Morven Offshore Wind Farm



Morven Hawthorn Pit Grid Connection Project

Preliminary Environmental Information Report

Volume 4, Chapter 1: Landscape and Visual Amenity

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Volume 4, Annex 1.2	Visual Baseline
Volume 4, Annex 1.3	Landscape and Visual Amenity Impact Assessment Methodology
Volume 4, Annex 1.4	Visualisations

Glossary

Term	Meaning
AC connection cables	Alternating Current (AC) cables that will connect the proposed onshore land substation to the National Grid Hawthorn Pit Substation.
Alternating Current (AC) connection cable corridor	The corridor within which the AC connection cables will be located, from the onshore land substation to the National Grid Hawthorn Pit Substation.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of the Applicant's works on communities, such as the effects of noise and disturbance from construction activities.
Ancient woodland	Land that has been continuously wooded since at least 1600 AD in England and is regarded as irreplaceable habitat in national planning policy. Ancient woodland greater than 2 hectares (ha) is recorded on the Ancient Woodland Inventory maintained by Natural England.
Baseline	Existing conditions as represented by the latest available data, whether from literature or survey and used as a benchmark for making comparisons to assess the impact of a development or project.
Blue Onshore Land Substation (LSS) Option Area	Proposed location option for the onshore land substation, located west of the A19 and south of the access road to the Jade Business Park.
Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Commitments	Measures (embedded mitigation and secondary) to be adopted during the construction, operation and maintenance and decommissioning phases of the MHPGC Project.
Cumulative effect	The combined effect of the MHPGC Project in combined with the effects from other proposed developments, on the same receptor or resource.
Cumulative effects assessment	Assessment of the likely effects arising from the MHPFC Project alongside the likely effects arising from other proposed developments on the same receptor or resource.
Decommissioning	The period during which a development and its associated processes are removed from active operation.
Desk study	A desk-based research method used to collect and analyse existing information, including the review of literature, previous survey reports, databases and maps to inform the baseline environment and the need for further surveys.
Development Consent Order (DCO)	An order made under the Planning Act 2008, as amended, granting development consent.
Direct impact	This is associated with the direct activities of the MHPGC Project as well as the activities of primary suppliers.
Earthworks	Includes the processes of soil-stripping, ground-levelling, excavation and landscaping.

Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Embedded mitigation	Measures included as part of the project design. Includes both primary and tertiary mitigation.
Environmental Impact Assessment (EIA)	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Future baseline	Refers to the predicted situation in future years without the MHPGC Project.
Green Onshore Land Substation (LSS) Option Area	Proposed location option for the onshore land substation, located between Jade Business Park (Spring Rd, Murton, Seaham SR7 9DR) and the National Grid Hawthorn Pit Substation.
Green spaces	Green spaces are areas of vegetation set within a landscape or townscape and can include blue spaces and built environment features.
Impact	A change caused by an action that occurs during a project's lifetime.
Inter-related effects	Effects that may arise from the interactions between different EIA topic effects considered within the project-alone assessment, potentially leading to more significant effects than if they were to be considered in isolation
Joint Bay	An excavated area where adjacent sections of underground cable are connected by a cable joint. Typically, a concrete lined pit below ground, that provides a suitable environment for undertaking associated jointing and testing activities.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.
Land use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landfall	The area in which the offshore export cables make landfall (come onshore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area between the trenchless technique exit pits and the transition joint bay inclusive of all construction works.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.

Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape, and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscapes distinctive. The process results in the production of a Landscape Character Assessment.
Landscape effects	Effects on the landscape as a resource in its own right.
LiDAR	A remote sensing method used to generate accurate three dimensional data about the earth surface.
Likely Significant Effect	Effects from the Proposed Development that have a pathway for effect to the National site that could affect the conservation objectives for the site's qualifying features. If the proposed development 'would be likely to have significant effect on a 'National site' as per the Habitat Regulations, then then an appropriate assessment of the plan or project must be carried out by the Competent Authority.
Link Box	An underground or above ground structure containing equipment used for cable sheath bonding, earthing and testing associated with the AC connection cables. Typically comprising an accessible chamber or enclosure designed to provide access during the operation and maintenance phase.
Magnitude	A combination of the spatial extent, duration, frequency and reversibility of an impact
Marine Licence	A marine licence permits the undertaking of different activities in the marine environment, including construction, the deposition or removal of substances or objects from the seabed and dredging. The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities within the Scottish offshore region (12nm – 200nm) and in English offshore and inshore regions (noting that deemed marine licences will be included within the Development Consent Order application).
Marine Management Organisation (MMO)	The MMO, as a UK government body, is responsible for licensing, regulating and overseeing activities in the marine environment for English waters. For a DCO and deemed marine licence, the MMO acts as a statutory consultee, advising on marine planning, environmental impacts, habitats and compliance with marine licensing regulations.
Maximum Design Scenario (MDS)	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the MHPGC Project.
Mean High Water Springs (MHWS)	The most inshore level location reached by the sea at high tide during mean high water spring tide. This is defined as the average throughout the year, of two successive high waters, during a 24-hour period in each month when the range of the tide is at its greatest.
Mean Low Water Springs (MLWS)	The average height of the low water levels of each pair of successive low waters during the periods of about 24 hours when the tidal range is at its greatest.

MHPGC Project PEIR Red Line Boundary	The area within which all components of the MHPGC Project will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).
MHPGC Project Scoping Opinions	Separate scoping opinions received from PINS (on behalf of the Secretary of State) and MD-LOT (on behalf of the Scottish Ministers) in response to the MHPGC Project Scoping Report. The MHPGC Project Scoping Opinions contain the range of issues that PINS, and MD-LOT in consultation with statutory stakeholders, have identified should be considered within the EIA process.
MHPGC Project Scoping Report	A Scoping Report for the MHPGC Project, scoping the likely significant effects of the project on the environment, was submitted and accepted by Planning Inspectorate (PINS) and submitted to the Scottish Ministers, via the Marine Directorate – Licencing Operations Team (MD-LOT) in February 2025.
Monitoring Box	An underground or above ground structure containing equipment used for monitoring and testing associated with the onshore export cables. Typically comprising an accessible chamber or enclosure designed to provide access during the operation and maintenance phase
Morven Hawthorn Pit Grid Connection Project	The MHPGC Project is comprised of the offshore export cables in Scottish and English waters from the Morven North or the Morven South offshore substation platform(s) (OSP), landfall, onshore export cables, the onshore land substation (LSS) and AC connection cables. Also referred to in this report as the MHPGC Project, for ease of reading.
National Grid Hawthorn Pit Substation	The National Grid substation at Hawthorn Pit, County Durham, which the AC connection cables will connect into from the Onshore Land Substation.
National Planning Policy Framework (NPPF)	The NPPF sets out the core planning principles for England. It provides a framework within which locally-prepared plans can provide for housing and other development in a sustainable manner.
Non-designated heritage asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes assets identified by the local planning authority (including local listing).
Offshore export cables	HVDC cables which bring electricity from either the Morven North or Morven South offshore substation platform to the TJB at landfall.
Onshore export cable corridor	The proposed corridor within which onshore export cables and associated infrastructure will be laid and located, from the TJB to the onshore land substation.
Onshore export cables	HVDC cables which bring electricity from the TJB to the onshore land substation.
Onshore Land Substation (LSS)	A purpose-built site comprising a compound containing the electrical components for converting the HVDC to HVAC power. The LSS site associated with the MHPGC Project adjusts the power quality and power factor to meet the requirements of power supply being fed to the National Grid Hawthorn Pit Substation.

Perception	Combines the sensory (that we receive through our senses) with the cognitive (our knowledge and understanding gained from many sources and experiences).
Photomontage	A visualisation which superimposes an image of a proposed development upon a photograph or series of photographs.
Planning Inspectorate (PINS)	The PINS is an executive agency of the UK Government responsible for administering and examining DCO applications for NSIPs in England. PINS manages the application process, oversees consultation and examination, and makes a recommendation to the relevant Secretary of State on whether consent should be granted.
Primary mitigation	Measures included as part of the location or design of the MHPGC Project made during the pre-application phase that are an inherent part of the MHPGC Project and do not require additional action to be taken. This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the MHPGC Project, the parameters and associated commitments secured by the DCO and marine licence, or both.
Receptor	A specific environmental feature, resource, population or asset that may be affected by the MHPGC Project, either directly or indirectly, and which falls within the environmental topics considered under the EIA Regulations.
Renewable energy	Energy from a source that is not depleted when used such as wind or solar power.
Residual effects	Effects that continue to exist after mitigation has been applied.
Seascape	Landscapes with views of the coast or seas, and coasts and adjacent marine environments with cultural, historical and archaeological links with each other.
Secondary mitigation	Actions that will require further activity to achieve the anticipated outcome and may be imposed as part of the planning consent, or through inclusion in the ES. These include measures required to reduce the significance of environmental effects and may be secured through an environmental management plan. For secondary mitigation measures, both pre-mitigation and residual effects are presented.
Significance	Effect factor that is determined by the magnitude of impact along with the sensitivity of the receptor.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to section 42 of the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees.
Surface water	Inland water bodies present on the Earth's surface, including rivers, streams, lakes and transitional waters, and, for regulatory purposes, extending to certain coastal waters.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.

Tertiary mitigation	Actions that would occur with or without input from the EIA process feeding into the design. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
the Applicant	The legal entity making the applications for consent; Morven Offshore Wind Limited (MvOWL).
the Study Area	For each environmental topic, the baseline environment will be characterised, and the likely significant effect will be described within a topic-specific Study Area. Specific Study Areas are defined for each topic and are based on the maximum spatial extent across which likely significant effects of the MHPGC Project may be experienced by the relevant receptors (i.e. Zone of Influence (ZoI)).
Tranquillity	A state of calm and quietude associated with peace, considered to be a significant asset of landscape.
Transboundary effects	Assessment of likely significant effects resulting from MHPGC Project on the interests of another European Economic Area (EEA) state(s).
Transboundary impact	Potential impacts resulting from MHPGC Project and affecting another European Economic Area (EEA) state.
Trenchless techniques	Construction methods used to install underground or sub-surface infrastructure without the need for continuous open trench excavation, thereby avoiding or minimising disturbance to surface features, habitats and existing land users.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Visual effects	Effects on specific views and on the general visual amenity experienced by people.
Visual receptors	Individuals and/or defined groups of people who have the potential to be affected.
Zone of influence (ZoI)	The area within which impacts arising from the MHPGC Project could occur upon receptors.
Zone of Theoretical Visibility (ZTV)	A computer-generated map that illustrates the area from which a proposed development may be visible based on a digital model.

Acronyms

Acronym	Meaning
AC	Alternating Current
AHLV	Area of Higher Landscape Value
BCA	Broad Character Area
CEA	Cumulative Effect Assessment
DCC	Durham County Council

DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
EWG	Expert Working Group
GLVIA3	Guidelines for Landscape and Visual Impact Assessment 2013 (3rd edition)
IEMA	Institute of Environmental Management and Assessment
LCA	Landscape character area
LSS	onshore land substation
LVIA	Landscape and Visual Impact Assessment
MCA	Marine Character Area
MD-LOT	Marine Directorate – Licensing Operations Team
MDS	Maximum Design Scenario
MHPGC	Morven Hawthorn Pit Grid Connection
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
NCA	National Character Area
NDHAs	Non-Designated Heritage Assets
NPPF	National Planning Policy Framework
NPS	National Policy Statements
O&M	Operations and Maintenance
OSP	Offshore Substation Platform
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PRoW	Public Right of Way
RVAA	Residential Visual Amenity Assessment
SCC	Sunderland City Council
SoS	Secretary of State
ZTV	Zone of theoretical visibility

Units

Unit	Meaning
km	Kilometre
m	Metre

1 Landscape and Visual Amenity

1.1 Introduction

1.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the preliminary findings of the Environmental Impact Assessment (EIA) work undertaken to date for the Morven Hawthorn Pit Grid Connection Project (hereafter 'MHPGC Project'), as described in **Volume 1, Chapter 2: Project Description, of the PEIR**.

1.1.1.2 The chapter considers the potential impacts and effects on landscape and visual amenity that could result from the construction, operation and maintenance (O&M) and decommissioning phases of the MHPGC Project. Specifically, it relates to the onshore elements of the MHPGC Project landward of Mean Low Water Springs (MLWS) at landfall to the National Grid Hawthorn Pit Substation in England.

1.1.1.3 This chapter describes the methodology, datasets that have informed the preliminary assessment, baseline conditions, including future baseline, mitigation measures and the preliminary residual significant effects on landscape and visual amenity that could result from the MHPGC Project.

