, or through the provision of facilities such as parking, seating and/or interpretation.

16.3.21 The sensitivity of visual receptors is defined through appraisal of the viewing expectation, or value, placed on the view and the susceptibility of the receptor to change. The susceptibility of visual receptors is a function of the occupation or activity of people experiencing the view and the extent to which their attention or interest is focussed on the view and the visual amenity they experience at a particular location.

16.3.22 The magnitude of a predicted visual impact relates to the extent to which the Proposed Development will alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility.

16.3.23 The sensitivity of a receptor and the magnitude of a likely impact are combined to assess the level and significance of visual effects that the Proposed Development is predicted to have, relative to the existing baseline conditions for that given receptor. As with the landscape assessment, Plate 16-1 presents an illustration to demonstrate the relationship between visual sensitivity and magnitude of impacts in determining the effect level and significance. The assessment involves application of professional

judgement, with reference to the criteria set out in Appendix 16B: Landscape and Visual Impact Assessment Methodology (PEI Report, Volume III).

16.3.24 For the purposes of the visual assessment, moderate and major effects are deemed 'Significant;' while minor and negligible effects are considered to be 'Not Significant'. Where significant environmental effects are identified, measures to mitigate these effects are proposed (where feasible) and the remaining residual effects are identified.

16.3.25 Although some visual receptors may consider the Proposed Development to be visually appealing or interesting, the assessment follows standard best practice methods, and therefore assumes a 'worst case' scenario whereby significant changes to views as a result of new tall/large structures or buildings in an existing relatively open area are generally considered to be adverse.

16.3.26 Viewpoint photography accompanying this assessment has been undertaken in accordance with best practice in Landscape Institute TGN 06/2019: Visual Representation of Development Proposals (Landscape Institute, 2019); Type 1 (annotated viewpoint photograph). Type 3 (photowire/photomontage) will be produced for the Consultation and updated for the ES.

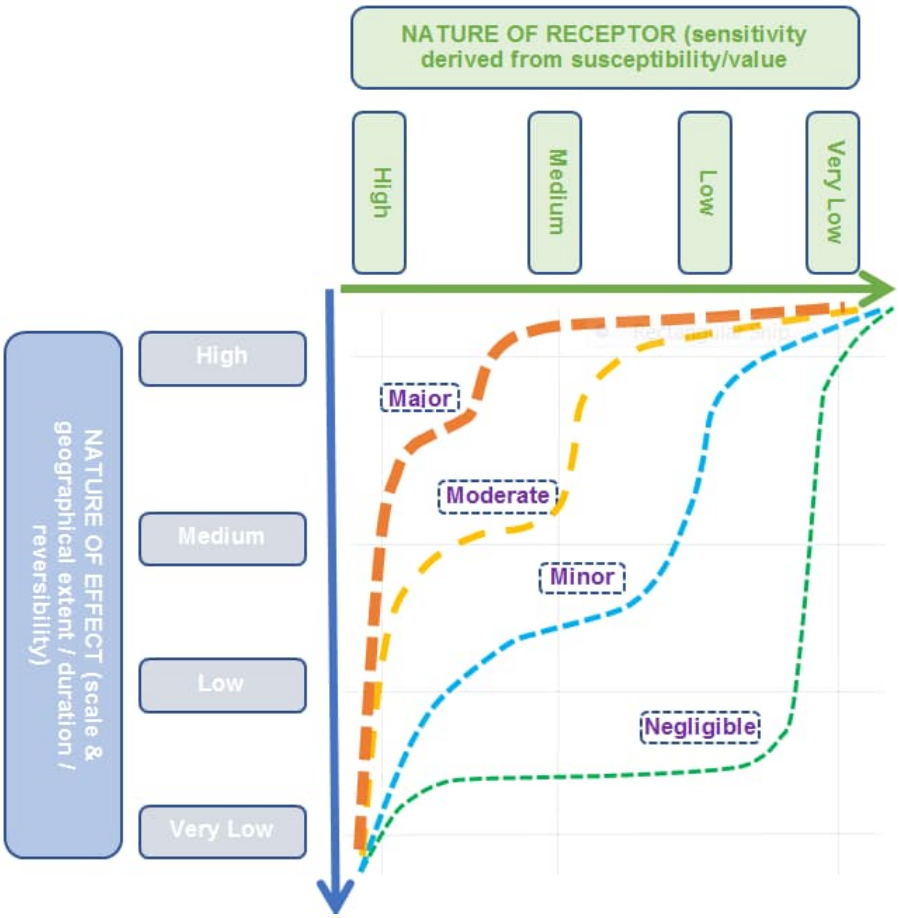

Plate 16-1: Classification of Landscape and Visual Effects

Consultation

16.3.27 An EIA Scoping Opinion was requested from the Planning Inspectorate (the Inspectorate) in April 2023. A response was received on 17th May 2023. A high-level summary of responses to the Scoping Opinion relevant to landscape and visual amenity is outlined in Table 16-1.

Table 16-1: Consultation Summary Table

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
The Inspectorate	Scoping Opinion received 17th May 2023	With regard to the night-time light pollution impacts the Scoping Opinion stated that *"…given the scale of the Proposed Development, the ES should provide an assessment of the effects of night-time light pollution on landscape and visual receptors during all phases of the Proposed Development or provide further justification for why significant effects would not arise."*	It is anticipated that night-time assessment will indicate no significant effects due to existing high levels of lighting within the Teesside area and that the Proposed Development will follow recommendations as set out in the Indicative Lighting Strategy that will accompany the DCO Application. A night-time assessment is not included in this assessment as sufficient information on proposed lighting is unavailable at the time of writing. A night-time assessment on landscape and visual receptors will be included in the ES.
		Requested that visual amenity receptors from the waterways are considered within the assessment.	Receptors on the River Tees and within Tees Bay and Estuary are considered at Viewpoint 5.
		The Scoping Opinion states that the *"ES should clearly evidence and justify the final extent of the ZTV used and ensure that any assessment of significance is based on the worst-case scenario. Effort should be made to agree the ZTV with relevant consultation bodies."*	As set out in Section 16.3, above, the Study Area has been defined through desk and field-based analysis, and the extent of the potential for significant effects. Figure 16-3 (PEI Report, Volume II) provides a ZTV, based on the tallest element of the Proposed Development and therefore indicates the worst-case extent of visibility. A request for consultation on the ZTV and representative viewpoints was issued to the relevant Local Planning Authorities and agreed with Hartlepool Borough Council,

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
			Middlesbrough Council, Redcar and Cleveland Borough Council, and Stockton-on-Tees Borough Council (see detailed responses from Local Planning Authorities below).
		Suggested viewpoint locations and requested viewpoint from the North York Moors National Park.	The suggested viewpoint locations are included, however there is unlikely to be significant effects at distances greater than 10 km from the Main Site. Although the ZTV shows theoretical visibility within the North York Moors National Park, as desk-based study and observations made during the site surveys concluded that there is very limited visibility due to the intervening landform and topography to the south of the Study Area.
		Requested that ES explains how the siting and design of proposed structures and materials have been selected to minimise impacts.	This will be considered within the ES.
		Requested that ES describes any proposed planting, including establishment.	This will be considered within the ES.
		Requested that North Yorkshire Moors National Park is considered as a landscape receptor within the assessment.	The North York Moors is located outside the Study Area following refinement of the Study Area through desk-based study and observations made during the site surveys that concluded that there is very limited intervisibility to the south of the Study Area. As a result, it is unlikely there will be significant effects at distances

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
			greater than 10 km from the Main Site. Therefore, North York Moors National Park will not be included in the assessment.
		Requested that viewpoints and photomontages are appropriate and representative and afford flexibility as the final design for the Proposed Development progresses.	Type 3 photomontages/photowires have been produced in accordance with Technical Guidance Note 06/2019: Visual Representation of Development Proposals (Landscape Institute, 2019).
Stockton-on-Tees Borough Council (STBC)	Email sent on 9th March 2023, with email response received 10th March 2023.	Requested an additional viewpoint from Royal Society for the Protection of Birds (RSPB) Saltholme, a popular visitor attraction with quite open and long-range views.	Viewpoints 13 and 14: RSPB Saltholme have been included as part of the visual assessment in this chapter.
Redcar and Cleveland Borough Council (RCBC)	Email sent on 9th March 2023, with email response received 10th March 2023.	Suggested a study area extending up to 5 km from the River Tees. Longer distance views less critical and happy with one VP from the south at either Eston Nab or Longbeck Lane. Requested two viewpoints from the east at the England Coast Path and Warrenby & Coatham Marsh Nature Reserve. A maximum of 2 viewpoints from north of river in Hartlepool area.	No viewpoints have been omitted following comments and the Study Area has been refined to reflect the ZTV. Longer distance views have been retained within other jurisdictions and to represent receptors using the England Coast Path. Additional viewpoints were added to the south-west of the Proposed Development at Priestman Road (Viewpoint O) and Cresswell Road, Grangetown (Viewpoint N) to the north of the Eston area in response to these comments. These locations were visited and later discounted due to limited visibility as a result of

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
		One or 2 viewpoints requested to the southwest and north of viewpoint M in the Easton area.	intervening buildings and structures, therefore, no likely significant effects. Refer to Appendix 16C: Potential Viewpoints for a description of all viewpoints taken forward for consideration in the assessment.
Middlesbrough Council (MC)	Email sent on 9th March 2023, with email response received 13th March 2023.	Suggested including viewpoints from Priestman Road near Temenos art installation, and the raised section of A66 further to south-west, both recognised as not particularly sensitive receptors.	A viewpoint (Viewpoint O) was included at Priestman Road, but later discounted due to a lack of intervisibility and therefore would not give rise to likely significant effects. Refer to Appendix 16C: Potential Viewpoints for a description of all viewpoints taken forward for consideration in the assessment. There are no viewpoints from the A66 due to limited pedestrian access to bridges. Site survey confirmed the lack of intervisibility from the south-west due to intervening buildings and structures.
Hartlepool Borough Council (HBC)	Email sent on 9th March 2023, with email response received 21st April 2023. Further response received 10th April 2023.	Suggested that a Seascape Assessment would be beneficial and a viewpoint to be included at North Gare Breakwater. Confirmation received that viewpoint at North Gare Beach can be used to represent views from North Gare Breakwater.	A seascape assessment and a viewpoint at North Gare Beach have been included within the landscape and visual assessment.

Use of the Rochdale Envelope

16.3.28 To ensure a robust assessment of the likely significance of the environmental effects of the Proposed Development, the EIA is being undertaken adopting the principles of the 'Rochdale Envelope' approach where appropriate in line with the Inspectorate's Advice Note 9 (The Planning Inpsectorate, 2018). This involves assessing the maximum (or where relevant, minimum)/reasonable worst-case parameters for the elements where flexibility needs to be retained (building dimensions or operational modes for example).

16.3.29 The key measurements for the implementation for the Rochdale Envelope (i.e., the maximum parameters for the Proposed Development and in particular its main buildings and structures) will be defined in the ES.

16.3.30 The assessment is based upon the maximum design scenario dimensions for the Proposed Development, and a height of up to 100 m AGL for the flare (which equates to 108 m Above Ordnance Datum (AOD)) assuming a worst case maximum post-development platform construction site elevation of 8 m AOD). The maximum dimensions are based upon the maximum design scenario building footprint and potential height as detailed in 4: Proposed Development (PEI Report, Volume I).

16.3.31 In addition to the Rochdale Envelope parameters, there are also limits of deviation within which the Proposed Development could be constructed. Given the space constraints of the limits of deviation for each part of the Proposed Development (particularly within the Main Site, where the largest structures will be located), it is considered that the overall conclusions of the assessment presented in this chapter would not be materially affected by the positioning of the buildings and structures within these limits.

16.3.32 The assessment has assumed that all vegetation within the connection corridors will be removed during construction as a worst-case scenario and reinstated to its previous condition upon completion. The majority of vegetation consists of grassland and scrub. Through the detailed design process, it is envisaged that the route of the connection corridors and construction methods will be further refined to enable the retention of important screening vegetation where practicable.

16.4 Baseline Conditions

Existing Landscape and Seascape Baseline

National Character Areas

16.4.1 At a national scale, Natural England provide 159 National Character Area (NCA) profiles. Each profile includes a description of the natural and cultural features that shape the landscape. The Study Area contains three NCA profiles:

- NE435: NCA Profile:15: Durham Magnesian Limestone Plateau (Natural England, 2013);
- NE439: NCA Profile: 23 Tees Lowlands (Natural England, 2014); and

- NE352: NCA Profile 25: North York Moors and Cleveland Hills (Natural England, 2015).

16.4.2 An outline description of each NCA is provided below and their locations shown on Figure 16-2: Landscape Character (PEI Report, Volume II).

16.4.3 NCA Profile 23: Tees Lowlands covers the whole Proposed Development Site and the majority of the Study Area. It is characterised by predominately low-lying arable farmland and open plain. The industrial development fringing the tidal reaches of the River Tees contrasts with the surrounding rural landscape. Principal transport corridors, power lines and industrial infrastructure are notable elements in the landscape and the industrial installations around Teesmouth form a prominent skyline, juxtaposed with expansive mudflats, sand dunes and salt marshes. The NCA is judged to have a Medium value as a result of the presence of large scale industrial development, high conservation interest, moderate levels of tranquillity and moderate opportunities for recreation.

16.4.4 NCA Profile 25: North York Moors and Cleveland Hills lies in the south-east of the Study Area, approximately 0.6 km south-east of the Proposed Development Site. It is characterised by upland plateaux and hills dissected by a series of dales, some broad and sweeping but others narrow, steep sided and wooded. The variation creates strong contrasts between open moors and enclosed valleys. The valley landscapes are characterised by pastoral farming providing a strong visual contrast with the bracken fringed moorlands above. The extensive areas of heather moorland on plateaux and hills create a strong sense of space, expansiveness, and openness and some 85% of the area falls within the North York Moors National Park. Large-scale arable landscapes are characteristic within the south and east. The NCA affords panoramic views over moorland plateaux, ridges and dales and out over surrounding lowland landscapes and the North Sea.

16.4.5 NCA Profile 15: Durham Magnesian Limestone Plateau lies in the north-west of the Study Area, approximately 5.8 km north of the Proposed Development Site, in Hartlepool. It is characterised by large-scale, open farmland with widespread urban and industrial development in the north. The dramatic coastline with exposed cliffs, sand dunes and beaches that support large populations of waders and sea birds. There is a strong influence from the historic mining industry in the form of ex-mining towns and villages and reclaimed colliery sites.

16.4.6 No significant adverse landscape effects upon the following landscape receptors are anticipated as a result of the Proposed Development; as such, they are excluded from further assessment:

- NCA 25: North York Moors and Cleveland Hills - due to distance from the Proposed Development Site and the existing influence of industrial areas upon the NCA; and
- NCA 15: Durham Magnesian Limestone Plateau - due to the long distance from the Proposed Development Site and limited intervisibility.

National Seascape Character Assessment

16.4.7 At a national scale, the Study Area includes the North East Marine Character Area (MCA) described in the National Seascape Character Assessment for England (MM01134) (Marine Management Organisation, 2018) and illustrated on Figure 16-2: Landscape Character (PEI Report, Volume II).

16.4.8 The North East MCA is subdivided into nine MCA profiles. MCA 22: Tyne, Tees and Wear Estuaries and Coastal Waters lies within the Study Area, the relevant characteristics of which are summarised below.

16.4.9 MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters lies to the north of the Study Area and encompasses Tyne Estuary. It is characterised by shelving coastal waters off the extensively developed coast at Tyne, Tees and Wear lowlands contrasting with areas of undeveloped coastline. The coastline is perceived as well-lit from the sea particularly around Middlesbrough due to the extent of industrial facilities. The general absence of headlands results in a wild seascape when storms sweep in from the North Sea. Expansive views across the North Sea allow for prominent views of the offshore wind farms located within the MCA. There is good coastal access along much of the coast providing increasing opportunities for recreation and tourism, including fishing and walking along stretches of the England Coast Path. MCA 22 is judged to have a Medium value as a result of the moderate opportunities for recreation and influence of large scale industry.

Regional Landscape Character

16.4.10 The Proposed Development Site and Study Area are not covered by any regional Landscape Character Assessment.

Local Landscape Character

16.4.11 The Study Area is covered by three local landscape character assessments:

- Redcar and Cleveland Landscape Character Assessment (RCBC, 2006);
- Stockton-on-Tees Landscape Character Assessment (STBC, 2011); and
- Hartlepool Landscape Assessment (HBC, 2000).

Redcar and Cleveland Landscape Character Assessment (2006)

16.4.12 Redcar and Cleveland Landscape Character Assessment divides the rural areas of the Borough into four broad Landscape Character Tracts (LCTrs). These are defined by combinations of physical and land cover characteristics and geographical context that have a recognisable and distinctive local identity setting them apart from neighbouring areas. The relevant characteristics of the LCTrs found within the Study Area are summarised below and in full in Appendix 16A: Landscape Character (PEI Report, Volume III). The LCTr are illustrated on Figure 16-2: Landscape Character (PEI Report, Volume II).

16.4.13 The Main Site is bordered by the Redcar Flats LCTr, which is characterised by arable farmland within the inland part of the tract and a coastal zone, which is classified as Sensitive Landscape. Any development within this coastal zone would be very widely

visible across the LCTr. Few landscape features are present to interrupt the open, gently sloping landscape. The industrial and urban skyline features have a strong local influence on landscape character, including the industry at Wilton Works. Other Sensitive Landscapes include the parkland at Kirkleatham and the wooded valley at Hazel Grove. The remainder of the tract is classified as Restoration Landscape. Existing landscape features are sparse, and the retention of existing features is important as a setting for new development, as the basis for additional planting or for the creation of new planting. The Redcar Flats LCTr is judged to have a Medium value as a result of the high influence of large scale industrial developments, moderate recreational opportunities and moderate scenic value.

16.4.14 The Eston Hills LCTr lies within the southern section of the Study Area and is characterised by prominent steep-sided hills including Eston Hills, higher land at Upleatham and between Skelton and Slapewath which are linked by low saddles, to the south-east of the Proposed Development Site. Open moorland, wooded hillsides and escarpments contribute to the distinctive character of this area. Extensive views are available from many locations. The landscapes on higher land within this LCTr are classified as Sensitive Landscapes with the remainder classified as Restoration Landscapes. The Eston Hills LCTr is judged to have a High value as a result of the high geological and cultural features and associations, moderate levels of tranquillity and low level influence of industrial developments.

16.4.15 The Guisborough Lowland LCTr lies on the southern edge of the Study Area and is characterised by a gently undulating arable farmland, with a distinctively lightly wooded character. The parkland at Guisborough Hall is classified as Sensitive Landscape. The remainder of the LCTr is classified as a Restoration Landscape.

16.4.16 A small section of the East Cleveland Plateau LCTr lies to the east of the Study Area and is characterised by open, elevated, rural coastal plateau. The plateau is dissected by deeply incised wooded valleys. The North Yorkshire and Cleveland Heritage Coast stretches from Saltburn southwards. The area of the LCTr that is located within the Study Area is classed as a Sensitive Landscape.

16.4.17 No significant adverse landscape effects upon the following landscape receptors are anticipated as a result of the Proposed Development; as such, they are excluded from further assessment:

- Guisborough Lowland LCTr - due to the remoteness to the Proposed Development Site and lack of intervisibility to it; and
- East Cleveland Plateau LCTr – due to only a very small proportion of the LCTr being within the Study Area and the remoteness to Proposed Development Site.

16.4.18 In addition to the above, a large part of the Redcar and Cleveland area is of urban character, defined by settlement and large-scale industrial development. These areas have no potential to experience significant adverse landscape effects as a result of the Proposed Development and as such are excluded from further assessment.

Stockton-on-Tees Landscape Character Assessment (2011)

16.4.19 The Study Area includes the East Billingham to Teesmouth LCA, and the Thorpe and Billingham Beck Valley LCA as defined by Stockton on Tees Landscape Character Assessment (STBC, 2011). The relevant characteristics of these LCA are summarised below and in full in Appendix 16A: Landscape Character Descriptions (PEI Report, Volume III). The LCA are illustrated on Figure 16-2: Landscape Character (PEI Report, Volume II).

16.4.20 The East Billingham to Teesmouth LCA lies to the west of the Study Area within the Proposed Development Site and is characterised by industrial landscapes to the east and west and large areas of open space including wetlands and reclaimed semi-improved pasture. Large storage tanks and stacks dominate views towards the east of the LCA. The open spaces contain significant wildlife value with a number of ecological designations including the Teesmouth and Cleveland Coast Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site, some of which is located within the Proposed Development Site. Ridge and furrow is present within the arable land around Cowpen Bewley. Cowpen Bewley Woodland Park provides the only wooded element within this LCA. The East Billingham to Teesmouth LCA is judged to have a Medium value as a result of the high ecological interest, moderate recreational value and high influence of large scale industrial developments.

16.4.21 The Thorpe and Billingham Beck Valley LCA lies at the south-western edge of the Study Area and is characterised by a wide beck valley. The LCA contains semi-improved and improved pasture influenced by 'A' roads and the Stockton to Darlington railway line. The likelihood of significant adverse landscape effects on the Thorpe and Billingham Beck Valley LCA is considered negligible, as a result of the long distance and limited intervisibility from the Proposed Development. It is therefore not considered further in this assessment.

Hartlepool Landscape Assessment (2000)

16.4.22 The Hartlepool Landscape Assessment (HBC, 2000) defines seven Landscape Character Types (LCTs), four of which are found within the Study Area: Coastal Fringe, Estuarine, Rural Fringe and Undulating Farmlands. The relevant characteristics of these LCTs are summarised below and described in full in Appendix 16A: Landscape Character (PEI Report, Volume III). The LCTs are illustrated on Figure 16-2: Landscape Character (PEI Report, Volume II).

16.4.23 The Coastal Fringe LCT lies in the north to central section of the Study Area. The LCT encompasses the beach and adjoining areas of land which have a maritime influence. The LCT is characterised by exposed tidal beaches, exposed rock and sea cliff areas, man-made features such as coastal defences, harbour or sea wall installations. Coastal dunes, coastal grassland and salt marshes are evident within the LCT. The Coastal Fringe LCT is judged to have a High value as a result of the high ecological interest, moderate recreational opportunities, moderate scenic value and moderate influence of large scale industrial developments.

16.4.24 The Estuarine LCT, located north of Teesmouth estuary, is defined by flat, featureless plains. The area includes semi-natural open water, associated salt marsh, reed beds, sand and mud flats. These areas also typically include low lying agricultural land, low tree and shrub cover and some coastal grassland. The flat low-lying nature of the LCT results in widespread views of the Teesside industrial complex which has a strong visual influence over the LCT. The Estuarine LCT is judged to have a Medium value as a result of the moderate levels of tranquillity, high ecological interest, moderate recreational opportunities and moderate influence of large scale industrial developments.

16.4.25 The Undulating Farmland LCT is in the north-west of the Study Area and largely defines the rural area of Hartlepool. The LCT is characterised by varied field pattern often bound by hedgerows and tree belts. Although, where the removal of hedgerows and field enlargement has taken place, this disrupts the enclosed sense of scale and introduces a barren, industrial element into the landscape. The Undulating Farmland LCT is judged to have a Medium value as a result of the moderate scenic and perceptual qualities, moderate levels of tranquillity and low levels of opportunities for recreation.