1.1.1.4 The assessment is informed by the following chapters:

- **Volume 1, Chapter 2: Project Description, of the PEIR**;
- **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR**;
- **Volume 1, Chapter 5: Policy and Legislation, of the PEIR**;
- **Volume 3, Chapter 3: Terrestrial Ecology and Terrestrial and Intertidal Ornithology, of the PEIR;**
- **Volume 3, Chapter 4: Archaeology and Cultural Heritage, of the PEIR;**
- **Volume 3, Chapter 5: Traffic and Transport, of the PEIR;**
- **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR;**
- **Volume 3, Chapter 8: Land Use, Tourism and Recreation, of the PEIR;**
- **Volume 4, Chapter 5: Inter-related Effects, of the PEIR**.

1.1.1.5 The chapter also draws on information contained within the following annexes:

- **Volume 1, Annex 4.1: Draft Commitments Register, of the PEIR**;
- **Volume 1, Annex 4.2: Scoping Responses, of the PEIR;**
- **Volume 1, Annex 4.3: Transboundary Screening, of the PEIR**;
- **Volume 1, Annex 4.4: Cumulative Screening and Location Plan, of the PEIR**;
- **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**;
- **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**;
- **Volume 4, Annex 1.3: Landscape and Visual Amenity Impact Assessment Methodology, of the PEIR;**
- **Volume 4, Annex 1.4: Visualisations, of the PEIR**.

1.1.1.6 This PEIR will offer a comprehensive overview of the MHPGC Project's potential environmental impacts and mitigation measures, presenting essential data to stakeholders for review and feedback. The PEIR will also be informed by the ongoing pre-application consultation process.

1.1.1.7 Following statutory consultation, comments will be reviewed and considered, where appropriate, in preparation of the Environmental Statement (ES) that will accompany the application to the Planning Inspectorate (PINS) for development consent.

1.2 Legislative and policy context

1.2.1 Overview

1.2.1.1 The full relevant legislation and policy context for the MHPGC Project has been detailed in **Volume 1, Chapter 5: Policy and Legislation**. This section sets out the legislation and planning policy that is relevant to the preliminary landscape and visual amenity assessment.

1.2.2 Legislation

European Landscape Convention (ELC) (Council of Europe, 2000)

1.2.2.1 The European Landscape Convention (ELC) is an international treaty dedicated to the protection, management and planning of all landscapes across Europe, signed by the UK in 2006 and adopted in 2007. Landscape is recognised as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”. The definition applies to all urban and peri-urban landscapes, towns, villages, rural areas , the coast and inland areas.

The Electricity Act 1989 (United Kingdom (UK) Government, 1989)

1.2.2.2 Imposes duties on licence holders and decision-makers to have regard to the desirability of preserving, amongst other things, natural beauty, and to do what they reasonably can to mitigate the effect which development proposals would have on the natural beauty of the countryside.

Wildlife and Countryside Act 1981

1.2.2.3 The Wildlife and Countryside Act 1981 includes measures in relation to the conservation of wild birds and other plant and animal species, their habitats and important landscapes. It establishes the statutory system for definitive maps and the recording/modification of public rights of way (PRoW).

The Town and Country Planning (Tree Preservation) (England) Regulations 2012

1.2.2.4 The Town and Country Planning (Tree Preservation) (England) Regulations 2012 provide powers to local planning authorities to make and administer Tree Preservation Orders (TPOs), which in turn makes it an offence to cut down, top, lop, uproot, wilfully damage, or destroy a tree to which the order relates without prior approval.

National Parks and Access to the Countryside Act (UK Government, 1949)

1.2.2.5 The Act establishes the statutory framework for nature reserves, long-distance routes (including the England Coast Path via the 2009 amendments), and the protection of natural beauty. For any proposed development that might impact these designations or features, the Act requires consultation with Natural England relating to conservation of natural beauty.

Marine and Coastal Access Act (UK Government, 2009)

1.2.2.6 The Act makes provision for the establishment of an English coastal walking route and of rights of access to land near the English coast. The MMO must manage, regulate, or control activities with the objective of contributing to sustainable development and the need to protect the environment, and may take action to further environmental purposes. Environmental considerations, which in practice can encompass seascape and visual matters, are part of the broad evidence base the MMO must consider. Marine plan authorities must keep under review the physical, environmental, social, cultural and economic characteristics of the marine planning region.

The Countryside and Rights of Way Act (UK Government, 2000)

1.2.2.7 The Act gives public rights of access to coastal margins. Requires that if a development proposed amendments to PRoW that any replacement routes meet statutory tests including nature conservation and public amenity, and that the development is consistent with the local rights of way improvement plan.

The Hedgerow Regulations 1997

1.2.2.8 The Hedgerow Regulations 1997 include measures in relation to the protection of important hedgerow, subject to certain criteria.

1.2.3 National policy context

National Policy Statements

1.2.3.1 National Policy Statements (NPS) set out the primary policy framework for a Development Consent Order (DCO) under which the MHPGC Project will be considered. This framework includes guidelines, requirements and criteria that the MHPGC Project must meet to obtain consent and proceed with development. **Table 1.1** provides details of the NPS relevant to landscape and visual amenity and how and where they are covered in the PEIR:

- overarching NPS for energy (EN-1) (DESNZ, 2025a);
- NPS for renewable energy infrastructure (EN-3) (DESNZ, 2025b);
- NPS for electricity networks infrastructure (EN-5) (DESNZ, 2025c);
-

Table 1.1: Summary of the NPS provisions relevant to landscape and visual amenity

Summary of relevant NPS provisions	How and where considered in the PEIR
NPS EN-1	
Paragraphs 4.3.1-4.3.3 confirm that an assessment of the effects on landscape (covering the direct effects and any indirect, secondary, cumulative, transboundary, short, medium, and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects) is required.	This PEIR chapter identifies any potential effects on the landscape. **Section 1.7 Commitments adopted as part of the MHPGC Project** details the measures envisaged for avoiding or mitigating significant adverse effects. **Section 1.8 Assessment of impacts** assesses positive and negative effects at all stages of the MHPGC Project. **Section 1.10 Cumulative Effects Assessment** assesses cumulative effects of the MHPGC Project with other proposed developments.
Paragraph 4.6.13 notes that "in addition to delivering biodiversity net gain, developments may also deliver wider environmental gains and benefits to communities relevant to the local area, and to national policy priorities, such as […] landscape enhancement; increased access to natural greenspace, or; the enhancement, expansion or provision of trees and woodlands".	Opportunities to deliver wider environmental gains including landscape enhancements will be considered as part of the Outline Landscape and Ecological Management Plan (LEMP) which will be submitted as part of the application for development consent as detailed within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 4.7.4 notes that "Given the benefits of good design in mitigating the adverse impacts of a project, applicants should consider how good design can be applied to a project during the early stages of the project lifecycle".	Measures adopted as part of the MHPGC Project to mitigate potential impacts on landscape and visual resources are provided within **Section 1.7 Commitments adopted as part of the MHPGC Project**. As part of the Landscape and Visual Impact Expert Working Group (EWG), comprising stakeholders from DCC, Sunderland City Council (SCC) and Natural England, we have asked DCC to meet with the project team to discuss development of a Design Approach Document for the MHPGC Project and its evolution to good design.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraph 4.7.6 notes that "Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, land form and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area. Applicants should also, so far as is possible, seek to embed opportunities for nature inclusive design within the design process".	The approach to overall siting of the MHPGC Project relative to existing landscape character, land form and vegetation is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. Opportunities to deliver wider environmental gains including landscape enhancements will be considered as part of the Outline Landscape and Ecological Management Plan which will be submitted as part of the application for development consent as detailed within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 4.7.11 notes that, in decision making "the Secretary of State should be satisfied that the applicant has considered both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located, any potential amenity benefits, and visual impacts on the landscape or seascape) as far as possible".	The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**. The details of potential impacts are described within **Section 1.8 Assessment of potential impacts**.
Paragraph 5.10.6 notes that "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".	The approach to overall siting of the MHPGC Project relative to existing landscape character, land form and vegetation is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraphs 5.10.10 and 5.10.11 cover Heritage Coasts and note that "Development within a Heritage Coast (that is not also a National Park, The Broads or a National Landscape) is unlikely to be appropriate, unless it is compatible with the natural beauty and special character of the area".	The MHPGC Project PEIR Red Line Boundary crosses part of the Durham Heritage Coast. The MHPGC Project has sought to keep the physical footprint of its onshore infrastructure outside the Durham Heritage Coast where possible, as outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The PEIR considers potential landscape and visual impacts on the Heritage Coast within the landscape assessment as part of **Section 1.8 Assessment of potential impacts**.
Paragraph 5.10.12 notes that "Where a local development document in England or a local development plan in Wales has policies based on landscape or waterscape character assessment, these should be paid particular attention".	Local Plan policies relevant to landscape and visual amenity, and how and where they are considered in the PEIR, are described in **Section 1.2.4 Local policy context**.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraph 5.10.15 notes that "Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast".	The PEIR considers potential impacts on coastal landscape and seascape character areas, with viewpoint locations also located within coastal areas. Potential locations subject to visual intrusion have been identified through desk study, site visits, and the preparation of zones of theoretical visibility for the LSS Option Areas (**Figure 1.2** and **Figure 1.3**). The baseline description of these receptors are described in **Section 1.4 Baseline characterisation** and impacts are described and assessed within **Section 1.8 Assessment of potential impacts**.
Paragraph 5.10.16 states that "The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects."	This PEIR chapter comprises the landscape and visual impact assessment for the MHPGC Project. **Section 1.10 Cumulative Effects Assessment** assesses cumulative landscape and visual effects of the MHPGC Project with other proposed developments.
Paragraph 5.10.17 states that the assessment should "include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England".	Relevant published character and associated studies have been identified and agreed with the EWG and reported within **Section 1.4.6 Landscape Baseline**. Relevant policies in local development documents, and how and where they are considered in the PEIR, are described in **Section 1.2.4 Local policy context**.
Paragraph 5.10.18 states that "For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them."	The relevant Seascape Character Assessment and the Marine Plan Seascape Character Assessments have been identified and agreed with the EWG and reported within **Section 1.4.6 Landscape Baseline**.
Paragraph 5.10.19 states that "The applicant should consider landscape and visual matters in the early stages of siting and design, where site choices and design principles are being established. This will allow the applicant to demonstrate in the ES how negative effects have been minimised and opportunities for creating positive benefits or enhancement have been recognised and incorporated into the design, delivery and operation of the scheme."	The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 5.10.20 states that "The assessment should include the effects on landscape components and character (including key characteristics) during construction and operation. For projects which may affect a National Park, The Broads or a National Landscape the assessment should include effects on the natural beauty and special qualities of these areas."	An assessment of the effects on landscape components and character (including key characteristics) during construction and operation is provided within **Section 1.8 Assessment of potential impacts**. National Parks, The Broads, or any National Landscapes are not present within the Landscape and Visual Amenity Study Area.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraph 5.10.21 states that "The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on dark skies, local amenity and nature conservation."	Potential locations subject to visual intrusion have been identified through desk study, site visits, and the preparation of zones of theoretical visibility for the LSS Option Areas (**Figure 1.2** and **Figure 1.3**). Visualisations have been prepared from five viewpoint locations agreed with the EWG and are presented within **Annex 1.4**. Most of the time there will be no lighting associated with the Proposed Development. When lighting is active, it would be short-term and temporary on an occasional basis as detailed within **Section 1.6.2 Maximum design scenario**.
Paragraph 5.10.22 states that "The assessment should also address the landscape and visual effects of light pollution and other emissions (see Section 5.2 and Section 5.7), from construction and operational activities on residential amenity and on sensitive locations, receptors and views, and how these will be minimised."	Most of the time there will be no lighting associated with the Proposed Development. When lighting is active, it would be short-term and temporary on an occasional basis as detailed within **Section 1.6.2 Maximum design scenario**.
Paragraph 5.10.24 states that "Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality."	Opportunities to deliver wider environmental gains including landscape enhancements will be considered as part of the Outline Landscape and Ecological Management Plan which will be submitted as part of the application for development consent as detailed within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 5.10.25 states that "In considering visual effects it may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on equally sensitive receptors. This may assist the Secretary of State in judging the weight they should give to the assessed visual impacts of the proposed development."	Existing permitted infrastructure of a similar typology or with a similar magnitude of impact on equally sensitive receptors are identified where relevant within **Section 1.4.6 Landscape Baseline** and **Section 1.4.7 Visual Baseline**.
Paragraph 5.11.24 notes that "Where green infrastructure is affected, the Secretary of State should consider imposing requirements to ensure the functionality and connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space including appropriate access to National Trails and other public rights of way and new coastal access routes".	An assessment of the effects on green infrastructure during construction and operation is provided within **Section 1.8 Assessment of potential impacts**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**. Impacts on land use are reported within **Volume 3, Chapter 8, Land Use, Tourism and Recreation**.
Paragraph 5.11.27 notes that "Existing trees and woodlands should be retained wherever possible".	The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
NPS EN-3	