16.4.26 The Rural Fringe LCT is in the north-west of the Study Area and includes areas adjacent or in proximity to the urban environment which typically have either lost or had the rural character influenced by adjacent urban development. The LCT extends along the built edge of Hartlepool and surrounds the built edge of the outlying village settlement. Areas are often unmanaged, poorly maintained or enclosed within degraded boundaries. The Rural Fringe LCT is judged to have a Medium value as a result of moderate scenic and perceptual qualities, moderate influence of built development and low levels of opportunities for recreation.

16.4.27 In addition, a large part of the Hartlepool area is of urban character, defined by settlement and large-scale industrial development. These areas have no potential to receive significant adverse landscape effects as a result of the Proposed Development and as such are excluded from further assessment.

Vegetation Cover

16.4.28 Tree and shrub cover within the north-east of the Study Area is generally sparse reflecting the estuarine character of the area. Tree cover is largely located along main arterial routes including the A1085 and the A1042. A small number of wooded landscape areas are present in the south-east of the Study Area at Dormanstown within Foxrush Farm, Kirkleatham within the former estate, the grounds of Wilton Castle, Wilton Wood, Dave's Wood and Lazenby Bank Nature Reserve.

16.4.29 Hedgerows, where present, tend to be sparse and gappy which reduce the sense of enclosure within the farmland areas. Important wetland is located at Cowpen Bewley and RSPB Saltholme.

16.4.30 Vegetation within the Main Site is very limited reflecting the former usage of the site where structures have been removed. The vegetation comprises colonising perennial vegetation, a small area of dense scrub, and a small area of amenity grassland.

Topography and Drainage

16.4.31 The topography of the Study Area in the north is relatively flat, generally lying approximately between 1 m and 25 m AOD. Land gradually rises in the south with an area of high ground located to the south of the Study Area around Eston Moor where the ground rises to 242 m AOD at Eston Beacon as illustrated on Figure 16-4: Topography (PEI Report, Volume II).

16.4.32 The River Tees flows south to north through the centre of the Study Area broadening out into the Tees Mouth estuary. The North Sea is located within the northern part of the Study Area. The wetland at Cowpen Bewley is linked by a number of streams and is part of a former clay pit.

16.4.33 To the west, RSPB Saltholme includes areas of wet grassland and a series of large open water pools.

Settlements

16.4.34 The Study Area is characterised by large to medium sized settlements. Settlements in proximity to the Proposed Development Site include the city of Middlesbrough and its suburbs, which encompass a large area in the south-west of the Study Area. Hartlepool town and Seaton Carew seaside resort are in the north and the edge of Billingham town is in the west. The seaside resorts of Redcar, Marske-by-the-Sea, and Saltburn-by-the-Sea are in the east of the Study Area. The northern section of Guisborough market town is in the south-east of the Study Area.

Communications

16.4.35 Settlements are connected by a series of large 'A' roads. The A1085 lies to the south-east of the Study Area and runs south-west to meet the A66 and the A172 further west. The A1042 runs southwards from the A1085 to meet the A174 leading to the southern edge of Middlesbrough. The A178 lies to the north of Study Area connecting the A1046 at Port Clarence to Hartlepool. The A689 lies to the north of the Study Area and runs south-west connecting Hartlepool to the A19 which lies immediately outside the Study Area.

16.4.36 A number of Public Rights of Way (PRoW) are located within the Study Area. Bridleways Redcar and Cleveland 116 32/1, 33/1 and 36/1 lie near the coast, west of Redcar east of the Main Site. Further bridleways, Redcar and Cleveland 116 9/1 and 9/2 lie near to the north of Wilton Chemical Works connecting to footpaths Redcar and Cleveland 102 2/5, 31/2, and 31/3 running south-west to Middlesbrough as illustrated on Figure 16-5: Zone of Theoretical Visibility and Representative Viewpoint Locations (PEI Report, Volume II).

16.4.37 The long-distance route 'England Coast Path: North East' follows the north-east coastline within the Study Area, before it turns south-west, inland to follow a route along a disused railway line at the edge of the industrial area which borders the River Tees. The route then follows closer to the edge of the Tees, before it crosses the water at the Newport Bridge, following the route of the A1032 to the north, then east. It then turns north and follows the A178, deviating to the east towards North Gare Sands before it then follows the A178 along the coast.

16.4.38 The long-distance path Teesdale Way starts at South Gare lighthouse to the north where it runs south before linking with the England Coast Path route along the south of the River Tees. It crosses the Newport Bridge and then turns south, following the northern bank of the River Tees.

The Site and its Immediate Setting

16.4.39 The Proposed Development Site and surrounding area are heavily influenced by large industrial structures and complexes and residential settlements. The industrial complexes within the Teesside industrial areas are heavily lit, which increases the area's visibility during the hours of darkness. The surrounding landscape contains localised tranquil areas including along the coast, River Tees and inland nature reserves, although the large-scale structures are ever present within views.

16.4.40 The South Gare breakwater lies further to the north-west. Coatham Sands and the North Sea coast lie to the north. To the north-east lie the coastal settlements of Warrenby and Coatham.

16.4.41 To the south of the Main Site lies the Northumbrian Water Bran Sands sewage treatment plant, operational land of PD Ports Teesport and the Wilton International industrial complex. Similar industrial complexes are present at Seal Sands and Billingham on the north bank of the River Tees, west of the Main Site. Areas of rough grassland remain between these industrial areas.

16.4.42 The Redcar Bulk Terminal (RBT) is located immediately east of the Main Site, within the Proposed Development Site, on the south bank of the River Tees.

16.4.43 The Proposed Development Site lies within the Teesside industrial areas and Cowpen Marsh and adjacent to the north of RSPB Saltholme. Located to the south are the residential areas of Lazenby, Wilton and Grangetown. Seal Sands is located to the north on the northern side of the River Tees.

16.4.44 The Main Site lies between approximately 6 to 8 m AOD and currently comprises former industrial land, including large areas of bare ground, hardstanding, road networks and informal vegetation (primarily grass). Within the Main Site there are no natural features of noteworthy landscape value.

16.4.45 The constituent parts of the Proposed Development Site are shown on Figures 4-2 – 4-8 (PEI Report, Volume II) and detailed in Chapter 4: Proposed Development (PEI Report, Volume I).

Designations

16.4.46 The Study Area encompasses Conservation Areas which are illustrated on Figure 17-1: Location of Designated Heritage Assets (PEI Report, Volume II). The closest conservation area to the Main Site is Coatham Conservation Area, located approximately 1.14 km to the east of the Proposed Development Site and approximately 2.5 km east of the Main Site.

16.4.47 There are two Registered Park and Gardens within the Study Area. Albert Park, Grade II listed, is located in the south of the Study Area within Middlesbrough and Ward Jackson Park, Grade II listed, located to the north of the Study Area within Hartlepool.

Existing Visual Baseline

ZTV Analysis

16.4.48 To identify locations with potential to have views of the Proposed Development and to what extent the Proposed Development is likely to be visible, a ZTV has been produced as described below. The ZTV is illustrated in Figure 16-3: Zone of Theoretical Visibility and Potential Viewpoint Locations (PEI Report, Volume II).

16.4.49 A ZTV has been prepared for the Proposed Development Site based upon the tallest structures i.e., the flare at 100 m AGL (up to approximately 108 m AOD, assuming a worst-case maximum post-development platform construction site elevation of 8 m AOD), providing the theoretical visibility of the Proposed Development.

16.4.50 The ZTV has been generated by analysis of a 3D digital terrain model (DTM) of the surrounding terrain and the Proposed Development. The ZTV has been generated using OS Terrain 5 digital terrain data which does not consider the screening effects of vegetation, buildings, or other structures. The ZTV is based upon a grid of points at 50 m apart within the Proposed Development Site at a worst-case height of 108 m AOD for the Main Site with an observer eye height of 1.6 m.

16.4.51 The ZTV indicates that visibility within the Study Area is varied. Due to the low-lying land along the coast and lack of intervening vegetation there are widespread open views in the north-west and east. Visibility in the south and south-west is restricted due to the extent of built form and topography.

Dynamic Views

16.4.52 Users of the main transport routes and long-distance trails may gain dynamic views towards the Main Site to varying degrees dependant on intervening structures, screening vegetation, elevation, and direction of travel.

16.4.53 Users of the Transpennine Express and Northern train lines within the Study Area will gain transient, dynamic views within the Study Area and of the Main Site. Views will include a landscape containing industrial developments, overhead power lines, highway infrastructure and wind turbines.

Visual Receptors and Viewpoints

16.4.54 The viewpoints originally considered are shown on Figure 16-3: Zone of Theoretical Visibility and Potential Viewpoint Locations (PEI Report, Volume II). Through consultation with the relevant stakeholders, listed in Table 16-1, a total of 14 viewpoints were chosen to represent the typical range of views of the Proposed Development from within the Study Area. Details of the viewpoints, including a description of the existing view are provided in Table 16-2 whilst their locations are shown on Figure 16-5: Zone of Theoretical Visibility and Representative Viewpoint Locations (PEI Report, Volume II). Figures 16-6-1 to 16-6-14 illustrate the winter baseline view and Figures 16-7-1 to 16-7-14 illustrate the summer baseline view. The winter photography includes remaining infrastructure at the former steelworks that is now demolished. The winter and summer baseline for the purposes of the assessment has assumed that all infrastructure on the former steelworks is no longer present.

Table 16-2: Representative Viewpoints

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
1 – refer to Figure 16-6-1 Winter Viewpoint 1 and Figure 16-7-1 Summer Viewpoint 1	Albion Terrace, Hartlepool	Residential and PRoW users	8	453044, 533546	Winter baseline: Long distance panoramic view across the North Sea taken from the long-distance England Coast Path along Albion Terrace. Industrial buildings including flares, plumes, stacks and high levels of lighting at night-time associated with the industrial area of Teesside are visible as background elements across the majority of the view and include the remaining infrastructure at the former steelworks. High ground, including Eston Moor, forms a backdrop to the view. The turbines associated with Teesside offshore windfarm are visible on the skyline. This viewpoint is representative of long-range views from the north-west. Summer baseline: Same as identified for the winter scenario although infrastructure associated with the former steelworks site has been further demolished and is no longer visible. Value of view: View likely to be locally valued with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.
2 – refer to Figure 16-6-2 Winter Viewpoint 2 and Figure 16-7-2 Summer Viewpoint 2	The Cliff, Seaton Carew	Residential and PRoW users	7	452531, 530050	Winter baseline: Wide, open, view taken from the edge of The Green within Seaton Carew Conservation Area along the long-distance England Coast Path. The foreground of the view is dominated by the promenade. The foreshore of Seaton Sands and the North Sea are visible in the mid-ground and the background is dominated by industrial complexes including flares and stacks associated with the former steelworks and Hartlepool nuclear power station. High levels of lighting are visible in the view during night-time. Turbines associated with Teesside offshore wind farm are visible in the wider view. High

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
					ground, including Eston Moor, forms the backdrop of the view. This viewpoint is representative of views from the north-west. Summer baseline: As identified within the winter scenario although infrastructure associated with former steelworks is no longer visible and no longer forms detracting feature. Value of view: Locally valued view from historic asset, with medium visitor numbers and some detracting features present within the wider view, therefore the overall value is Medium.
3 – refer to Figure 16-6-3 Winter Viewpoint 3 and Figure 16-7-3 Summer Viewpoint 3	Teesmouth National Nature Reserve, England Coast Path	Recreational	2	452655, 527758	Winter baseline: Open view across undulating pasture taken from the England Coast Path, on Zinc Works Road. Pasture associated with the Teesside Nature Reserve is visible in the foreground. Overhead lines and a telecommunications mast are visible in the mid ground. Industrial structures including those on the former steelworks site and offshore wind turbines are visible in the background of the view, against the skyline. High levels of lighting are visible in the view during night-time. Sand dunes associated with Teesmouth Nature Reserve partially restrict longer distance views. This viewpoint is representative of medium range views from the west. Summer baseline: As identified within the winter scenario although infrastructure associated with former steelworks is no longer visible on the horizon. Value of view: Locally valued view with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
4 – refer to Figure 16-6-4 Winter Viewpoint 4 and Figure 16-7-4 Summer Viewpoint 4	North Gare Sands	Recreational	2	453764, 527266	Winter baseline: Open view across North Gare Sands across the Tees Mouth towards the former steelworks site. Infrastructure associated with the former steelworks site, including the demolished Redcar Blast Furnace and cranes associated with RBT are clearly visible. High levels of lighting are visible in the view during night-time. The offshore wind turbines are visible in the wider view. High ground including Eston Moor forms the backdrop of the view. This viewpoint is representative of short-range views for recreational users of the beach and Tees Mouth from the west. Summer baseline: As identified within the winter scenario although only small elements of the infrastructure associated with the former steelworks remain within the view. Value of view: Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
5 – refer to Figure 16-6-5 Winter Viewpoint 5 and Figure 16-7-5 Summer Viewpoint 5	South Gare Breakwater	Recreational	9	455623, 527394	Winter baseline: Expansive, open view across the estuary and North Sea from the South Gare Breakwater. Foreshore and vegetated dunes are visible in the foreground to the north and private road and the Tees and Hartlepool Pilotage are visible in the foreground. Infrastructure associated with the former Redcar steelworks site including the Redcar Blast Furnace is visible against the sky in the background of the view. High levels of lighting are visible in the view during night-time. This viewpoint is representative of short-range views from the north. Summer baseline: As identified within the winter scenario although only small elements of the infrastructure associated with the former steelworks remain within the view.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
					Value of view: Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
6 – refer to Figure 16-6-6 Winter Viewpoint 6 and Figure 16-7-6 Summer Viewpoint 6	Cowpen Bewley Country Park	Recreational	28	448593, 525702	Winter baseline: Long distance, elevated, open view from viewpoint within Cowpen Bewley Country Park. Grassland and tree planting belts form the foreground of the view. Mudflats, areas of standing water and localised areas of tree planting form the mid ground. The River Tees is visible towards the background of the view. The background is dominated by industrial structures associated with Teesside, including the former steelworks site which are visible against the skyline. High levels of lighting are visible in the view during night-time. High ground including Eston Moor is visible as is the backdrop of the view to the right. This viewpoint is representative of long-distance views from the west. Summer baseline: As identified within the winter scenario although infrastructure associated with former steelworks is no longer visible on the horizon. Value of view: Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
7 – refer to Figure 16-6-7 Winter Viewpoint 7 and Figure 16-7-7	England Coast Path, Warrenby	Recreational	5	458128, 525592	Winter baseline: Open view from the England Coast Path adjacent to the edge of Redcar Beach Caravan Park. The foreground and mid ground consist of the Cleveland Golf Links and sand dunes, which frame the view preventing views towards the North Sea. Industrial units including Redcar Auto and Performance Centre are visible in the mid ground. The former steel works including demolished Redcar Blast Furnace and Hartlepool nuclear power station are prominent features in the background in the right of the view. Wind turbines

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
Summer Viewpoint 7					are visible along the horizon. High levels of lighting are visible in the view during night-time. This viewpoint is representative of short distance views from the east. Summer baseline: As identified within the winter scenario although only small elements of the infrastructure associated with the former steelworks remain within the view. Value of view: Local, commonplace view and medium level of detractors in the distance, therefore the overall value is Medium.
8 – refer to Figure 16-6-8 Winter Viewpoint 8 and Figure 16-7-8 Summer Viewpoint 8	Redcar seafront	Recreational and residential	6	459887, 525470	Winter baseline: Open, partially elevated view along the waterfront at Redcar, adjacent to the bandstand on Newcomen Terrace. The foreground is dominated by the promenade, Coatham Sands beach, and the flood alleviation wall. Coatham boating lake and built structures are visible in the mid ground. Residential areas of Coatham are visible in the middle and background to the left of the view. Industrial structures at Teesside, including the former steelworks site are visible in the background, breaking the skyline. The whole of the view contains high levels of lighting during night-time. Turbines associated with the offshore wind farm are visible to the right of the view and Hartlepool nuclear power station is visible on the horizon. This viewpoint is representative of midrange views from the east. Summer baseline: As identified within the winter scenario although only small elements of the infrastructure associated with the former steelworks remain within the view. Value of view: Locally valued view with medium visitor numbers and high level of detractors in the background, therefore the overall value is Medium.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
9 – refer to Figure 16-6-9 Winter Viewpoint 9 and Figure 16-7-9 Summer Viewpoint 9	Coatham Marsh Nature Reserve	Recreational	4	459076, 524695	Winter baseline: Low level, partially channelled, view from within Coatham Marsh, off Kirkleatham Lane. Water bodies, grassland and scrub within the nature reserve forms the foreground and middle ground of the view. Residential housing at Coatham forms the backdrop of the view to the right. Industrial structures associated with the former steelworks site are visible on the horizon, viewed against the skyline. High levels of lighting are visible on the horizon during the night-time. This viewpoint is representative of short-range views from the east. Summer baseline: As identified within the winter scenario although infrastructure associated with former steelworks is no longer visible on the horizon. Value of view: Local view with no recognised quality containing a small number of detracting features therefore the overall value is Low.
10 – refer to Figure 16-6-10 Winter Viewpoint 10 and Figure 16-7-10 Summer Viewpoint 10	Eston Nab	Recreational	225	456765, 518354	Winter baseline: Elevated, expansive, view from Eston Nab across Teesside. The foreground contains grassland associated with the Nab. The mid ground is dominated by industrial complexes and structures including stacks, chimneys and plumes. The North Sea and offshore wind turbines are visible in the background of the view to the right. The shoreline of Hartlepool is just visible in the background to the left of the view. High levels of lighting are visible across the whole panorama during night-time. This viewpoint is representative of long range, elevated views from the south. Summer baseline: As described within the winter scenario.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
					Value of view: Locally valued view with medium visitor numbers. The view relates to the experience of the Eston Nab heritage asset, therefore the overall value is High.
11 – refer to Figure 16-6-11 Winter Viewpoint 11 and Figure 16-7-11 Summer Viewpoint 11	Longbeck Lane	Residential, road users	48	461606, 520959	Winter baseline: Elevated, open, long-distance view from Longbeck Lane. Arable farmland dominates the fore and mid ground. Industrial structures including stacks and chimneys are visible forming the background of the left side of the view. High levels of lighting are visible in the view on the horizon during night-time. The North Sea and offshore wind turbines, breaking the skyline, are visible to the right of the view. This viewpoint is representative of long-distance views from the south-east. Summer baseline: As described within the winter scenario. Value of view: Well composed view with a high number of detracting features in the background, therefore the overall value is Low.
12 – refer to Figure 16-6-12 Winter Viewpoint 12 and Figure 16-7-12 Summer Viewpoint 12	Carpark off A1085 Coast Road, Marske by the Sea	Recreational	14	463150, 523198	Winter baseline: Wide, open, partially elevated view from the carpark off A1085 Coast Road. The foreground and mid ground are dominated by dunes, grassland, Marske Sands beach and the North Sea. Residential properties at the edge of Redcar are visible in the distance. Tall industrial structures, including those on the former steelworks site are visible against the skyline. High levels of lighting are visible in the background of the view during night-time. Off-shore wind turbines are perceptible to the right of the view in the distance. This viewpoint is representative of long-range views from the east.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
					Summer baseline: As identified within the winter scenario although infrastructure associated with former steelworks is no longer visible on the horizon. Value of view: Locally valued view with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.
13 – refer to Figure 16-6-13 Winter Viewpoint 13 and Figure 16-7-13 Summer Viewpoint 13	Viewpoint at RSPB Saltholme	Visitors	8	449838, 523250	Winter baseline: Wide, open, elevated view from viewpoint within RSPB Saltholme. The foreground is dominated with grassland, waterbodies and marginal vegetation. Tall, vertical structures associated with industrial development and electrical pylons extend across the horizon adding an extensive wire scape to the skyline. Hartlepool nuclear power station is visible to the left of the view. This viewpoint is representative of open views from the south west. Summer baseline: As described within the winter scenario. Value of view: Locally valued view with high visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.
14 – refer to Figure 16-6-14 Winter Viewpoint 14 and Figure 16-7-14 Summer Viewpoint 14	RSPB Saltholme	Visitors	4	450382, 522831	Winter baseline: Wide, open view from within RSPB Saltholme. The foreground is defined by grassland and waterbodies associated with the RSPB reserve with board walks and site furniture. Further grassland and waterbodies are in mid-range views. Tall vertical structures associated with industrial development and electrical pylons extend across the horizon adding an extensive wire scape to the skyline. This viewpoint is representative of open views from the south west. Summer baseline: As described within the winter scenario.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	ELEVATION M (AOD)	GRID REFERENCE	DESCRIPTION OF VIEW
					Value of view: Locally valued view with high visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.

Summary of Visual Baseline

16.4.55 The Study Area is characterised by industry, including the existing Teesside, Seal Sands and Hartlepool power stations, petrochemical and steelworks. These large-scale developments are key characteristics influencing the landscape character. Due to the low topography around Middlesbrough and the Tees Valley, views of the existing structures during daytime and the lighting associated with the structures at night-time are commonplace and highly visible. The elevated land to the south of the Study Area allows for wide ranging views, but this landform along with extensive tree cover restricts views of the industrial structures from further afield.

16.4.56 The extent of views available to receptors range from close to long distance. A number of receptors are located at the edge of coastal towns, along roads and PRoW where the landform is low lying. The rising landform in the south-east and localised areas of high land in the west allow for elevated long-distance views towards the Proposed Development.

Future Baseline

16.4.57 The future baseline conditions against which the construction phases (Phase 1 from 2025 - to 2028, and Phase 2 from 2028 - 2030) and operation (from 2028) scenarios for the landscape and visual impact assessment are assessed and comprises a 'modified' baseline where the structures on land within the Main Site are no longer present. The modified baseline is likely to be similar to the conditions described within Table 16-2, summer baseline, for each representative viewpoint.

16.4.58 The future baseline represents the worst-case scenario and does not consider the impacts of adjacent or nearby planning applications such as Net Zero Teesside (NZT). The future baseline conditions will be reassessed within the ES.

16.4.59 In the absence of the Proposed Development (i.e., if it was not to exist in the future baseline) it is considered that the former steelworks site may be used for other large-scale industrial development, but the nature of these is undetermined.

16.4.60 The wider Study Area would continue to be influenced by a number of large-scale industrial building complexes and infrastructure corridors in the future baseline scenario.

16.5 Development Design and Impact Avoidance

16.5.1 The EIA process aims to avoid, prevent, reduce or offset potential environmental effects through design and/or management measures. These are measures that are inherent in the design and construction of the Proposed Development (also known as 'embedded measures').

16.5.2 The following impact avoidance measures (i.e., those that are inherent to the design of the Proposed Development) are embedded into the Proposed Development design and also help to avoid and/ or reduce impacts to landscape and visual amenity during the construction and operational phases of the Proposed Development. These measures have therefore been taken into account during the impact assessment process described in this chapter:

- Above Ground Pipelines - much of the above ground pipeline will be routed in designated pipeline corridors with existing pipeline infrastructure. It is anticipated that new pipelines will be installed in parallel to one side of existing pipelines;
- Buried Pipelines – where the pipeline route does not make use of existing infrastructure;
- Trenchless Crossings - where practicable, trenchless construction technologies (HDD) are the preferred method for the connection corridors to avoid watercourses, railways, roads and utilities infrastructure (refer to Chapter 5: Construction Programme and Management (PEI Report, Volume I));
- suitable materials will be used, where practicable, in the construction of structures to reduce reflections and to assist with breaking up the massing of the buildings and structures;
- the selection of finishes for the buildings and other infrastructure will be informed by the finishes of the adjacent developments to reduce the visual impact of the Proposed Development; and
- lighting required during the construction and operation stages of the Proposed Development will be designed, positioned, and directed to prevent or minimise light disturbance to nearby residents. Where needed and appropriate, lighting to site boundaries will be provided, and illumination will be sufficient to provide a safe route for passing public. Precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths, roads and amenity areas. Where appropriate, lighting will be activated by motion sensors to prevent unnecessary usage. Lighting requirements will be set out in the Indicative Lighting Strategy that will accompany the DCO Application.