Summary of relevant NPS provisions	How and where considered in the PEIR
Section 2.8 covers offshore wind, with paragraphs 2.8.177 to 2.8.185 relating to seascape and visual effects. It notes that seascape and visual is an "important consideration for stretches of coastline identified as Heritage Coasts".	Seascape and visual effects on the Heritage Coast and receptors within it are considered within this PEIR chapter within **Section 1.4.6 Landscape Baseline**, **Section 1.4.7 Visual Baseline** and **Section 1.8 Assessment of potential impacts**.
NPS EN-5	
Paragraphs 2.2.8 and 2.2.9 note that "There will usually be a degree of flexibility in the location of the development's associated infrastructure such as substations, and applicants should consider carefully their location, as well as their design." and "In particular, the applicant should consider such characteristics as the local topography, the possibilities for screening of the infrastructure and/or other options to mitigate any impacts".	The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 2.2.10 notes that "applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and …do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.""	To inform the MHPGC Project proposals the landscape and visual baseline and associated sensitivity has been identified within **Section 1.4.6 Landscape Baseline**, **Section 1.4.7 Visual Baseline**. The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 2.9.9 notes that "New substations, sealing end compounds (including terminal towers), and other above-ground installations that serve as connection, switching, and voltage transformation points on the electricity network may also give rise to adverse landscape and visual impacts".	The PEIR considers potential impacts of the land substation (LSS) on landscape and visual receptors within **Section 1.8 Assessment of potential impacts**.
Paragraph 2.9.10 notes that "Cumulative adverse landscape, seascape and visual impacts may arise where new overhead lines are required along with other related developments such as substations, wind farms, and/or other new sources of generation."	**Section 1.10 Cumulative Effects Assessment** assesses cumulative landscape and visual effects of the MHPGC Project with other proposed developments.
Paragraph 2.9.18 notes that "The Horlock Rules (guidelines for the design and siting of substations) were established by National Grid in 2009 in pursuance of its duties under Schedule 9 to the Electricity Act 1989."	The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraph 2.10.5 notes that "the principal opportunities for mitigating adverse landscape and visual impacts of electricity networks infrastructure are: • Consideration of network reinforcement options (where alternatives exist) which may allow improvements and/or extensions to an existing line rather than the building of an entirely new line; • Selection of the most suitable type and design of support structure in order to minimise the overall visual impact on the landscape. In particular, ensuring that towers are of the smallest possible footprint and internal volume; and • The rationalisation, reconfiguration, and/or undergrounding of existing electricity networks infrastructure in the vicinity of the proposed development.	The onshore export cables and the AC connection cables for the MHPGC Project are proposed to be underground to minimise long-term landscape and visual impacts. The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 2.11.4 notes that "In circumstances where it can be demonstrated that a mitigation measure and/or technological approach is appropriate and/or necessary for a project, including to limit landscape and visual impact as set out above, the Secretary of State should take this into account in decision making."	The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
Paragraph 2.11.6 notes that "Away from designated landscapes and in locations where there is a high potential for widespread and significant adverse landscape and/or visual impacts, the Secretary of State should be satisfied that the applicant has provided evidence to support a decision on whether undergrounding is or is not appropriate, having considered this on a case-by-case basis, weighing the considerations in paragraph 2.9.25 above."	The onshore export cables and the AC connection cables for the MHPGC Project are proposed to be underground to minimise long-term landscape and visual impacts. The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.

UK Marine Policy Statement (UK Government, 2011)

1.2.3.2 Section 2.6.5 covers seascape and notes that "In considering the impact of an activity or development on seascape, the marine plan authority should take into account existing character and quality, how highly it is valued and its capacity to accommodate change specific to any development."

1.2.3.3 The PEIR considers potential impacts of the MHPGC Project on Marine Character Area 22, Tyne, Tees and Wear Estuaries and Coastal Waters within **Section 1.8 Assessment of potential impacts**.

National Planning Policy Framework

1.2.3.4 The National Planning Policy Framework (NPPF) has the potential to be considered important and relevant to the Secretary of State (SoS) consideration of the MHPGC Project (Ministry of Housing, Communities and Local Government, 2026). **Table 1.2** provides details of the elements of the NPPF that are relevant to landscape and visual amenity and how and where they are covered in the PEIR or will be covered within the ES.

Table 1.2: Summary of NPPF requirements relevant to landscape and visual amenity

NPPF section	How and where this is considered in the PEIR
Policy N2: Improving the natural environment Notes that "To contribute positively to the natural environment, and support nature's recovery, development proposals should: a. Consider the environmental qualities of land proposed for development, including habitats, landscape character and the natural beauty of the countryside, and identify opportunities for those qualities to be conserved or enhanced (including through requirements for biodiversity net gain where these apply); d. Conserve and enhance existing natural features of visual, historic or nature conservation value (such as established trees and hedgerows) where possible; and use appropriate landscaping to help create a well-designed place and integrate the development into its surroundings; e. Use green infrastructure provided as part of the scheme and nature-based solutions to secure multiple benefits: such as for biodiversity; surface water and pollution management (including maintaining flow rates and water quality); climate change mitigation and adaptation, and recreation;"	To inform the MHPGC Project proposals the landscape and visual baseline and associated sensitivity has been identified within **Section 1.4.6 Landscape Baseline**, **Section 1.4.7 Visual Baseline**. The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
N3: Trees in new development Notes that "In recognition of the benefits which trees can provide for biodiversity, climate change mitigation and adaptation, and the character and quality of the built environment, development proposals should […] Make provision for the long-term maintenance of both existing and newly-planted trees which form part of the development."	Long term maintenance will be secured as part of the Outline Landscape and Ecological Management Plan which will be submitted as part of the application for development consent as detailed within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
N5: Maintaining the character of the coast Notes that: "1. Development proposals should maintain the character of undeveloped areas of coast, including land designated for its landscape, habitat or heritage value, while improving public access to it where appropriate. They should not hinder the completion and maintenance of a continuous signed and managed route around the coast (the King Charles III England Coast Path National Trail). 2. Development proposals in areas defined as Heritage Coast (and which do not already fall within a Protected Landscape) should be consistent with the special character of the area and the importance of its conservation. Major development within areas defined as Heritage Coast should not be supported, unless the development is compatible with the special character of the area."	The Durham Heritage Coast has been considered within **Section 1.4.6 Landscape Baseline** and **Section 1.8 Assessment of potential impacts.** Viewpoints representative of views from the King Charles III England Coast Path have been agreed with the EWG and considered within **Section 1.4.7 Visual Baseline** and **Section 1.8 Assessment of potential impacts.**

1.2.4 Local policy context

1.2.4.1 The MHPGC Project lies within the jurisdiction of Durham County Council (DCC). The following local policy that is relevant to landscape and visual amenity has informed the assessment of preliminary effects in this chapter, their relevance to the MHPGC Project is outlined in **Table 1.3.**

- County Durham Plan (Durham County Council, 2020); and
- North East Inshore and North East Offshore Marine Plans (Marine Management Organisation, 2021).

Table 1.3: Local policy relevant to landscape and visual amenity

Policy description	How and where considered in the PEIR
County Durham Plan	
26 - Green Infrastructure: "Development will be expected to maintain and protect, and where appropriate improve, the county's green infrastructure network".	The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
27 - Utilities, Telecommunications and other Broadcast Infrastructure: "Proposals will be permitted for new or extensions to existing energy generation, where: it can be demonstrated that the scheme will not cause significant adverse impacts or that its benefits outweigh any adverse negative effects; it is located at an existing mast or project site, where it is technically and operationally feasible and does not result in visual clutter. Where a new site is required, applicants must demonstrate to the council's satisfaction that the use of existing sites in the area has been fully explored and is not feasible. Equipment must be sympathetically designed and camouflaged and not result in visual clutter".	The potential impacts of the MHPGC Project are identified in **Section 1.6 Key parameters for assessment** and assessed within **Section 1.8 Assessment of impacts**.
33 - Renewable and Low Carbon Energy: "Renewable and low carbon energy development in appropriate locations will be supported. In determining planning applications for such projects significant weight will be given to the achievement of wider social, environmental and economic benefits".	The approach to overall siting of the MHPGC Project is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The potential impacts of the MHPGC Project are identified in **Section 1.6 Key parameters for assessment** and assessed within **Section 1.8 Assessment of impacts**.

Policy description	How and where considered in the PEIR
37 - Durham Heritage Coast and Wider Coastal Zone: "The council will seek to protect and enhance the Durham Heritage Coast and Wider Coastal Zone. Development proposals within the Durham Heritage Coast or Wider Coastal Zone, as defined on the policies map, or that have the potential to individually or cumulatively impact their setting must: be appropriate in terms of scale, massing and design; not give rise to adverse impacts upon the tranquil or isolated character of the area; […] demonstrate consistency with the protection, conservation and enhancement of its natural assets and heritage features; not be inconsistent with the purposes of the Heritage Coast and objectives of the Heritage Coast Management Plan. […] Development proposals within, or within the setting of, the Durham Heritage Coast or Wider Coastal Zone which meet the above criteria and support appropriate public access, enjoyment and understanding of this resource will be permitted".	The PEIR considers the baseline characteristics and potential impacts on the Heritage Coast within **Section 1.4 Baseline characterisation** and **Section 1.8 Assessment of impacts** respectively.
39 – Landscape: "Proposals for new development will be permitted where they would not cause unacceptable harm to the character, quality or distinctiveness of the landscape, or important features or views. Proposals will be expected to incorporate appropriate measures to mitigate adverse landscape and visual effects. Development affecting Areas of Higher Landscape Value (AHLV), will only be permitted where it conserves, and where appropriate enhances, the special qualities of the landscape, unless the benefits of development in that location clearly outweigh the harm. Development proposals should have regard to the County Durham Landscape Character Assessment and County Durham Landscape Strategy and contribute, where possible, to the conservation or enhancement of the local landscape".	The potential impacts of the MHPGC Project are identified in **Section 1.6 Key parameters for assessment** and assessed for landscape character and AHLV within **Section 1.8 Assessment of impacts**.
North East Inshore and North East Offshore Marine Plans	

Policy description	How and where considered in the PEIR
NE-SCP-1 – "Proposals should ensure they are compatible with their surroundings and should not have a significant adverse impact on the character and visual resource of the seascape and landscape of the area. The location, scale and design of proposals should take account of the character, quality and distinctiveness of the seascape and landscape. Proposals that may have a significant adverse impact on the seascape and landscape of the area should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate Adverse impacts so they are no longer significant. If it is not possible to mitigate, the public benefits for proceeding with the proposal must outweigh significant adverse impacts to the seascape and landscape of the area. Proposals within or relatively close to nationally designated areas should have regard to the specific statutory purposes of the designated area. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks and Areas of Outstanding Natural Beauty."	The PEIR considers potential impacts on the landscape character, seascape character, and Durham Heritage Coast within **Section 1.8 Assessment of impacts**. The MHPGC Project or Landscape and Visual Amenity Study Area is not located within a National Park or Area of Outstanding Natural Beauty (National Landscape).

1.3 Consultation and engagement

1.3.1 Scoping

1.3.1.1 A Scoping Report for the MHPGC Project was issued to PINS and MD-LOT in February 2025 (RPS, 2025). Following consultation with the appropriate statutory bodies, PINS (on behalf of the SoS) and MD-LOT both provided Scoping Opinions in March 2025 (PINS, 2025; MD-LOT, 2025, respectively).

1.3.1.2 **Table 1.4** sets out the key comments raised during the scoping process specific to landscape and visual amenity, with details of how these comments have been addressed within the PEIR.