16.5.3 A Framework CEMP will accompany the DCO Application which will set out the key measures to be employed during the Proposed Development construction phase to control and minimise the impacts on the environment – including the minimisation of landscape and visual effects. A Final CEMP will be prepared by the construction contractor in accordance with the Framework CEMP prior to construction. The submission, approval, and implementation of the Final CEMP will be secured by a Requirement of the draft DCO.

16.6 Likely Impacts and Effects

16.6.1 This section identifies the potential impacts and likely effects resulting from the Proposed Development. The magnitude of each impact is defined with reference to the relevant baseline conditions, and effects are determined in accordance with the identified methodology presented within Appendix 16B: Landscape and Visual Impact Assessment Methodology (PEI Report, Volume III).

Landscape Effects

16.6.2 The potential landscape impacts of the Proposed Development relate to direct/physical change to the landscape and indirect change resulting from visibility

of proposed structures (temporary and permanent) and influence on perceptual qualities such as tranquillity.

16.6.3 During construction, potential impacts of the Proposed Development may result from the following:

- movement of plant and heavy goods vehicles, both within the Proposed Development Site and in the surrounding area;
- temporary stockpiling and storage of materials on-site;
- establishment of site compounds resulting in temporary structures to serve the workforce;
- crane activity to assist high level construction works on the Main Site;
- building construction including new stacks on the Main Site; and
- temporary external lighting to illuminate site operations after dark on the Main Site and along the connection corridors.

16.6.4 During the Proposed Development operational phase, potential impacts may result from the following:

- introduction of permanent large-scale structures and buildings within the Main Site, including the flare stack at a height of 100 m AGL;
- introduction of ancillary structures and elements including access roads, security fencing, car parking etc.; and
- introduction of pipelines and associated structures within the Hydrogen Pipeline Corridor.

16.6.5 Table 16-3 provides an assessment of the sensitivity of each landscape receptor.

Table 16-3: Landscape Sensitivity Assessment

LANDSCAPE RECEPTOR	SENSITIVITY ASSESSMENT		
	VALUE	SUSCEPTIBILITY	SENSITIVITY
Natural England National Character Areas			
NCA 23 Tees Lowland	Medium	The broad open plain is influenced heavily by large areas of conurbation and industrial development around the Tees Estuary, within the east of the NCA. Susceptibility to change arising from the Proposed Development is therefore considered to be Low.	Medium

LANDSCAPE RECEPTOR	SENSITIVITY ASSESSMENT		
	VALUE	SUSCEPTIBILITY	SENSITIVITY
Marine Character Areas			
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The MCA is relatively industrialised in areas with views of an extensively developed lowland coast. Areas of naturalised coastline and present. Susceptibility to change arising from the Proposed Development is therefore considered to be Low.	Medium
Redcar & Cleveland Landscape Character Assessment (2006)			
Redcar Flats LCTr	Medium	The low-lying, relatively flat, sparsely vegetated landscape has minimal variation of landscape pattern. The proximity to industrial development has a strong influence on the landscape character. Parts of the LCTr are designated for their ecological value. Therefore, it is considered the LCTr is robust and susceptibility to change arising from the Proposed Development is Low.	Medium
Eston Hills LCTr	High	The wooded pattern and dominant landform provide a strong strength of character. There are medium levels of tranquillity and rural qualities including large areas of woodland which create intermittent views of large-scale industrial structures. Susceptibility to change arising from the Proposed Development is therefore considered to be Medium.	High
Stockton-on-Tees Landscape Character Assessment (2011)			
East Billingham to Teesmouth LCA	Medium	The open space within industrial areas contains significant wildlife value with a number of ecological designations. The open low lying, sparsely vegetated landform enables widespread views of Teesside's industrial complex across the LCA. It is considered the LCA is robust and susceptibility to change arising from the Proposed Development is Low.	Medium

LANDSCAPE RECEPTOR	SENSITIVITY ASSESSMENT		
	VALUE	SUSCEPTIBILITY	SENSITIVITY
Hartlepool Landscape Assessment (2000)			
Coastal Fringe LCT	High	As a result of the high levels of tranquillity, influence of detractors in the wider landscape, susceptibility to change arising from the Proposed Development is considered to be Medium.	High
Estuarine LCT	Medium	The LCT is relatively tranquil although the proximity of industrial infrastructure as detractors in the landscape has a strong influence. Susceptibility to change arising from the Proposed Development is considered to be Low.	Medium
Undulating Farmland LCT	Medium	The LCT is generally rural and contains a varied landscape pattern with low levels of influence from the surrounding settlement and industrial areas. Susceptibility to change arising from the Proposed Development is considered to be Medium.	Medium
Rural Fringe LCT	Medium	The proximity to the urban environment influences the rural character of the LCT. Susceptibility to change arising from the Proposed Development is considered to be Medium.	Medium

Construction

16.6.6 The Main Site is situated on the former Redcar steelworks where land-use in the immediate vicinity includes numerous large-scale industrial buildings and structures. The main feature of change during Proposed Development construction will be the introduction of tall cranes and other machinery and temporary structures across the Proposed Development Site.

16.6.7 The landscape assessment considers all elements of the Proposed Development and is undertaken based on the maximum dimensions and parameters as described within Chapter 4: Proposed Development (PEI Report, Volume I). The approach to the proposed connection corridors is subject to review and may involve installation above and/or below ground or may include reuse of existing pipelines. A worst-case approach is taken to different stages of the assessment, with the construction stage assessment undertaken based on the installation of underground pipelines.

16.6.8 Table 16-4 provides an assessment of the anticipated magnitude of landscape impacts and the classification of effects on each landscape receptor during the Proposed Development construction phase.

Table 16-4: Assessment of Landscape Effects – Construction

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
NCA 23: Tees Lowland	Medium	Construction activities associated with the Proposed Development will directly impact the NCA. Construction activities will be viewed in context with other large-scale industrial developments. Due to presence of large-scale industrial development which lies within this NCA, and the type of construction activities being undertaken, it is considered that the Proposed Development will have very limited potential to affect the landscape character and perception of the NCA in the short term. Impacts will be over a small geographical extent and reversible.	Very Low	Negligible Adverse (Not Significant)
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	Part of the Proposed Development lies within this MCA, potentially resulting in localised direct change. The majority of the construction works will occur outside but in proximity to this MCA, introducing views of construction activity adjacent to the coast and river. However, as a result of the existing context of large-scale industrial development it is considered that the Proposed Development will have very limited potential to influence the overall character, perception and tranquillity of the MCA. Impacts will be over a small geographical extent, temporary in nature and reversible.	Very Low	Negligible Adverse (Not Significant)
Redcar Flats LCTr	Medium	The majority of the Proposed Development and associated construction will be located outside this LCTr and as such change will largely be indirect. However, a small area on the fringe of this LCTr to the south-west of Warrenby may be subject to direct change if utilised as a construction laydown area. The majority of construction activities will be experienced in context with other large-scale industrial developments adjacent to this LCTr,	Low	Minor Adverse (Not Significant)

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
		limiting the impression of change. Impacts will be over a medium geographical extent and will be both temporary in nature and reversible.		
Eston Hills LCTr	High	The Proposed Development lies outside of this LCTr and as such change will be indirect and as a result of visibility of construction activity in the adjacent landscape. Due to expansive views containing large-scale industrial complexes and transport infrastructure, it is considered that the construction of the Proposed Development will result in limited perceptible change to the character of the Eston Hills LCTr. Change relating to construction will be relatively limited, temporary in nature and reversible.	Very Low	Minor Adverse (Not Significant)
East Billingham to Teesmouth LCA	Medium	Parts of the Hydrogen Pipeline Corridor network lie within this LCA and as such direct change will occur during construction. Direct change will largely occur along or adjacent to existing road and pipeline corridors, limiting the impression of change. Due to the presence of existing large-scale industrial development and above ground pipelines within this LCA, and the type of construction activities being undertaken, it is considered that the Proposed Development will have limited potential to affect the overall character and perception of this LCA. Impacts will be over a medium geographical extent and would be temporary and reversible.	Low	Minor Adverse (Not Significant)
Coastal Fringe LCT	High	The Proposed Development lies outside of this LCT and as such change will be indirect and as a result of visibility of construction activity in a distinctly separate landscape. The existing context to this LCT is one of extensive industrial and urban development. Construction activity associated with the Proposed Development will occur within this context and have little influence	Low	Minor Adverse (Not Significant)

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
		on the impression or character of the Coastal Fringe LCT. Impacts will be over a medium geographical extent and will be temporary and reversible.		
Estuarine LCT	Medium	Although parts of the Hydrogen Pipeline Corridor may be located within a small part of this LCT indirect change will be limited through use of existing infrastructure and/or directional drilling techniques for construction. There is also potential for indirect change on this LCT as a result of construction activity within adjacent and nearby landscapes. However, the impression of change will be limited as a result of the existing context of adjacent large scale industrial development. Impacts will be over a medium geographical extent and would be temporary and reversible.	Low	Minor Adverse (Not Significant)
Undulating Farmland LCT	Medium	A short section of the Hydrogen Pipeline Corridor may be located along the fringe of this LCT, potentially resulting in localised direct change during construction. There is also potential for localised indirect change as a result of visibility of construction activity within the adjacent landscape. Construction activity will largely be located alongside existing road and rail corridors, adding further movement of vehicles. It is considered that change from construction will be experienced over a relatively limited extent and have little influence on the overall character and impression of this LCT. Impacts will be temporary in nature and reversible.	Low	Minor Adverse (Not Significant)
Rural Fringe LCT	Medium	A very short section of the Hydrogen Pipeline Corridor may be located at the fringe of this LCT, potentially resulting in very localised direct change during construction. There is also potential for localised indirect change as a result of visibility of construction activity within the adjacent landscape.	Very Low	Negligible Adverse (Not Significant)

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
		Construction activity will largely be located alongside an existing railway, limiting the impression of change. Construction will be experienced over a small extent and have little influence on the overall character and impression of this LCT. Impacts will be temporary in nature and reversible.		

Operation

16.6.9 During operation, the Proposed Development will introduce a range of new structures, principally within the Main Site.

16.6.10 As outlined above in relation to the construction phase, the landscape assessment considers all elements of the Proposed Development and is undertaken based on the maximum dimensions and parameters currently proposed. The approach to the proposed connection corridors is subject to review and may involve installation above and/or below ground or may include reuse of existing pipelines. A worst-case approach is taken to different stages of the assessment, with the operation stage assessment undertaken based on pipelines being above ground.

16.6.11 Table 16-5 provides an assessment of the anticipated magnitude of landscape impacts and the classification of effects on each landscape receptor during the operation of the Proposed Development.