Table 1.4: Summary of scoping responses relevant to landscape and visual amenity

Comment	How and where considered in the PEIR
Durham County Council	
As part of the baseline assessment, it is recommended that Non-Designated Heritage Assets (NDHAs) identified in the County Durham Local List of Historic Parks, Gardens, and Designed Landscapes be referenced within both the LVIA and Cultural Heritage sections of the Environmental Impact Assessment (EIA) Report. These assets, while not formally designated, contribute to the historic landscape character of the area and may be sensitive to changes resulting from the proposed development. Including them in the assessment will ensure a more comprehensive evaluation of the potential impacts on locally valued historic landscapes.	The County Durham Local List of Historic Parks, Gardens, and Designed Landscapes has been referenced within the landscape baseline in **Volume 4, Annex 1.1: Landscape Character Baseline** and has been presented within **Figure 1.6**. Heritage-specific baseline and assessment is reported within **Volume 3, Chapter 4: Archaeology and Cultural Heritage, of the PEIR**.
The scope and methodology for the Landscape and Visual Impact Assessment (LVIA), as outlined in Section 9 and Appendix G of the Scoping Report, are considered appropriate for assessing the potential landscape and visual effects of the proposed development. The approach taken aligns with established best practices and provides a robust framework for evaluating the sensitivity of landscape receptors, the magnitude of potential effects, and the significance of any impacts arising from the project.	This PEIR chapter and **Annex 1.3 Landscape and Visual Amenity Impact Assessment Methodology** follow the approach of the MHPGC Project Scoping Report, with minor updates to add further details and specifics. It evaluates the sensitivity of receptors in **Section 1.4 Baseline characterisation**, and the magnitude of potential impacts, and the significance of any effects arising from the MHPGC Project in **Section 1.8 Assessment of potential impacts**.
Additionally, while the North East (NE) Inventory of Ancient Woodland provides useful information on the extent of ancient woodland within the study area, it is acknowledged that this dataset has certain limitations, particularly in relation to its accuracy within County Durham. In this regard, the Ancient Woodland Inventory maintained by Durham County Council (DCC), as referenced in the County Durham Plan, is considered to be a more precise and reliable source of information for identifying ancient woodland within the LVIA study area. This dataset should be used as the primary reference for assessing the presence and potential effects on ancient woodland, ensuring that the assessment is based on the most accurate and locally relevant data available.	The Ancient Woodland Inventory maintained by DCC has been used in the consideration of the baseline and potential impacts on landscape and visual amenity and has been presented within **Figure 1.6**.
Natural England	

Comment	How and where considered in the PEIR
Nationally Designated Landscapes: Consideration should be given to any potential direct or indirect impacts to designated landscapes. The development site is within the Durham Heritage Coast. Paragraph 189 of the NPPF requires that within areas defined as Heritage Coast, planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. The ES should set out the impacts on the Heritage Coast and opportunities for enhancement.	This PEIR chapter considers potential landscape and visual impacts on the Durham Heritage Coast in **Section 1.8 Assessment of potential impacts.**
Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site, as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography. The environmental assessment should include a full assessment of the potential impacts of the development on local landscape character using landscape/seascape assessment methodologies. We encourage the use of Landscape and Seascape Character Assessment (LCA/SCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA/SCA provides a sound basis for guiding, informing, and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character. A landscape and visual impact assessment should also be carried out for the proposed development and surrounding area.	Local landscape character areas within DCC, SCC, and from the MMO are mapped at a scale appropriate to the MHPGC Project on **Figure 1.5**. Local character areas scoped into the assessment have been agreed through the EWG, with their baseline characteristics and sensitivity described within **Section 1.4.6 Landscape Baseline** and **Annex 1.1, Landscape Character Baseline**. GLVIA3 has been used as a basis for the assessment as described within **Annex 1.3, Landscape and Visual Amenity Impact Assessment Methodology**. The potential landscape and visual impacts of the MHPGC Project, including assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography, are reported within **Section 1.8 Assessment of potential impacts**.
Natural England recommends use of the methodology set out in Guidelines for Landscape and Visual Impact Assessment 2013 (3rd edition) (GLVIA3) produced by LI and IEMA.	GLVIA3 has been used as a basis for the assessment as described within **Annex 1.3, Landscape and Visual Amenity Impact Assessment Methodology**.
For National Parks and AONBs, we advise that the assessment also includes effects on the 'special qualities' of the designated landscape, as set out in the statutory management plan for the area. These identify the particular landscape and related characteristics which underpin the natural beauty of the area and its designation status.	The MHPGC Project or Landscape and Visual Amenity Study Area is not located within a National Park or Area of Outstanding Natural Beauty (National Landscape).

Comment	How and where considered in the PEIR
In order to foster high quality development that respects, maintains, or enhances, local landscape / seascape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the build design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit. To ensure high quality development that responds to and enhances local landscape character and distinctiveness, the siting and design of the proposed development should reflect local characteristics and, wherever possible, use local materials. Account should be taken of local design policies, design codes and guides as well as guidance in the National Design Guide and National Model Design Code. The ES should set out the measures to be taken to ensure the development will deliver high standards of design and green infrastructure. It should also set out detail of layout alternatives, where appropriate, with a justification of the selected option in terms of landscape impact and benefit. The National Infrastructure Commission has also produced Design Principles for National Infrastructure - NIC endorsed by Government in the National Infrastructure Strategy.	The approach to overall siting of the MHPGC Project including landscape and visual matters is outlined within **Volume 1, Chapter 3, Site Selection and Consideration of Alternatives**. The approach to landscape and visual mitigation is described within **Section 1.7 Commitments adopted as part of the MHPGC Project**. The Applicant has requested DCC at the EWG meeting to meet with the project team to discuss development of a Design Approach Document for the MHPGC Project and its evolution to good design.
PINS	
ID 5.1.1 Receptors outside the zone of theoretical visibility (ZTV) - See also comment at ID 5.1.9 and 5.1.10 below. Provided that the ZTV is robust, the Inspectorate considers that significant effects are unlikely beyond this area and agrees that this matter can be scoped out of further assessment.	A ZTV has been provided on **Figure 1.2** and **Figure 1.2,** where receptors or viewpoints identified within the MHPGC Project Scoping Report are now located outside the ZTV, this has been agreed with the LVIA EWG and noted in the PEIR (see **Section 1.4**, of this chapter) with justification that they can be scoped out.

Comment	How and where considered in the PEIR
ID 5.1.2 National Character Areas (NCA) 15: Durham Magnesian Limestone Plateau - The Scoping Report proposes to scope this receptor from the assessment on the basis that the scale and nature of the proposed development relative to the scale of the NCA within which it is located is such that impacts are localised and not likely to significantly affect the character of the landscape. The Inspectorate considers that it would have been helpful to overlay the proposed development with the NCA to aid interpretation of the scoping out of this receptor. Given the location of the proposed development within the NCA and the absence of sufficient justification to support the scoping out, the Inspectorate cannot agree to scope out an assessment of the NCA at this stage. The ES should include an assessment of this receptor or provide information demonstrating agreement with the relevant consultation bodies and the absence of an LSE.	A plan showing the NCA overlaid with the MHPGC Project PEIR Red Line Boundary was shared with the EWG and the NCA is considered within this PEIR chapter within **Section 1.4.6 Landscape Baseline** and **Section 1.8 Assessment of potential impacts**.
ID 5.1.3 Operational and decommissioning impacts on landscape receptors in relation to the landfall and onshore cable corridor - The Scoping Report states that operational impacts on landscape receptors are proposed to be scoped out as there would be no above ground structures, and that decommissioning impacts are proposed to be scoped out on the basis that infrastructure would remain in- situ. The Inspectorate agrees that in general the introduction of the underground cable is unlikely to give rise to significant long-term effects on landscape receptors during operation of the proposed development. However, it is unclear whether any easement required would result in permanent landscape changes and the potential for such effects should be considered. The ES should assess the potential for significant short-term effects during the beginning of the operational phase, as proposed reinstatement measures mature along the cable route. With respect to decommissioning, the Scoping Report states at paragraph 9.1.6.7 that it is anticipated that all above ground structures onshore will be removed at the end of the operational lifetime, but onshore export cables will be left in situ to minimise the environmental disturbance during decommissioning. On this basis, the Inspectorate agrees that impacts during the decommissioning of the landfall and onshore export cables are not likely to result in significant effects on landscape and visual receptors. This matter can be scoped out of further assessment.	The O&M phase assessment is based on the parameters within **Section 1.6.2 Maximum design scenario**. The PEIR assess the potential for significant effects on landscape receptors during the O&M phase of the project within **Section 1.8 Assessment of potential impacts**.

Comment	How and where considered in the PEIR
ID 5.1.4 Operational and decommissioning impacts on visual receptors in relation to the landfall and onshore cable corridor - These impacts are proposed to be scoped out for the same reasons as ID 5.1.3 above. The Inspectorate agrees that operational and decommissioning impacts on visual receptors relating to the landfall and onshore cable corridor can be scoped out of the assessment. However as noted above, the ES should assess the potential for significant short-term effects during the beginning of the operational phase, as proposed reinstatement measures mature along the cable route.	The O&M phase assessment is based on the parameters within **Section 1.6.2 Maximum design scenario**. The PEIR assess the potential for significant effects on visual receptors during the O&M phase of the project within **Section 1.8 Assessment of potential impacts**.
ID 5.1.5 Seascape character impacts in relation to the onshore and offshore components (all phases) - Seascape character impacts are proposed to be scoped out at table 9.5 as significant impacts on the key characteristics of the Marine Character Areas (MCA) are considered unlikely. It is unclear whether this matter is intending to scope out MCAs, which have not been identified in the Scoping Report. If it is proposing to scope out all seascape character impacts from the onshore and offshore scheme, this appears contrary to the text table 9.4 in the Scoping Report for the construction phase in particular, which indicates that impacts on seascape from construction works in the intertidal and inshore areas at the landfall will be assessed within the ES. Given the nature of the proposed development, the Inspectorate is content that impacts on seascape character during operation and decommissioning of the landfall and onshore export cables are not likely to result in significant effects and can be scoped out. The ES should assess potential impacts on seascape character from construction of the landfall and export cables or include information to demonstrate agreement with the relevant consultation bodies and the absence of an LSE.	The PEIR assesses potential impacts on seascape character (Marine Character Area (MCA22)) from construction of the landfall and the onshore export cables within **Section 1.8 Assessment of potential impacts**.

Comment	How and where considered in the PEIR
ID 5.1.6 Offshore export cable (operation and decommissioning) O&M and decommissioning activities associated with the offshore export cables located below the sea are scoped out as there will be no visible elements above the sea. The Inspectorate is of the opinion that provided the offshore and onshore export cables remain in situ during and after the decommissioning phase, significant effects are unlikely, and this matter can be scoped out of further assessment. Similarly, the Inspectorate concurs that O&M activities for the offshore export cable are unlikely to give rise to significant effects and can be scoped out of further assessment.	The PEIR follows this approach, **Table 1.11** summarises the potential impacts considered as part of the assessment.
ID 5.1.7 Construction associated with the offshore cables beyond 25km offshore - The Scoping Report states that significant impacts beyond 25km offshore are not likely due to minimal visibility of nearshore works and the transient nature of the offshore cable lay vessel. The Inspectorate considers that the ES should provide an assessment of the potential impacts of construction activities, including the presence and movements of associated vessels, on offshore visual receptors, such as recreational vessels, where significant effects are likely to occur. Consideration should also be given to the potential cumulative visual effects of offshore construction activities on receptors. Cross references to the Shipping and Navigation ES Chapter should be considered.	The PEIR assesses potential impacts on seascape character (Marine Character Area (MCA22)) and visual receptors from construction of the landfall and the onshore export cables within **Section 1.8 Assessment of potential impacts**.
ID 5.1.8 Study area - The ES should justify the study area used based on the worst-case scenario(s) and receptors likely to experience a significant effect and make effort to secure agreement with relevant consultation bodies.	The Landscape and Visual Amenity Study Area (**Figure 1.1**) has been agreed with the EWG. It has been informed through the use of ZTV analysis (**Figure 1.2** and **Figure 1.3**), site visits, photography, desk study and professional judgement. The assessment is based on a worst-case scenario as defined within **Section 1.6.2 Maximum design scenario.**
ID 5.1.9 Data sources – ancient woodland inventory - The applicant is directed to the response of Durham County Council at appendix 2 to this Opinion regarding sources of ancient woodland data. The assessment should include reference to the Ancient Woodland Inventory maintained by Durham County Council, as referenced in the County Durham Plan, as a data source for ancient woodland and assess the presence of and potential effects on ancient woodland.	This dataset has been used in the consideration of the baseline and potential impacts on landscape and visual amenity and has been presented within **Figure 1.6**.

Comment	How and where considered in the PEIR
ID 5.1.10 Viewpoints - Efforts should be made to agree the number and location of viewpoints and photomontages with relevant consultation bodies, including the host local authorities. The ES should include confirmation of the consultation undertaken, together with evidence of agreement about the final viewpoints selected. Where any disagreement remains, an explanation as to how the final selection was made should be provided. The ES should include a plan to illustrate the location of viewpoints in relation to the proposed development. Consideration should be given to the production of night-time visualisations to support the assessment of effects from lighting requirements.	The number and location of viewpoints and photomontages has been agreed with relevant consultation bodies through the LVIA EWG, and a plan to illustrate the location of viewpoints in relation to the MHPGC Project has been provided on **Figure 1.2** and **Figure 1.3**. Detail of heritage-specific viewpoints and assets are considered within **Volume 3, Chapter 4: Archaeology and Cultural Heritage, of the PEIR**. Most of the time there will be no lighting associated with the MHPGC Project. When lighting is active, it would be short-term and temporary on an occasional basis as detailed within **Section 1.6.2 Maximum design scenario**. It was agreed with the EWG that no night-time photography and visualisations were required.
ID 5.1.11 Cultural heritage receptors - The applicant is advised to include heritage specific viewpoints, as appropriate, to support the heritage assessment. Suitable cross-referencing between the LVIA aspect chapter and Cultural Heritage aspect chapter should be included in the ES. The applicant's attention is also directed to the comments of Durham County Council at appendix 2 to this Opinion, and the recommendation to also consider non-designated heritage assets identified in the County Durham Local List of Historic Parks, Gardens, and Designed Landscapes and include in the assessment. The applicant should make effort to agree the heritage-specific viewpoints and heritage assets to be included in the assessment with the relevant consultation bodies, where possible.	LVIA viewpoints were agreed with the EWG and viewpoint locations are presented on **Figure 1.2** and **Figure 1.3**. As contributors to landscape character, the non-designated heritage assets are presented on **Figure 1.6**, and referenced within **Annex 1.1, Landscape Character Baseline**. Volume 3, Chapter 4, Archaeology and Cultural Heritage assesses the impacts on cultural heritage receptors.