Table 16-5: Assessment of Landscape Effects – Operation

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
NCA 23: Tees Lowland	Medium	The Proposed Development will be located within the NCA and as such will result in direct and indirect change. While the Proposed Development will introduce additional built development and infrastructure into this NCA, change will largely occur within areas influenced by previous and existing industrial development and infrastructure. Impacts will occur over a small extent, will be long term and reversible and will have very little influence on the character or perceptual qualities of this NCA.	Very Low	Negligible Adverse (Not Significant)
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The Proposed Development lies outside of this MCA but will introduce a range of built development and infrastructure elements into the adjacent area. The Proposed Development will add to the context of large-scale industrial development and infrastructure in views from the MCA. The impression of change on this MCA will be limited due to the existing context of similar development within the site area and surroundings. Impacts will occur over a small extent, will be long term and reversible, with very little influence on the character or perceptual qualities of this MCA.	Very Low	Negligible Adverse (Not Significant)
Redcar Flats LCTr	Medium	It is anticipated that the areas temporarily occupied for construction laydown will be reinstated as part of construction and as such change on this LCTr during operation will be indirect. Existing large-scale industrial developments and road and rail infrastructure adjacent to the LCTr provide a context to potential change. The Proposed Development will add further development and infrastructure into this existing context but will result in only a small change to the character of this LCTr. Impacts will be over a relatively small area, long term and reversible.	Low	Minor Adverse (Not Significant)

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Eston Hills LCTr	High	The Proposed Development lies outside of this LCTr and as such potential change will be indirect as a result of visibility of new structures and infrastructure. The impression of change on the character of this LCTr will be limited by the existing context of large-scale industrial developments and transport infrastructure within the adjacent landscape. Impacts will be over a relatively small area, reduced by prevalence of trees and woodland, will be long term and reversible, with very little or no influence on the overall character or impression of this LCTr.	Very Low	Minor Adverse (Not Significant)
East Billingham to Teesmouth LCA	Medium	Part of the Hydrogen Pipeline Corridor lies within this LCA, with the Main Site outside but in proximity and as such change will be both direct and indirect. Direct change through introduction of pipelines will largely occur along existing pipeline or infrastructure corridors and/or in areas influenced by existing development, limiting the sense of change. The proposed structures on the Main Site will add further built development to the immediate context of this LCA which includes a range of existing large-scale industrial development and infrastructure. Impacts will be over a medium extent, long term and reversible and although add to the existing context of development they will have only a limited influence on the character of this LCA.	Low	Minor Adverse (Not Significant)
Coastal Fringe LCT	High	The Proposed Development lies outside of this LCT and as such potential change will be indirect, largely resulting from visibility of structures at the Main Site. Due to existing context of large-scale industrial development in the adjacent landscapes, it is considered that the Proposed Development will have little perceptible change on the landscape character and perceptual qualities of this LCT. Impacts will be over a medium extent and will be long term and reversible.	Very Low	Minor Adverse (Not Significant)

LANDSCAPE TYPE	RECEPTOR SENSITIVITY	DESCRIPTION OF IMPACT	MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Estuarine LCT	Medium	Part of the Hydrogen Pipeline Corridors is within this LCT and as such there is potential for both direct and indirect change, depending on the method of pipeline installation employed. If pipelines are above ground, they will add to existing infrastructure elements within this LCT and the adjacent landscapes, resulting in only limited change. Structures on the Main Site will also be visible from this LCT, adding to the existing context of industrial development which defines the baseline of this landscape. Impacts will be over a small to medium extent, long term and reversible, with very little influence on the character or impression of this LCT.	Very Low	Negligible Adverse (Not Significant)
Undulating Farmland LCT	Medium	Any parts of this LCT directly affected by construction will be reinstated and as such potential change at operation will be indirect as a result of visibility of new structures or infrastructure in the adjacent and more distant landscape. The Main Site area is relatively distant from this LCT and will be experienced in the context of existing industrial development in the foreground, resulting in little or no change. Similarly, although in closer proximity, the Hydrogen Pipeline Corridor will result in very little or no discernible change to this LCT. Impacts will be very limited in extent, long term and reversible.	Very Low	Negligible Adverse (Not Significant)
Rural Fringe LCT	Medium	Those areas of the Rural Fringe LCT directly influenced during construction will be reinstated and as such potential change during operation will be indirect. Although the Proposed Development will introduce additional structures and infrastructure into views from parts of this LCT, the impression of change will be limited as a result of the existing context of similar development. Impacts will be very limited in extent, long term and reversible resulting in very little or no discernible change to this LCT.	Very Low	Negligible Adverse (Not Significant)

Decommissioning

16.6.12 The impacts on landscape character arising as a result of decommissioning of the Proposed Development are considered (using professional judgement) to be similar to those identified at the construction stage. This is due to the scale and nature of the Proposed Development in relation to the existing industrial structures and complexes present in the wider landscape and the large-scale of the LCAs.

Effects on Visual Amenity

16.6.13 Potential visual effects of the Proposed Development in comparison with the future baseline visual context are considered in Table 16-6 by reference to representative viewpoints. The assessments contained within Table 16-6 should be read in conjunction with Figures 16-6-1 to 16-6-14 (PEI Report, Volume II) which illustrate the baseline situation at each viewpoint for winter views.

16.6.14 A series of photowires have been prepared (Figures 16-8-1 to 16-8-8: Photowires (PEI Report, Volume II) which illustrate the likely visibility of the Proposed Development at four of the assessed viewpoints. The photowires represent the heights of key elements of the Proposed Development with the flare being a worst-case height of 100 m AGL (108 m AOD), the CO_2 absorber at 50 m AGL (58 m AOD) and all other structures on the Main Site at a maximum of 30 m AGL (38 m AOD) or below.

Table 16-6: Viewpoint Assessment

VIEWPOINT 1: ALBION TERRACE, HARTLEPOOL

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
453044, 533546	Residential and PRoW Users	8	7.9	South-east
Visual susceptibility to change		Value of view		Sensitivity of receptor
Residents are considered to generally have an expectation of enjoyment of their view from the property and users of the long-distance route are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		Medium		High for residential and PRoW users.
Size/scale, duration and reversibility of impact at construction				

VIEWPOINT 1: ALBION TERRACE, HARTLEPOOL

Long distance views towards the Main Site with construction activity visible at the end of the headland. Construction activities will be visible, although viewed from a long distance of over 8 km. The operations will be viewed as an extension of the Teesside industrial port. The increase in cranes and construction activity will be noticeable, but not alter the overall balance of features and viewed in the context of an area containing a high number of large-scale industrial structures. The availability of alternative views, long distance and the presence of other detracting features in the landscape reduce the impact that Proposed Development has on visual amenity. The impact is assessed to be Very Low, over a small geographic extent, short term and reversible.		
Magnitude of impact at construction		Very Low
Significance of effect at construction	Residential and PRoW users	Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
The operational Main Site will be visible on the headland, with the structures, stacks and associated plume from the flare appearing against the high ground in the distance. The structures and plumes will be visible, viewed within a context of existing large-scale structures as part of the wider view. The Proposed Development will be barely noticeable and will not alter the overall context of the view. The impact is assessed to be Very Low, over a small geographic extent, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Residential and recreational users	Negligible Adverse (Not Significant)

VIEWPOINT 2: THE CLIFF, SEATON CAREW

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
452531, 530050	Residential and PRoW users	7	5.2	South-east
Visual susceptibility to change		Value of view		Sensitivity of receptor
Residents are considered to generally have an expectation of enjoyment of their view from		Medium		High for residential

VIEWPOINT 2: THE CLIFF, SEATON CAREW

the property and users of the long-distance route are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		and PRoW users.
Size/scale, duration and reversibility of impact at construction		
Long distance views towards the Main Site with construction activity visible in the centre of the view. The movement of vehicles and low-level operations may not be perceptible at this distance. The presence of cranes and construction activity will be noticeable, but not alter the overall balance of features. The availability of alternative views, long distance and the presence of other detracting features in the landscape reduces the impact on visual amenity. The impact is assessed to be Low, over a small geographic extent, short term and reversible.		
Magnitude of impact at construction		Low
Significance of effect at construction	Residential and PRoW users	Minor Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
Long distance view towards the operational Main Site. The structures, stacks and plume associated with the flare will appear against the high ground, with the tip of the stack breaking the skyline. The structures will be clearly visible, although viewed within a context of existing large-scale structures within the wider view. The Proposed Development will be noticeable, but not overall alter the context of the view. The impact is assessed to be Low, over a small geographic extent, long term and reversible.		
Magnitude of impact at operation		Low
Significance of effect at operation	Residential and PRoW users	Minor Adverse (Not Significant)

VIEWPOINT 3: TEESMOUTH NATIONAL NATURE RESERVE, ENGLAND COAST PATH

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
452655, 527758	Recreational	2	3.6	East
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the long distance route are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		Medium		High for recreational users.
Size/scale, duration and reversibility of impact at construction				
Medium distance views towards the Main Site with the majority of construction activity visible in the centre of the view. Low level construction activities will be screened by intervening landform and vegetation. Construction activities, including crane movements will be clearly visible and form the most prominent structures in the view. As a result of the existing structures within the wider view and long distance, the addition of construction operations associated with the Proposed Development will not alter the balance of features in the view. The impact is assessed to be Low, over a medium geographic extent, short term and reversible.				
Magnitude of impact at construction				Low
Significance of effect at construction		Recreational		Minor Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation				
During operation, the majority of low-level structures on the Main Site will be screened as a result of intervening landform and vegetation. The larger structures, stacks and plume associated with the flare will appear against the sky. The Proposed Development will be noticeable, but not alter the overall balance of the view as a result of the existing large-scale structures within the wider view. The impact is assessed to be Low, over a medium geographic extent, long term and reversible.				
Magnitude of impact at operation				Low

VIEWPOINT 3: TEESMOUTH NATIONAL NATURE RESERVE, ENGLAND COAST PATH

Significance of effect at operation	Recreational	Minor Adverse (Not Significant)

VIEWPOINT 4: NORTH GARE SANDS

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
453764, 527266	Recreational	2	2.4	East
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the beach are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a medium susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Medium		Medium for recreational users.
Size/scale, duration and reversibility of impact at construction				
Medium range view towards construction activities on the Main Site including the Hydrogen Pipeline Corridor. The majority of construction activities will be visible due to the lack of intervening built form. Views of high-level construction activities on the Main Site, including cranes will be seen in the context of existing large-scale industrial structures, visible against the sky within the wider view. The addition of construction operations associated with the Proposed Development will be noticeable but will not alter the overall balance of features in the view. As a result of the proximity and scale of operations the impact is assessed to be Low, over a medium geographic extent, short term and reversible.				
Magnitude of impact at construction				Low
Significance of effect at construction		Recreational		Minor Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation				
Medium range view towards the operational Main Site. The structures, stacks and plume associated with the flare will appear against the skyline, increasing their visibility. The structures will be viewed within a context of existing large-scale structures. The Proposed				

VIEWPOINT 4: NORTH GARE SANDS

Development will be noticeable, but not alter the overall context of the view. The impact is assessed to be Low, over a medium geographic extent, long term and reversible.		
Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor Adverse (Not Significant)

VIEWPOINT 5- SOUTH GARE BREAKWATER

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
455623, 527394	Recreational (users of the beach, boat users at Tees Mouth, and users of the Teesdale Way)	9	1.2	South
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the beach, Tees Mouth, and Teesdale Way are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a medium susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Medium		Medium for recreational users.
Size/scale, duration and reversibility of impact at construction				
Views of construction operations likely to be screened from view by sand dunes and sea wall at South Gare Breakwater for receptors using the beach and Tees Mouth. Medium range view of construction operations visible to the centre of the view for users of the Teesdale Way. Low level construction operations will be largely screened behind localised sand dunes and low-level vegetation. Construction operations will be seen in the context of existing large-scale structures in the distance and vertical structures within the middle ground of the view. The introduction of cranes and the gradual increase in structures will be apparent, however, the key characteristics of the view will remain unchanged. The				

VIEWPOINT 5- SOUTH GARE BREAKWATER

impact is assessed to be Minor, over a medium geographic extent, short term and reversible.		
Magnitude of impact at construction		Low
Significance of effect at construction	Recreational	Minor Adverse (Not significant)
Size/scale, duration and reversibility of impact at operation		
Medium distance view towards the operational Main Site, where the majority of the high-level structures, stacks and plume associated with the flare will appear against a backdrop of elevated landform, which will decrease their visibility. The operational Main Site will be seen in the context of other industrial structures including stacks and flares and will not form the focus of the view. The Proposed Development will be noticeable but will not change the overall balance of the view. The impact is assessed to be Low, over a large geographic extent, long term and reversible.		
Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor Adverse (Not Significant)

VIEWPOINT 6- COWPEN BEWLEY COUNTRY PARK				
Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
448593, 525702	Recreational	28	7	East
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the lookout point are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		Medium		High for recreational users.