1.3.2 Further consultation and engagement

1.3.2.1 Additional consultation has been summarised in **Table 1.5**.

Table 1.5: Summary of further consultation and engagement

Date	Consultee and response type	Comment	How and where considered in the PEIR
03.11.2025	Natural England, DCC, SCC	A Landscape and Visual Viewpoint Photography Scope Technical Note was issued by the Applicant, presenting the proposed scope of the viewpoint photography for the MHPGC Project LVIA. The purpose of the Technical Note was to seek agreement on the scope of the viewpoint photography to enable it to be captured ahead of winter leaf fall. The Technical Note proposed to supersede the MHPGC Project Scoping Report viewpoint locations based on further desk-study and an updated zone of theoretical visibility	The viewpoint locations and photography within the PEIR are from the locations agreed . The ZTV and viewpoint locations are shown on **Figure 1.2** and **Figure 1.3** with photography from each viewpoint presented within **Annex 1.2, Visual Baseline**.

Date	Consultee and response type	Comment	How and where considered in the PEIR
		(ZTV) with slightly relocated positions for five viewpoints, replacement locations for two viewpoints and confirmation/more specific positions for other viewpoints. Natural England responded to confirm they had no comments on the locations proposed or methods set out. DCC responded that all viewpoints were suitable, and no additional viewpoints were proposed.	
11.11.2025	LVIA EWG 1	The LVIA EWG 1 was attended by representatives from DCC and Natural England. Feedback on the LVIA EWG 1 draft meeting minutes was received from Natural England only. The LVIA EWG 1 discussed: • scoping comments – the nature of potential impacts on the NCA was discussed. The approach to scoping out landscape and visual receptors following subsequent MHPGC Project PIER Red Line or LSS Option Area boundary changes was discussed and agreed based on the outcome of any updated ZTV and professional judgement. Potential impacts on seascape were discussed and stakeholders took an action to provide feedback after the meeting; • proposed viewpoints – the Landscape and Visual Viewpoint Photography Scope Technical Note was discussed and stakeholders stated they had no further comments; • photography and visualisations – proposed options for presentation of viewpoint photography was discussed, the proposed format of photography to be presented for each viewpoint was agreed. The approach to visualisations was discussed and agreed based on the level of detail for the MHPGC Project available for the PEIR, stakeholders required to review photography and took an action to provide feedback on visualisation locations after the meeting; • data request – based on the Scoping Response, there was discussion on the correct sources for each of required datasets (datasets confirmed with alternative contact at DCC post-meeting); • initial mitigation and commitments – it was noted that any biodiversity net gain enhancements/habitat creation should be in keeping with wider landscape and also assessed for any landscape impacts. The following agreements were made:	The potential impact on the NCA, DCC Broad Character Areas and SDC Local Character Areas baseline and sensitivity is described in **Annex 1.1 Landscape Character Baseline**, within **Annex 1.2 Visual Baseline**, and within **Section 1.4 Baseline characterisation** with potential impacts assessed within **Section 1.8 Assessment of potential impacts**. The PEIR Landscape and Visual Amenity Study Area is presented on **Figure 1.1**. ZTVs based on the LSS Option Areas are presented on **Figure 1.2** and **Figure 1.3**. Where viewpoint locations and character areas have been scoped out from assessment a justification has been provided within **Annex 1.1 Landscape Character Baseline** and **Annex 1.2 Visual Baseline**. Photography to the agreed formats has been presented for each viewpoint within **Annex 1.2 Visual Baseline**. Visualisations have been presented in the PEIR within **Annex 1.4 Photomontages** along with their justification.

Date	Consultee and response type	Comment	How and where considered in the PEIR
		• it was agreed to include the NCA within the landscape baseline; • it was agreed that DCC Broad Character Areas and SDC Local Character Areas were to be used as the basis for landscape assessment; • any further refinement and scoping out of receptors and viewpoints are to be done in consideration of the specific receptor and potential for impact, not purely on distance/buffers, with justification to be provided; • to present 360º photography for each viewpoint, with 90º panorama and single-shot 50 mm images in the direction of the LSS Option Areas; • to provide visualisations showing the MDS for the LSS Option Areas and the MHPGC Project PEIR Red Line Boundary for the onshore cable corridor; • Agreement with the wording of the LEMP draft Commitment.	The LEMP Commitment is included within **Section 1.7 Commitments adopted as part of the MHPGC Project**.
15.07.2026	LVIA EWG 2	The LVIA EWG 2 was attended by representatives from DCC and Natural England. At the time of writing, feedback on the LVIA EWG 2 draft meeting minutes was received from DCC only. The LVIA EWG 2 discussed: • seascape – It was noted that potential seascape impacts would be short-term, but due to the presence of the Durham Heritage Coast potential seascape impacts during the construction phase should be scoped in; • photography – It was noted that vegetation along the railway corridor provides screening towards the landscape beyond from Viewpoint 2, MvOWL to consider revised VP2 location between PEIR and DCO. NE requested an additional VP in the southern end of the MHPGC Project PEIR Red Line Boundary (RLB) for example at the railway footbridge, MvOWL stated that viewpoint locations had already been agreed for PEIR in EWG 1, but that additional single-shot images in the direction of the coast could be included. MvOWL to circulate photography from Kinley Hill (shared with meeting minutes). • visualisations – NE raised whether it would be appropriate to have photomontages related to the landfall compound in the construction phase, it was noted that is not known specifically where landfall compound would be located for the PEIR but may be possible	Potential construction phase impacts on seascape are reported within **Section1.8 Assessment of potential impacts**. Viewpoints 3, 4, 5, and 20 have been scoped out, with photography for them, along with photography towards the coast from Viewpoints 1 and 2, provided in **Appendix 1.2, Visual Baseline**. Visualisations from viewpoints 1, 6, 12, 14 and 16 are provided within **Appendix 1.4, Visualisations**. Potential visual impacts associated with receptors of each viewpoint, including residential receptors where relevant, are assessed within **Section1.8 Assessment of potential impacts**. The cumulative landscape and visual amenity impact

Date	Consultee and response type	Comment	How and where considered in the PEIR
		for the ES. Proposed visualisation locations were agreed. • PEIR chapter content – MvOWL noted that the PEIR will assess the MDS of the worst-case LSS Option Area for each receptor, acknowledging if the other Option Area is taken forward would result in reduced potential impacts. IL outlined the proposed content and sections of the PEIR. It is not envisaged that a Residential Visual Amenity Assessment (RVAA) would be required as the threshold would not be breached, this will be kept under review with any design development • cumulative assessment – the proposed cumulative study area and types of development were discussed, DCC noted concern regarding changes in landscape character brought about by solar and energy developments would be experienced sequentially by road user receptors and more sensitive receptors using the PROW network and strategic routes such as the King Charles 3rd Coastal Footpath, as they move through the landscape. • mitigation and commitments – DCC noted that mitigation needs to be sufficient during the winter months and proposals on the density and height of the vegetation in terms of management and maintenance is critical to be included within the LEMP. • Design Approach Document. The following agreements were made: • to include assessment of potential construction phase potential impacts on seascape within the PEIR but that seascape could be scoped out for the O&M phase; • it was agreed to scope out potential impacts from viewpoints 3, 4, 5, and 20 from the PEIR, but to retain the photography to evidence the nature of the views; • MvOWL to consider revised VP2 location between PEIR and DCO; • stakeholders agree with the format, quantity and location of proposed visualisations from viewpoints 1, 6, 12, 14 and 16; • it was agreed that impacts can be covered for residential receptors associated with representative viewpoints, rather than with a standalone RVAA; • the cumulative study area was agreed;	assessment is provided within **Section 1.10 Cumulative Effects Assessment**. We have asked DCC to meet with the project team to discuss development of a Design Approach Document for the MHPGC Project and its evolution to good design.

Date	Consultee and response type	Comment	How and where considered in the PEIR
		• DCC agreed with the proposed content of the LEMP; • MvOWL to set up meeting with DCC on Design Approach Document (completed).	

1.4 Baseline characterisation

1.4.1 Overview

1.4.1.1 **Volume 1, Chapter 2: Project Description, of the PEIR** sets out the description of the MHPGC Project and **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** sets out the overarching approach that has been used in developing the preliminary environmental information.

1.4.1.2 This section describes the methods and data sources used to characterise the baseline for landscape and visual amenity within the Landscape and Visual Amenity Study Area and describes the existing baseline characteristics.

1.4.1.3 The definitions for determining baseline landscape and visual value, susceptibility, and sensitivity are described in **Volume 4, Annex 1.3: Landscape and Visual Impact Assessment Methodology, of the PEIR**.

1.4.2 Landscape and Visual Amenity Study Area

1.4.2.1 The Landscape and Visual Amenity Study Area was defined in the MHPGC Project Scoping Report; however, the MHPGC Project Scoping Report noted that "The Onshore and Offshore LVIA Study Areas should be regarded as preliminary at this stage and will be informed by further desk and site-based analysis". The MHPGC Project has since been refined and reduced in extent, including refinement to two LSS Option Areas.

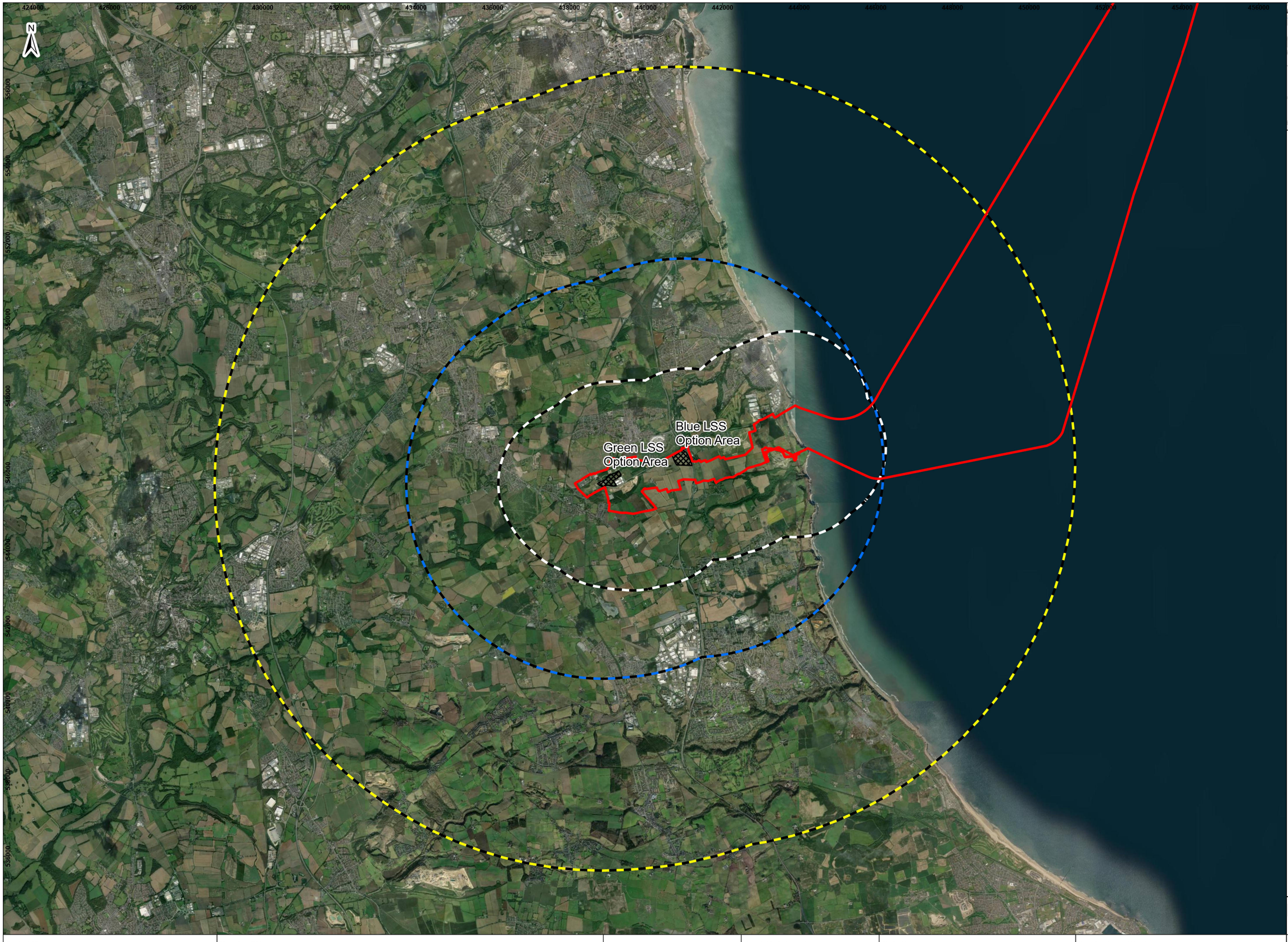
1.4.2.2 The Landscape and Visual Amenity Study Area has therefore been based on the refined MHPGC Project PEIR Red Line Boundary: Onshore, using the same offset distances as defined within the MHPGC Project Scoping Report, it is comprised of the combined extent of two offsets described below:

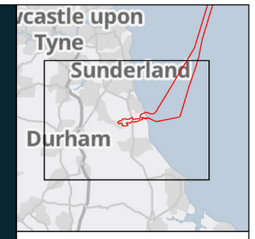
- Landfall, onshore export cable corridor and Alternating Current (AC) connection cable corridor: The Landscape and Visual Amenity Study Area extends 2km from the MHPGC Project PEIR Red Line Boundary: Onshore.
- Onshore LSS: The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas.