VIEWPOINT 6- COWPEN BEWLEY COUNTRY PARK		
Size/scale, duration and reversibility of impact at construction		
Long distance views towards the Main Site with construction activities visible to the right of the view. Due to lack of intervening vegetation or landform, construction activities including the use of cranes will be visible, although at a long distance and set within a wide 360º panorama containing a high number of existing industrial structures. Views of construction activities related to the Hydrogen Corridor will be screened by vegetation from this location. Construction activities will form a barely noticeable part of the view. The impact is assessed to be Very Low, over a small geographic extent, short term and reversible.		
Magnitude of impact at construction		Very Low
Significance of effect at construction	Recreational	Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
Long distance view towards the operational Main Site viewed to the right of the view. The structures including stacks and plume associated with the flare will be viewed against the skyline, marginally increasing their visibility. The presence of additional structures in the view will be barely noticeable and will not alter the overall balance of the view that contains a high number of industrial structures. The impact at operation is assessed to be reduced in comparison with the construction stage, although will remain at Very Low. Impacts will be Very Low, over a small geographic extent, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Recreational	Negligible Adverse (Not Significant)

VIEWPOINT 7- ENGLAND COAST PATH, WARRENBY

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
458128, 525592	Recreational	5	1.3	West
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the long distance route are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the		Medium		High for recreational users.

VIEWPOINT 7- ENGLAND COAST PATH, WARRENBY

overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		
Size/scale, duration and reversibility of impact at construction		
Medium distance views of construction activities associated with the Main Site. Low level activities, including construction operations within the Water, Electrical and Hydrogen Pipeline Corridors will be largely screened by intervening sand dunes and localised landforms. Higher level activities will be clearly visible within the middle ground of the view. The use of high-level cranes and the movement of construction activity will be readily apparent and form a noticeable part of the view. The impact is assessed to be Medium, over a medium geographic extent, short term and reversible.		
Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational	Moderate Adverse (Significant)
Size/scale, duration and reversibility of impact at operation		
Medium distance views of the operational Main Site, including stacks and plume associated with the flare will be highly visible from this location. The increase in massing of structures associated with the operational Main Site will become the most prominent structure from this location, occupying a large proportion and altering the overall balance of the view. The impact is assessed to be Medium, over a medium geographic extent, long term and reversible.		
Magnitude of impact at operation		Medium
Significance of effect at operation	Recreational	Moderate Adverse (Significant)

VIEWPOINT 8- REDCAR SEAFRONT

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
45988, 525470	Recreational users and residential	6	3.1	West

VIEWPOINT 8- REDCAR SEAFRONT

Visual susceptibility to change	Value of view	Sensitivity of receptor
Residents are considered to generally have an expectation of enjoyment of their view from the property and users of the long distance route are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.	Medium	High for residential and recreational users.
Size/scale, duration and reversibility of impact at construction		
Medium distance view towards construction activity associated with the Main Site, visible on the headland in the centre of the view. Construction operations, including low level activities will be clearly visible, set within a wide, open view that contains a small number of detractors. The presence of cranes and construction activity will be readily apparent, although will not alter the overall balance of features. The impact is assessed to be Medium, over a small geographic extent, short term and reversible.		
Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational users and residential	Moderate Adverse (Significant)
Size/scale, duration and reversibility of impact at operation		
At operation the Main Site will be visible in the view. The stacks and plume associated with the flare will be visible, with the operational Main Site forming a visible structure in the background of the view that will be noticeable. Due to the presence of existing structures, the Proposed Development will not alter the overall balance of the view. The impact is assessed to be Low, over a small geographic extent, long term and reversible.		
Magnitude of impact at operation		Low
Significance of effect at operation	Recreational users and residential	Minor Adverse (Not Significant)

VIEWPOINT 9- COATHAM MARSH NATURE RESERVE

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
459076, 524695	Recreational	4	2.5	North-west
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the Coatham Marsh Nature Reserve are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a medium susceptibility. When combined with the overall Low value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Low		Medium for recreational users.
Size/scale, duration and reversibility of impact at construction				
User of Coatham Marsh Nature Reserve will experience medium distance view towards construction activities associated with the Main Site, where no intervening vegetation is present. Construction activities, including the presence of high-level cranes will be visible, set within a wide, open view that contains a number of existing detractors. Construction activities will form a noticeable part of the view but will not alter the overall balance of the view. The impact is assessed to be Low, over a small geographic extent, short term and reversible.				
Magnitude of impact at construction				Low
Significance of effect at construction		Recreational		Minor Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation				
The operational Main Site will be clearly visible in the view. The stacks and plume associated with the flare will be visible, increasing the number of large-scale structures within the view. The Proposed Development will be clearly noticeable but will not alter the overall balance of features in the view as a result of the presence of existing built structures. The impact is assessed to be Low, over a small geographic extent, long term and reversible.				
Magnitude of impact at operation				Low

VIEWPOINT 9- COATHAM MARSH NATURE RESERVE

Significance of effect at operation	Recreational	Minor Adverse (Not Significant)

VIEWPOINT 10- ESTON NAB

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
456765, 518354	Recreational	225	6.5	North
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the historical landmark and PRoW are typically likely to be involved in activity which includes enjoyment of the view resulting in a high susceptibility. When combined with the overall High value, the overall receptor sensitivity with respect to the Proposed Development is considered to be High.		High		High for recreational users.
Size/scale, duration and reversibility of impact at construction				
Long distance, elevated view towards construction activities associated with the Main Site and connections corridors. Construction associated with the connection corridors will be partially screened by intervening vegetation and structures. The construction of the Main Site including high level cranes will be visible, forming a small, barely noticeable feature within the wider view. The impact is assessed to be Very Low, over a medium geographic extent, short term and reversible.				
Magnitude of impact at construction				Very Low
Significance of effect at construction		Recreational		Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation				
The operational Main Site will be visible within the wider view. The stacks and plume associated with the flare will form the most visible structures of the Proposed Development, viewed against the North Sea, increasing their visibility. As a result of the				

VIEWPOINT 10- ESTON NAB

number of existing industrial structures, the Proposed Development will be barely noticeable as part of the wider view. The impact is assessed to be Very Low, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Recreational	Negligible Adverse (Not Significant)

VIEWPOINT 11- LONGBECK LANE

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
461606, 520959	Residential	48	6.5	North-west
Visual susceptibility to change		Value of view		Sensitivity of receptor
Residents are considered to generally have an expectation of enjoyment of their view from the property resulting in a high susceptibility. When combined with the overall Low value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Low		Medium for residential users.
Size/scale, duration and reversibility of impact at construction				
Long distance views towards construction activities associated with the Main Site. Due to lack of intervening vegetation or landform, construction activities including the use of cranes will be clearly visible, although at a long distance and set within a wide panoramic view containing a high number of existing industrial structures. Construction activities will form a barely noticeable part of the wider view. The impact is assessed to be Very Low, short term and reversible.				
Magnitude of impact at construction				Very Low
Significance of effect at construction		Residential		Negligible Adverse (Not Significant)

VIEWPOINT 11- LONGBECK LANE

Size/scale, duration and reversibility of impact at operation		
The operational Main Site will be visible to the left of the centre of the view. The stacks and plume associated with the flare will be visible in the background of the view, seen in the context of a high number of industrial structures including stacks and plumes. The Proposed Development will form a barely noticeable feature within the wider view. The impact is assessed to be Very Low, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Residential	Negligible Adverse (Not Significant)

VIEWPOINT 12- CARPARK OFF A1085 COAST ROAD, MARSKE BY THE SEA

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
463150 , 523198	Recreational	14	6.8	North-west
At construction				
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the beachfront are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a medium susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Medium		Medium for recreational users.
Size/scale, duration and reversibility of impact at construction				
Long distance view towards construction activities associated with the Main Site. Low and medium level activities will be largely screened by housing within Redcar. High level activities, including the use of cranes, will be barely noticeable above the intervening structures, viewed against the sky. The impact is assessed to be Very Low, short term and reversible.				
Magnitude of impact at construction				Very Low

VIEWPOINT 12- CARPARK OFF A1085 COAST ROAD, MARSKE BY THE SEA

Significance of effect at construction	Recreational	Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
The upper sections of the operational Main Site including stacks and plume associated with the flare will be visible, viewed above the residential area of Redcar. The high-level structures will be barely noticeable as a result of the long distance, viewed against the sky, although there are limited industrial structures visible within the wider view from this location. The impact is assessed to be Very Low, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Recreational	Negligible Adverse (Not Significant)

VIEWPOINT 13- VIEWPOINT AT SALTHOLME WILDLIFE RESERVE AND DISCOVERY PARK (RSPB)

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
449838, 523250	Visitors/recreational users	8	6.1	North-east
At construction				
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the RSPB reserve are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a medium susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		Medium.		Medium for recreational users.

VIEWPOINT 13- VIEWPOINT AT SALTHOLME WILDLIFE RESERVE AND DISCOVERY PARK (RSPB)

Size/scale, duration and reversibility of impact at construction		
Long distance view towards construction activities associated with the Main Site. Low and medium level activities will be largely screened by existing development and structures within Teesside. High level activities, including the use of cranes will be barely visible beyond existing tall structures forming part of a wider panorama which contains numerous tall industrial structures. The impact is assessed to be Very Low, short term and reversible.		
Magnitude of impact at construction		Very Low
Significance of effect at construction	Recreational	Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
The upper sections of the operational Main Site including stacks and plume associated with the flare will be barely visible beyond the numerous tall industrial structures visible within the view. The impact is assessed to be Very Low, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Recreational	Negligible Adverse (Not Significant)

VIEWPOINT 14- VIEWPOINT AT SALTHOLME WILDLIFE RESERVE AND DISCOVERY PARK (RSPB)				
Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from Main Site (km)	Direction of view
450479, 522590	Visitors/recreational users	4	5.7	North-east
At construction				
Visual susceptibility to change		Value of view		Sensitivity of receptor
Users of the RSPB reserve are not typically likely to be involved in activities which solely include enjoyment of the view resulting in a		Medium		Medium for recreational users.

medium susceptibility. When combined with the overall Medium value, the overall receptor sensitivity with respect to the Proposed Development is considered to be Medium.		
Size/scale, duration and reversibility of impact at construction		
Long distance view towards construction activities associated with the Main Site. Low level activities will be largely screened by intervening landform and vegetation. High level activities, include the use of cranes will be barely visible, viewed on the horizon as part of a wider panorama which contains a high number of industrial structures. The impact is assessed to be Very Low, short term and reversible.		
Magnitude of impact at construction		Very Low
Significance of effect at construction	Recreational	Negligible Adverse (Not Significant)
Size/scale, duration and reversibility of impact at operation		
The upper sections of the operational Main Site including stacks and plume associated with the flare will be visible, viewed above intervening landform and vegetation which screens the lower levels of the Proposed Development. The high-level structures will be barely noticeable as a result of the long distance, viewed against the sky. The impact is assessed to be Very Low, long term and reversible.		
Magnitude of impact at operation		Very Low
Significance of effect at operation	Recreational	Negligible Adverse (Not Significant)

Table 16-7: Summary of Effects on Visual Amenity

VIEWPOINT REFERENCE	SENSITIVITY OF RECEPTOR	RECEPTOR LOCATION	RECEPTOR TYPE	CONSTRUCTION	OPERATION
1	High	Albion Terrace, Hartlepool	Residential and PRoW users	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
2	High	The Cliff, Seaton Carew	Residential and PRoW users	Minor Adverse (Not Significant)	Minor Adverse (Not Significant)
3	High	Teesmouth National Nature Reserve, England Coast Path	Recreational	Minor Adverse (Not Significant)	Minor Adverse (Not Significant)
4	Medium	North Gare Sands	Recreational	Minor Adverse (Not Significant)	Minor Adverse (Not Significant)
5	Medium	South Gare Breakwater	Recreational	Minor Adverse (Not significant)	Minor Adverse (Not Significant)
6	High	Cowpen Bewley Country Park	Recreational	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
7	High	England Coast Path, Warrenby	Recreational	Moderate Adverse (Significant)	Moderate Adverse (Significant)
8	High	Redcar seafront	Recreational and residential	Moderate Adverse (Significant)	Minor Adverse (Not Significant)
9	Medium	Coatham Marsh Nature Reserve	Recreational	Minor Adverse (Not Significant)	Minor Adverse (Not Significant)

VIEWPOINT REFERENCE	SENSITIVITY OF RECEPTOR	RECEPTOR LOCATION	RECEPTOR TYPE	CONSTRUCTION	OPERATION
10	High	Eston Nab	Recreational	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
11	Medium	Longbeck Lane	Residential	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
12	Medium	Carpark off A1085 Coast Road, Marske by the Sea	Recreational	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
13	Medium	Saltholme Wildlife Reserve and Discovery Park (RSPB)	Recreational	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)
14	Medium	Saltholme Wildlife Reserve and Discovery Park (RSPB)	Recreational	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)

Dynamic Views

16.6.15 Users of the main transport routes and long-distance trails will gain dynamic views towards the Main Site to varying degrees dependent on intervening structures, screening vegetation, elevation and direction of travel. Due to the height of the tallest structure within the Main Site (the flare with a maximum height of 100 m above ground level/108 m AOD), these receptors will gain a wide variety of views, dependent upon the proximity to the Proposed Development and direction of travel.