1.4.2.3 The study area distances are judged to be the maximum distance at which there are likely to be any potential significant landscape or visual impacts arising from a development of this nature. There is limited theoretical visibility of the MHPGC Project from beyond 5km as illustrated on the ZTV.

1.4.2.4 The Landscape and Visual Amenity Study Area is shown on Figure 1.1 and all accompanying figures within this chapter.

1.4.2.5 Where landscape and visual receptors that were initially included in the MHPGC Project Scoping Report are now located outside of the Landscape and Visual Amenity Study Area within the PEIR, a review has been conducted to confirm their suitability to be scoped out from the PEIR. This approach and the revised study area was presented and agreed with the EWG.





LEGEND

- MHPGC Project PEIR Red Line Boundary
- LSS Option Areas
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Cumulative Landscape and Visual Amenity Study Area

The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Red Line Boundary: Onshore.

The Cumulative Landscape and Visual Amenity Study Area extends 10km from the LSS Option Areas.

Morven Offshore Wind Farm

RAMBOLL

Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.1: LANDSCAPE AND VISUAL AMENITY STUDY AREA

0 2 km

Scale@A3 1:90,000

Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
M3, Ramboll, Ordnance Survey

Service Layer Credits:
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Drawing Number:
MHPGC-RAM-LX-0007-04

VER	DATE	DETAILS	BY	CH	AP
01	27/01/26	Initial Issue	BW	KB	IL
03	20/08/26	Updates	JC	BW	IL
04	29/09/26	Updates	BW	JC	IL

1.4.3 Baseline data sources

Desk study

1.4.3.1 The landscape and visual amenity baseline has been informed by the following data sources:

- National Character Area (NCA) 15: Durham Magnesian Limestone Plateau. Natural England (2013);
- County Durham Landscape Character Assessment. Durham County Council (2008);
- City of Sunderland Landscape Character Assessment (Land Use Consultants Ltd, 2015). Sunderland City Council (2015);
- Country Parks, Ancient Woodland Inventory, Heritage Coasts. (Natural England, 2025);
- Registered Parks and Gardens. Historic England (2024);
- Areas of Higher Landscape Value. Durham AHLVs. Durham County Council (2008/2019);
- Kings Charles III England Coastal Path. National Trails (2025);
- Sustrans National Routes 1 and 70. Sustrans and National Cycling Network (NCN) (2025);
- Durham Interactive mapping – Public Rights of Way – Definitive Map. Durham County Council (2025);
- Durham County Council Ancient Woodland Inventory (2025);
- Durham County Council Local List of Historic Parks, Gardens, and Designed Landscapes (2025);
- Sunderland City Council – Local Access Map. Sunderland City Council (2024);
- CORINE Land Cover data (2018);
- Defra LiDAR 2m digital terrain model and 2m digital surface model data (2025);
- Google Earth Pro (2025);
- Ordnance Survey (2025).

Site specific surveys

1.4.3.2 A visit to the Landscape and Visual Amenity Study Area and agreed viewpoint locations was undertaken on 07 - 09 October 2025 in clear weather conditions. Site specific surveys were undertaken to supplement and ground truth the desk study of the Landscape and Visual Amenity Study Area and to undertake viewpoint photography.

Zone of theoretical visibility (ZTV)

1.4.3.3 To inform the selection of viewpoint locations, a ZTV was produced based on a theoretical height of 30m for each LSS Option. For each LSS Option, visibility has been calculated using points placed at 100m intervals around and inside each LSS Option Area. This is considered to provide a worst-case reasonable scenario as only one LSS Option would be taken forward for construction and a development height of 30m would not extend across the full extent of each LSS Option Area.

1.4.3.4 Three ZTV scenarios have been created with the extent of theoretical visibility reducing with each iteration:

- Using a Digital Terrain Model (DTM), which is equivalent to a bare earth with no screening by above ground elements. This represents a worst-case extent of visibility. Any areas shown purple on the ZTV are those areas where there would be a line of sight only in the absence of, or heavily filtered by, buildings or woodland blocks;
- Adding large woodland blocks and buildings (based on Ordnance Survey data) as screening elements to the DTM. This represents a likely worst-case extent of visibility, where buildings would provide solid screening and woodlands would be of sufficient depth to screen views in both summer and winter. Any areas shown blue on the ZTV are those areas where there would be views that are likely screened or filtered by other elements not included in the visibility analysis such as hedgerows, individual trees, walls, etc.;
- Using a digital surface model (DSM), which provides a more likely case as the model includes any above ground features. However, the visibility shown would be greater than would be the case as the point sampling was taken on a 2m grid, therefore some above ground elements or their highest points would inevitably fall between that grid.

1.4.3.5 The resulting ZTVs provide an indication of where the LSS Options would theoretically be seen from. Given its inherent limitations, the ZTV has been used as a tool to inform the understanding of the general pattern of visibility of the MHPGC Project, selection of representative viewpoints and as a basis for further study and analysis as opposed to providing a specific study area.

Data limitations and assumptions

1.4.3.6 No specific gaps have been identified within the available data sources.

1.4.3.7 The limitation on external data is that each was created for its individual purposes at the scale appropriate to that purpose, it has been interpreted and used in an appropriate manner to inform this LVIA.

1.4.3.8 At the time of writing the PEIR, site survey and viewpoint photography has been undertaken while vegetation is in leaf. Professional judgement has been used to understand the nature of the landscape and visual context and potential impacts during winter months. Winter site survey and photography will be undertaken to inform the ES.

1.4.4 Overview of baseline environment

1.4.4.1 The landscape and visual baseline context are described below with accompanying information presented across the following figures:

- **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS**;
- **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS;**
- **Figure 1.4: Topography**;
- **Figure 1.5: Landscape character**;
- **Figure 1.6: Designations and classifications**;
- **Figure 1.7: Landscape elements**;
- **Figure 1.8: Amenity access**.

Green LSS Option Area

LEGEND

- MHPGC Project PEIR Red Line Boundary
- Green LSS Option Area
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Building
- Woodland
- Viewpoint Location

Zone of Theoretical Visibility (ZTV) Scenarios:

DTM (Digital Terrain Model)
No obstructions; visibility based solely on terrain

DTM + Buildings + Woodland
Visibility obstructed by buildings and woodland areas

DSM (Digital Surface Model)
Visibility obstructed by all above-ground features, including buildings, vegetation, and other structures

Disclaimer:

1. ZTV were calculated using points placed at 100m intervals around the LSS Option boundary, set at 30m above ground level as the height would not extend across the full extent of the LSS Option area.

2. Visibility analysis was conducted for three different scenarios using the DEFRA LIDAR Composite DTM and DSM (2m x 2m resolution, 8-bit unsigned pixel depth) excluding the area that extends offshore, along with Open Data layers representing woodland and buildings.

3. Predicted visibility based on a viewer eye height 2m above ground.

4. Observation Points set to 30m above ground level.

5. Effect of earth curvature and light refraction is included.

6.The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

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Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.2: ZONE OF THEORETICAL VISIBILITY AND VIEWPOINTS - GREEN LSS

0 1 km

Scale@A3 1:50,000

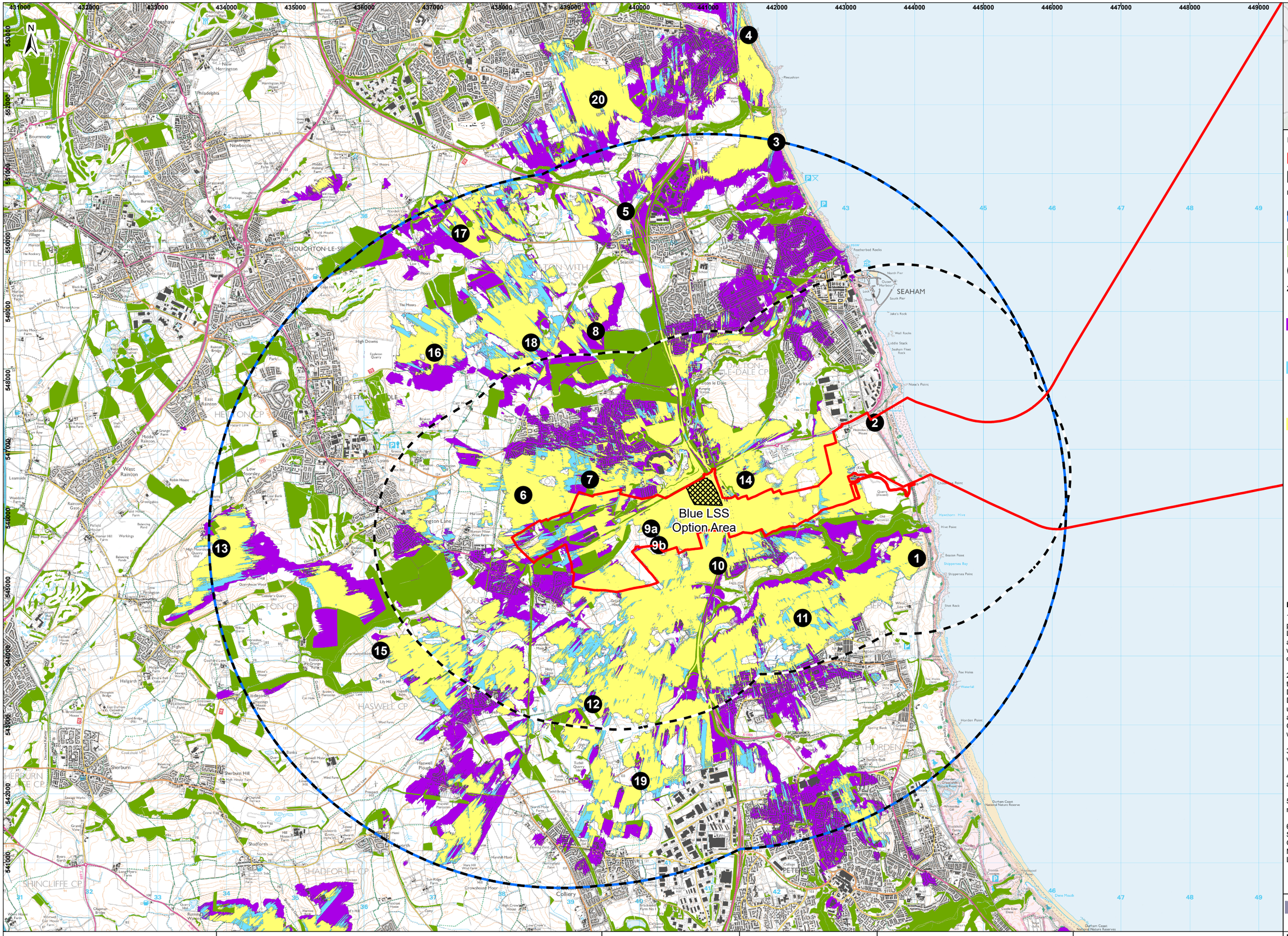
Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
M3, Ramboll, Ordnance Survey, DEFRA, Environment Agency

Service Layer Credits:
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Drawing Number:
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01	14/07/26	Initial	BW	KB	IL
02	20/08/26	Update	JC	BW	IL



LEGEND

- MHPGC Project PEIR Red Line Boundary
- Blue LSS Option Area
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Building
- Woodland
- Viewpoint Location

Zone of Theoretical Visibility (ZTV) Scenarios:

DTM (Digital Terrain Model)
No obstructions; visibility based solely on terrain

DTM + Buildings + Woodland
Visibility obstructed by buildings and woodland areas

DSM (Digital Surface Model)
Visibility obstructed by all above-ground features, including buildings, vegetation, and other structures

Disclaimer:

1. ZTV were calculated using points placed at 100m intervals around the LSS Option boundary, set at 30m above ground level as the height would not extend across the full extent of the LSS Option area.

2. Visibility analysis was conducted for three different scenarios using the DEFRA LIDAR Composite DTM and DSM (2m x 2m resolution, 8-bit unsigned pixel depth) excluding the area that extends offshore, along with Open Data layers representing woodland and buildings.

3. Predicted visibility based on a viewer eye height 2m above ground.

4. Observation Points set to 30m above ground level.

5. Effect of earth curvature and light refraction is included.

6.The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.3: ZONE OF THEORETICAL VISIBILITY AND VIEWPOINTS - BLUE LSS

0 1 km

Scale@A3 1:50,000

Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

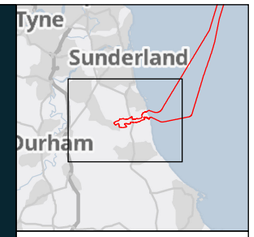
Data Sources:
M3, Ramboll, Ordnance Survey, DEFRA, Environment Agency

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VER	DATE	DETAILS	BY	CH	AP
01	14/07/26	Initial	BW	KB	IL
02	20/08/26	Update	JC	BW	IL





LEGEND

- MHPGC Project PEIR Red Line Boundary
- LSS Option Areas
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Watercourse / Waterbody
- Contours (10m)
- Contours (50m)

Topography (mAOD)

195 mAOD

0 mAOD

The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name:

MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:

FIGURE 1.4: TOPOGRAPHY

0 1 km

Scale@A3 1:50,000

Geodetic Information:

Datum: OSGB 1936
Projection: British National Grid

Data Sources:

M3, Ramboll, Ordnance Survey, DEFRA, Environment Agency

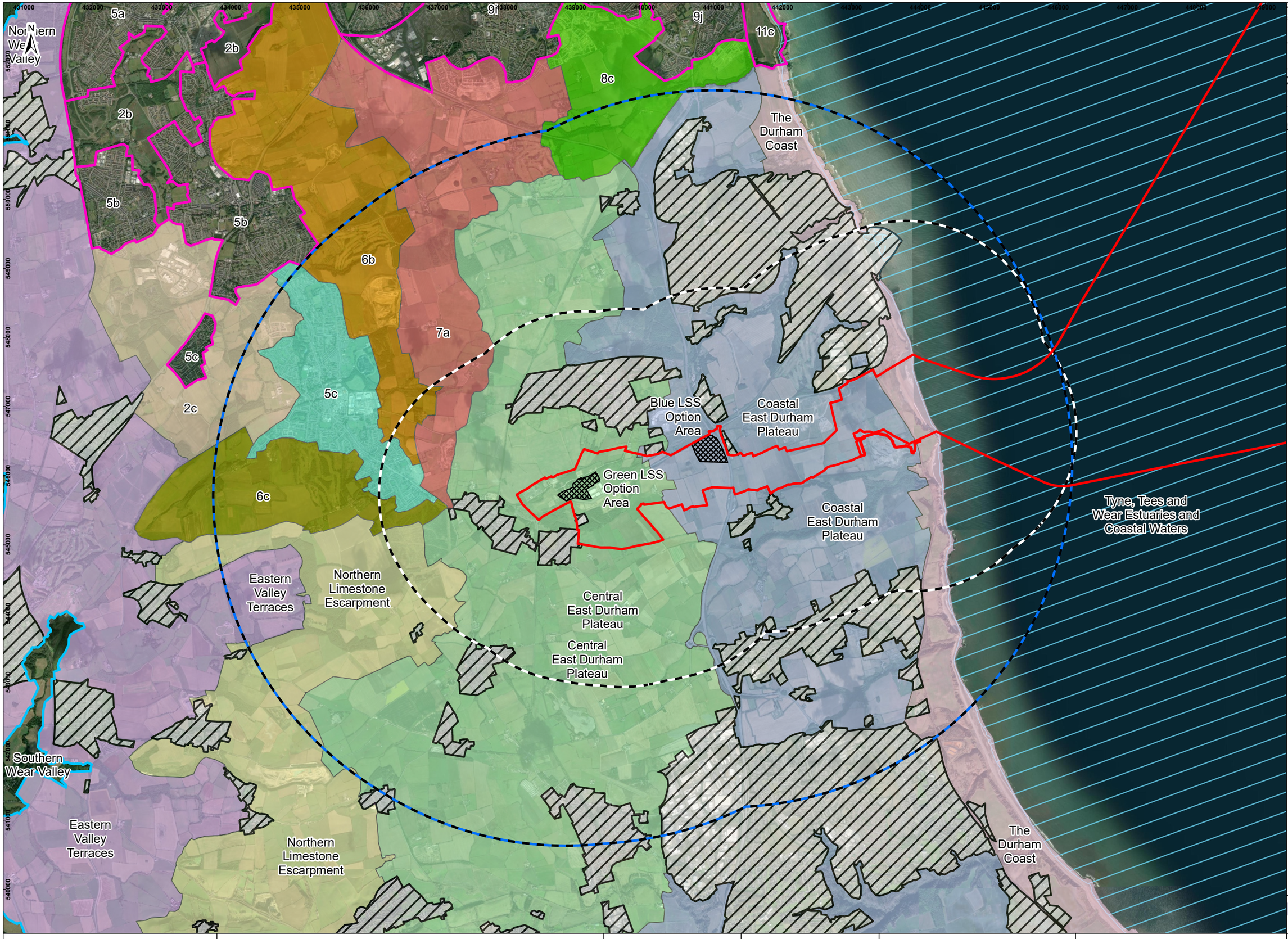
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Drawing Number:

MHPGC-RAM-LX-0002-04

VER	DATE	DETAILS	BY	CH	AP
01	09/12/25	Initial Issue	BW	JC	IL
03	09/07/26	Updates	BW	KB	IL
04	20/08/26	Updates	JC	BW	IL



LEGEND

- MHPGC Project PEIR Red Line Boundary
- LSS Option Areas
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km

Within Study Area

- 2c: Rainton Lowland
- 5c: Hetton-le-Hole, Easington Lane and East Rainton
- 6b: Hastings Hill and Copt Hill
- 6c: High Moorsley
- 7a: Warden Law and Eppleton Moor
- 8c: Burdon to Ryhope
- Central East Durham Plateau
- Coastal East Durham Plateau
- Eastern Valley Terraces
- Northern Limestone Escarpment
- The Durham Coast
- Urban
- Marine Character Areas

Outside Study Area

- Sunderland Landscape Character Area
- Durham Broad Character Area

The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.5: LANDSCAPE CHARACTER

0 1 km

Scale@A3 1:50,000

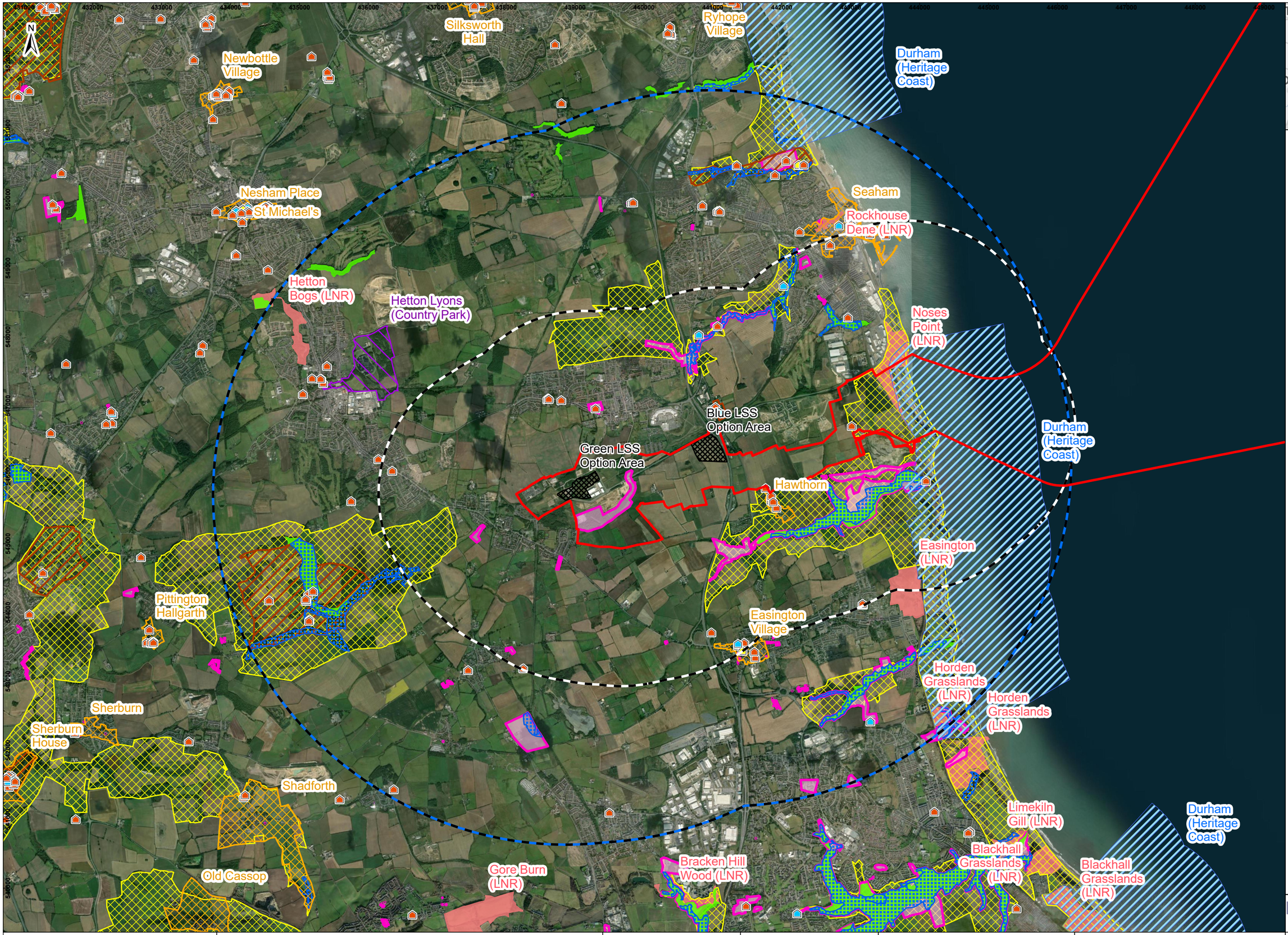
Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
M3, Ramboll, Ordnance Survey, Durham County Council, Sunderland City Council, Marine Management Organisation

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Drawing Number:
MHPGC-RAM-LX-0003-04

VER	DATE	DETAILS	BY	CH	AP
01	10/12/25	Initial Issue	BW	JC	IL
03	09/07/26	Updates	BW	KB	IL
04	20/08/26	Updates	JC	BW	IL



LEGEND

- MHPGC Project PEIR Red Line Boundary
- LSS Option Areas
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Grade I Listed Building
- Grade II Listed Building
- Grade II* Listed Building
- Conservation Area
- Country Park
- Local Nature Reserve
- Heritage Coast
- Ancient & Semi-Natural Woodland

Durham County Council

- Tree Preservation Order
- Ancient Woodland
- Park and Garden of Local Interest
- Area of Higher Landscape Value

The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.6: DESIGNATIONS AND CLASSIFICATIONS

0 1 km

Scale@A3 1:50,000

Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

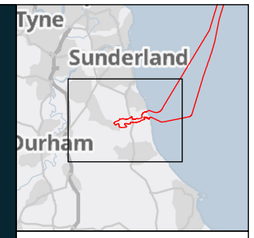
Data Sources:
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01	09/12/25	Initial Issue	BW	JC	IL
03	09/07/26	Updates	BW	KB	IL
04	20/08/26	Updates	JC	BW	IL





LEGEND

- MHPGC Project PEIR Red Line Boundary
- LSS Option Areas
- Landscape and Visual Amenity Study Area – 2km
- Landscape and Visual Amenity Study Area – 5km
- Railway
- Motorway
- A Road
- B Road
- Minor Road
- Electricity Transmission Line
- Built Form
- Woodland
- Watercourse / Waterbody
- Wind Turbine
- Communication Mast
- Communication Tower
- Power Tower

The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
FIGURE 1.7: LANDSCAPE ELEMENTS