16.6.16 Within the Study Area there are a number of local roads in proximity of the Main Site and connection corridors which join the settlements. Generally, views from these roads will be dynamic and ever changing. Views are often broken or restricted by screening vegetation and built form located along the road corridors. Where views are open, the flare, stacks and associated plumes will be clearly visible, appearing prominent in close views.

Decommissioning

16.6.17 The impacts on visual amenity arising as a result of decommissioning of the Proposed Development are considered (using professional judgement) to be similar to those identified at the construction stage. This is as a result of the visibility of decommissioning and demolition activities not being prominent for the majority of viewpoints as a result of long-distance views and intervening vegetation.

16.7 Mitigation and Enhancement Measures

16.7.1 The assessment has concluded that there will be no significant effects on landscape receptors during the construction and operation of the Proposed Development.

16.7.2 Significant adverse visual effects have been assessed for two representative viewpoints, as follows:

- Viewpoint 7 (England Coast Path, Warrenby) during construction and operation assessment scenarios; and
- Viewpoint 8 (Redcar Seafront) during the construction assessment scenario.

16.7.3 The assessment is based on a modified future baseline and represents the worst-case scenario. The baseline will be updated for the ES to include relevant applications and consented schemes.

16.7.4 The following mitigation measures will be undertaken as part of design development to address requirements of a number of relevant planning policies:

- the design of the Proposed Development will seek to minimise adverse impacts on visual amenity through appropriate siting of infrastructure including materials and colours (in line with EN-1 (DECC, 2011), policy N1 of the Redcar and Cleveland Local Plan (RCBC, 2018) and policy SD8 of the Stockton-on-Tees Local Plan (STBC, 2019).

16.7.5 No potential additional mitigation has been identified for Viewpoints 7 and 8 due to the proximity to the Proposed Development and the scale of the structures.

16.8 Assumptions and Limitations

16.8.1 Field visits were undertaken between February 2023 and April 2023 and so a comparison of visibility of visual effects over four seasons or during a wide range of light and weather conditions has not yet been possible. The field visit was undertaken with trees with no leaf cover to represent a 'worst case' scenario.

16.8.2 Guidance (IEMA, 2013) suggests that consideration be given to seasonal variation in effects where appropriate but acknowledges that the timing of the assessment may mean that this is not practical. A further site visit will be undertaken during the summer months when there is leaf cover and where there are important differences between seasonal views this will be indicated in and taken into consideration in reaching conclusions. Summer viewpoint photography will also be taken, and this will inform the preparation of the ES to support the DCO Application.

16.8.3 Assessment of visual impact using representative viewpoints is often limited/restricted by the limits of public access. Land outside of the control of the Applicants was accessed from points of public access (roads and PRoW) only. This is considered good practice and therefore has not affected the appropriateness of the viewpoints selected nor the robustness of the assessment.

16.8.4 The viewpoints that have been included within the assessment were based on representative views from where the receptor was considered the most sensitive (based on professional judgement).

16.9 Residual Effects and Conclusions

16.9.1 The assessment has determined that the Proposed Development is unlikely to result in significant adverse landscape effects during any of the assessment scenarios.

16.9.2 The visual amenity assessment has determined that a small number of recreational receptors England Coastal Path (Viewpoint 7) and Redcar Seafront (Viewpoint 8)) are likely to experience significant short-term adverse visual effects during the construction phase of the Proposed Development, as a result of the proximity to the Main Site and the limited intervening vegetation.

16.9.3 The impact on receptors at Redcar Seafront (Viewpoint 8) will reduce to levels that are Not Significant during Proposed Development operation. However, effects will remain Significant during Proposed Development operation along the England Coastal Path (Viewpoint 7) due to the proximity and prominence of structures associated with the Proposed Development. A summary of significant visual effects is presented in Table 16-8: Summary of Significant Effects.

Table 16-8: Summary of Significant Effects

DEVELOPMENT STAGE	ENVIRONMENTAL EFFECT (FOLLOWING DEVELOPMENT DESIGN AND IMPACT AVOIDANCE MEASURES)	CLASSIFICATION OF EFFECT PRIOR TO MITIGATION	MITIGATION/ ENHANCEMENT (IF IDENTIFIED)	CLASSIFICATION OF RESIDUAL EFFECT AFTER MITIGATION	NATURE OF EFFECT(S)*
Construction (and decommissioning)	Impact on recreational users at viewpoint 7 England Coastal Path – during construction activities	Moderate Adverse (Significant)	None	Moderate Adverse (Significant)	St/T/D
Construction (and decommissioning)	Impact on recreational users at viewpoint 8 Redcar seafront during construction activities	Moderate Adverse (Significant)	None	Moderate Adverse (Significant)	St/T/D
Operation	Impact on recreational users at viewpoint 7 England Coastal Path – during opening	Moderate Adverse (Significant)	None	Moderate Adverse (Significant)	Lt/T/D
* Long term (Lt)/ Medium term (Mt)/ Short term (St) and Permanent (P)/ Temporary (T) and Direct (D)/ Indirect (In)					

16.10 References

- Council of Europe (2020). *Council of Europe Landscape Convention* [Online]. Available at: https://www.coe.int/en/web/landscape/home.
- Department of Energy and Climate Change (DECC) (2011). *National Policy Statement for Energy (EN-1)* [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_da ta/file/47854/1938-overarching-nps-for-energy-en1.pdf
- Department of Energy and Climate Change (DECC) (2011). National Policy Statement for Gas and Oil Pipelines (EN-4) [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47857/1941-nps-gas-supply-oil-en4.pdf
- Department of Energy and Climate Change (DECC) (2011). National Policy Statement for Electrical Networks Infrastructure (EN-5) [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf
- Department of Energy, Security and Net Zero (2023). *Draft Overarching National Policy Statement for Energy (EN-1)* [online]. Available at: EN-1 Overarching National Policy Statement for Energy (publishing.service.gov.uk)
- Department of Energy, Security and Net Zero (2023). Daft National Policy Statement for Gas and Oil Pipelines (EN-4). [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147383/NPS_EN-4.pdf
- Department of Energy, Security and Net Zero (2023). The Daft National Policy Statement (NPS) for Electrical Networks Infrastructure (EN-5). [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147384/NPS_EN-5.pdf
- Hartlepool Borough Council (2018). *Hartlepool Local Plan (adopted 2018)* [Online]. Available at: https://www.hartlepool.gov.uk/downloads/file/4393/hartlepool_local_plan_-_adopted_may_2018pdf
- Hartlepool Borough Council (2000). *Hartlepool Landscape Assessment* [Online]. Available at: https://www.hartlepool.gov.uk/downloads/file/2967/hlp03_49_hbc_landscape_assessment_2000pdf
- Hartlepool Borough Council (2000). *Hartlepool Landscape Assessment Landscape Value Map* [Online]. Available at: https://www.hartlepool.gov.uk/downloads/file/2969/hlp03_54_landscape_assessment_landscape_value_map_2000pdf

- Institute of Environmental Management and Assessment (IEMA) (2013). *Guidelines for LVIA (GLVIA) third edition (GLVIA3)*.
- Landscape Institute and Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment*, third edition. Abingdon-on-Thames: Routledge.
- Landscape Institute (LI) (2019). *Technical Guidance Note (TGN): Visual Representation of Development Proposals* [Online]. Available at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf
- Landscape Institute (2020). *Infrastructure*, Technical Guidance Note 04/2020. Available at LI-Infrastructure-TGN-FINAL-200924.pdf (windows.net)
- Landscape Institute (2021*) TGN 20/21: Assessing Landscape Outside National Designations* [online]. Available at: tgn-02-21-assessing-landscape-value-outside-national-designations.pdf (windows.net)
- Marine Management Organisation (2018). *The National Seascape Character Assessment for England (MM01134).* Newcastle: Marine Management Organisation.
- Ministry of Housing, Communities and Local Government (MHCLG) (2019). *The National Planning Practice Guidance (NPPG): Natural environment (2019)* [online]. Available at: Natural environment - GOV.UK (www.gov.uk)
- Ministry of Housing, Communities and Local Government (MHCLG) (2021). *National Planning Policy Framework* [online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2.
- Ministry of Housing, Communities and Local Government (MHCLG) (2022). *National Planning Policy Framework: draft text for consultation* [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1126647/NPPF_July_2021_-_showing_proposed_changes.pdf
- Natural England (2013). NE435: NCA Profile:15: Durham Magnesian Limestone Plateau. Worcester: Natural England.
- Natural England (2014). NE439: NCA Profile: 23 Tees Lowlands. Worcester: Natural England.
- Natural England (2015). NE352: NCA Profile 25: North York Moors and Cleveland Hills. Worcester: Natural England.
- Planning Inspectorate (2012). *Advice Note 9: Rochdale Envelope* [online]. Version 2, republished April 2012. Birmingham: The Planning Inspectorate. Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/

- Redcar and Cleveland Borough Council (RCBC) (2006). *Redcar and Cleveland Landscape Character Assessment* [online]. Available at: https://www.redcar-cleveland.gov.uk/sites/default/files/2022-04/Landscape%20Character%20Assessment%20%282006%29.pdf
- Redcar and Cleveland Borough Council (RCBC) (2010). *Redcar & Cleveland Landscape Character SPD* [online]. Available at: https://www.redcar-cleveland.gov.uk/resident/planning-and-building/strategic%20planning/Documents/Landscape%20Character%20SPD.pdf
- Redcar and Cleveland Borough Council (RCBC) (2010). *Redcar and Cleveland Local Development Framework: Landscape Character SPD* [online]. Available at: Landscape Character SPD (redcar-cleveland.gov.uk)
- Redcar and Cleveland Borough Council (RCBC) (2018). *Redcar & Cleveland Local Plan (adopted 2018)* [online]. Available at: https://www.redcar-cleveland.gov.uk/resident/planning-and-building/local-plan/areagrowth/Local%20Plan%20Adopted%20May%202018.pdf
- Stockton-on-Tees Borough Council (STBC) (2011). *Landscape Character Assessment* [online]. Prepared by WYG Environment. Available at: https://www.stockton.gov.uk/media/1585754/landscapecapacityst.pdf
- Stockton-on-Tees Borough Council (STBC) (2019). Stockton-on-Tees Local Plan (adopted 2019) [Online]. Available at: https://www.stockton.gov.uk/media/1585775/localplanmainreportcontents.pdf