0 1 km

Scale@A3 1:50,000

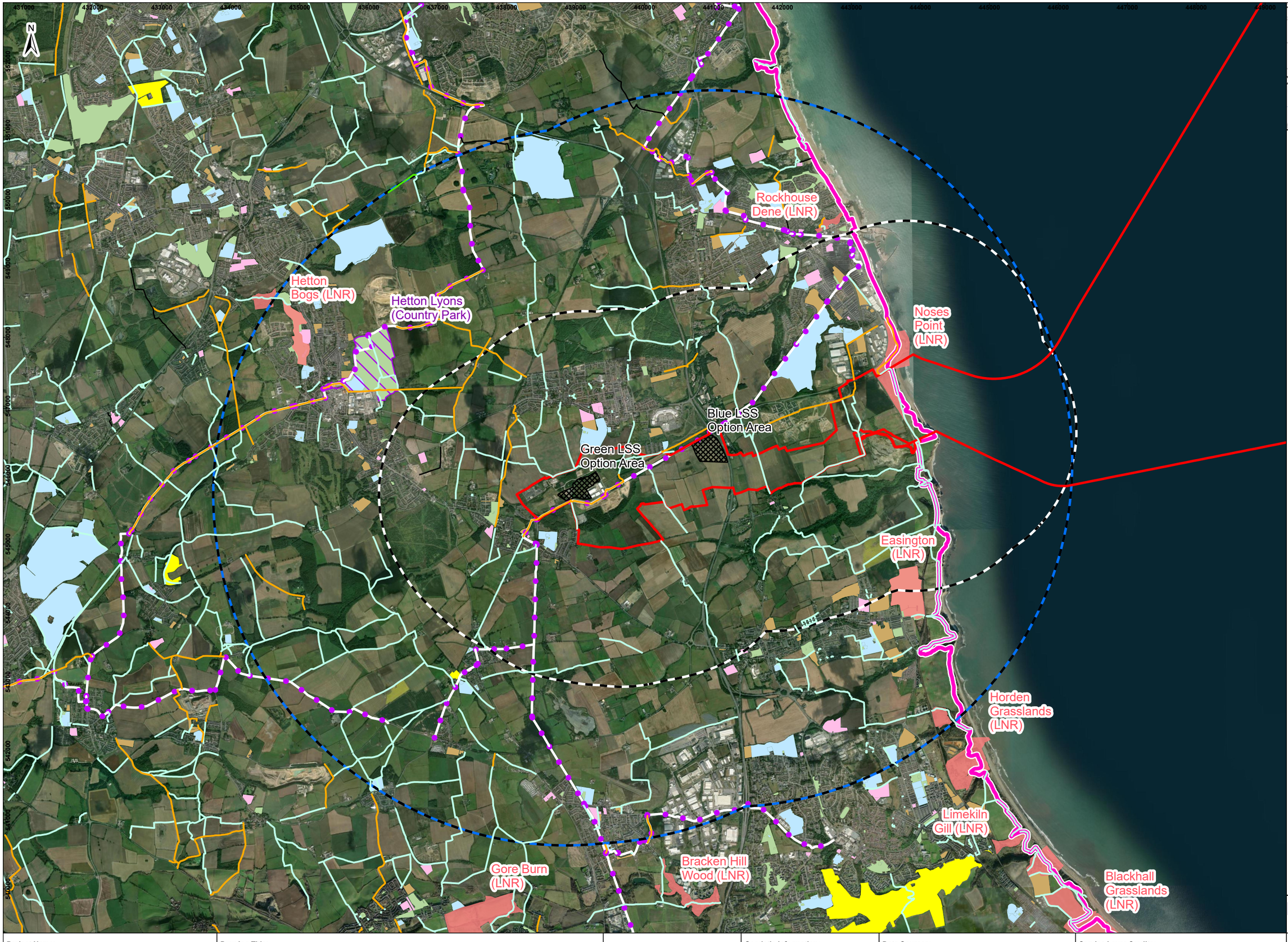
Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
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01	09/12/25	Initial Issue	BW	JC	IL
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04	20/08/26	Updates	JC	BW	IL



The Landscape and Visual Amenity Study Area extends 5km from the LSS Option Areas and 2km from the MHPGC Project PEIR Onshore Red Line Boundary.

Morven Offshore Wind Farm

RAMBOLL

Project Name: MORVEN HAWTHORN PIT GRID CONNECTION PROJECT	**Drawing Title:** FIGURE 1.8: AMENITY ACCESS	0 1 km Scale@A3 1:50,000	**Geodetic Information:** Datum: OSGB 1936 Projection: British National Grid	**Data Sources:** M3, Ramboll, Ordnance Survey, Natural England, Durham County Council, Sunderland City Council, Walk Wheel Cycle Trust	**Service Layer Credits:** Earthstar Geographics, Contains OS data © Crown Copyright and database right 2026. Contains data from OS Zoomstack Contains public sector information licensed under the Open Government Licence v3.0. © Natural England Copyright 2025. Copyright © 2025 Durham County Council. Copyright © 2025 Sunderland City Council. © Walk Wheel Cycle Trust. Contains Ordnance Survey data © Crown copyright and database right 2025.

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04	20/08/26	Updates	JC	BW	IL

Landscape

1.4.4.2 The full landscape baseline descriptions are provided within **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR** with a list of each landscape and seascape character area provided here.

1.4.4.3 The MHPGC Project is located within National Character Area (NCA) 15: Durham Magnesian Limestone Plateau.

1.4.4.4 The MHPGC Project is located within Marine Character Area (MCA) 22: Tyne, Tees and Wear Estuaries and Coastal Waters.

1.4.4.5 At a local level, the MHPGC Project is located within the East Durham Limestone Plateau of the County Durham Landscape Character Assessment, which is divided into seven broad character areas (BCAs). The MHPGC Project and Landscape and Visual Amenity Study Area is located within the following BCAs:

- Northern Limestone Escarpment, outside the MHPGC Project PEIR Red Line Boundary;
- Central East Durham Plateau, partially within the MHPGC Project PEIR Red Line Boundary, including the Green LSS Option Area;
- Coastal East Durham Plateau, partially within the MHPGC Project PEIR Red Line Boundary, including the Blue LSS Option Area;
- The Durham Coast, partially within the MHPGC Project PEIR Red Line Boundary.

1.4.4.6 The Landscape and Visual Amenity Study Area also includes the following landscape character areas (LCAs) from the City of Sunderland Landscape Character Assessment, however all are located outside the MHPGC Project PEIR Red Line Boundary:

- Rainton Lowland Coalfield Lowland Terraces (LCA 2c);
- Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c);
- Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b);
- High Moorsley Limestone Escarpment (LCA 6c);
- Warden Law and Eppleton Moor Clay Plateau (LCA 7a);
- Burden to Ryhope (LCA 8c).

Visual amenity

1.4.4.7 The full visual amenity baseline descriptions and viewpoint photography are provided within **Volume 4, Annex 1.2: Visual Baseline, of the PEIR** with a list of the viewpoint locations provided here:

- Viewpoint 1, Beacon Hill, on Public Right of Way;
- Viewpoint 2, Public Right of Way southwest of Nose's Point;
- Viewpoint 3, East Coast Path Public Right of Way north of Seaham (scoped out);
- Viewpoint 4, East Coast Path Public Right of Way at Halliwell Banks (scoped out);
- Viewpoint 5, A19 north of Seaton (scoped out);
- Viewpoint 6, Croup Hill, on Public Right of Way;
- Viewpoint 7, Murton Sports Ground;
- Viewpoint 8, Public Right of Way north of Murton;
- Viewpoint 9, Public Right of Way north of Little Coop House Farm;
- Viewpoint 10, West Lane at A19 west of Hawthorn;
- Viewpoint 11, Public Right of Way off Petwell Lane north of Easington;
- Viewpoint 12, Public Right of Way near Mawson's Hill;
- Viewpoint 13, Public Right of Way south Of High Moorsley;
- Viewpoint 14, Public Right of Way near South Farm;
- Viewpoint 15, Public Right of Way near Low Haswell Farm;
- Viewpoint 16, Public Right of Way North Lane / Hetton-Warden Law Trail;
- Viewpoint 17, B1404, Public Right of Way Hetton-Warden Law Trail at junction with Salters Lane;
- Viewpoint 18, Public Right of Way near Slingley Hill East and West Farms;
- Viewpoint 19, Public Right of Way south of B1283 Durham Lane;

- Viewpoint 20, Public Right of Way off Burdon Lane.

1.4.5 Future baseline conditions

1.4.5.1 During the 35 year operational lifetime of the MHPGC Project, the landscape and visual amenity baseline can be expected to evolve both on a natural basis and in response to global trends such as climate change and other anthropogenic activities. The Infrastructure Planning (EIA) Regulations 2017 require that "an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge" is included. Therefore, an assessment of future baseline conditions, in the absence of the MHPGC Project, has been undertaken and is described within this section.

1.4.5.2 Between the A182 and the northern edge of the MHPGC Project PEIR Red Line Boundary, Seaham Garden Village is currently under construction and will consist of 1,500 new homes, a village centre, commercial and community facilities, a primary school and extra care living accommodation. It is located within the Coastal East Durham Plateau and to the east of Viewpoint 14 and will extend the presence of residential and urban development to the south of the A182 in place of the previous open fields. As construction is due to be completed prior to construction of the MHPGC Project this is considered as future baseline in this report.

1.4.5.3 The BESS at Hawthorn Grid Site, Murton (within the MHPGC PEIR Red Line Boundary in the vicinity of Jade Business Park and to the northwest of the Green LSS Option Area) is currently under construction. As construction is due to be completed prior to construction of the MHPGC Project this is considered as future baseline in this report.

1.4.5.4 The future landscape and visual amenity baseline are considered to be broadly in line with the current context. It is assumed that areas of farmland and their boundary hedgerows would continue to be managed in a manner equivalent to the current form in landscape and visual terms. Areas of woodland are at maturity and unlikely to change substantially. More recently planted trees and woodland would establish and mature. However, as their success and establishment are not guaranteed, for the purpose of assessing a worst-case scenario the baseline and assessment assume a present-day scenario.

1.4.6 Landscape Baseline

1.4.6.1 The landscape baseline is described in detail within **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR** with the value, susceptibility and sensitivity of each receptor stated here. The location of the character areas is shown on **Figure 1.5, Landscape character** (other than NCA 15 which extends across the whole study area and beyond, excluding the sea).

Durham Magnesian Limestone Plateau (NCA 15)

1.4.6.2 The susceptibility of this NCA is judged to be Low (highly able to accommodate the proposed change due to the presence of other similar features throughout the NCA), while the value of this NCA is judged to be Medium (contains a range of regional designations and classifications in localised areas and some potential for substitution). The sensitivity of this NCA is therefore judged to be **Low**.

MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters

1.4.6.3 The susceptibility of this NCA is judged to be Medium (has some capacity to accommodate the proposed change without undue adverse effects), while the value of this NCA is judged to be Medium (has recognition as a Heritage Coast). The sensitivity of this NCA is therefore judged to be **Medium**.

Northern Limestone Escarpment BCA

1.4.6.4 The susceptibility of this BCA is judged to be Medium (has some capacity to accommodate the proposed change without undue adverse effects), while the value of this BCA is judged to be Medium (contains AHLV and some potential for substitution). The sensitivity of this BCA is therefore judged to be **Medium**.

Central East Durham Plateau BCA

1.4.6.5 The susceptibility of this BCA is judged to be Low (due to the presence of other energy infrastructure within the BCA), while the value of this BCA is judged to be Low (fairly commonplace quality and condition with some detracting features). The sensitivity of this BCA is therefore judged to be **Negligible**.

Coastal East Durham Plateau BCA

1.4.6.6 The susceptibility of this BCA is judged to be Medium (has some capacity to accommodate the proposed change without undue adverse effects), while the value of this BCA is judged to be Medium (contains AHLV and some potential for substitution). The sensitivity of this BCA is therefore judged to be **Medium**.

The Durham Coast BCA

1.4.6.7 The susceptibility of this BCA is judged to be High (low capacity to accommodate the proposed change without undue adverse effects), while the value of this BCA is judged to be Medium (a large proportion of the BCA is Heritage Coast and AHLV with a strong sense of place). The sensitivity of this BCA is therefore judged to be **High**.

Rainton Lowland Coalfield Lowland Terraces (LCA 2c)

1.4.6.8 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)

1.4.6.9 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)

1.4.6.10 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

High Moorsley Limestone Escarpment (LCA 6c)

1.4.6.11 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

Warden Law and Eppleton Moor Clay Plateau (LCA 7a)

1.4.6.12 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

Burdon to Ryhope (LCA 8c)

1.4.6.13 The susceptibility of this LCA is judged to be Medium (some capacity to accommodate the proposed change without undue adverse effects), while the value of this LCA is judged to be Medium (contains

a number of distinguishing features and is an ordinary landscape with some potential for substitution). The sensitivity of this LCA is therefore judged to be **Medium**.

1.4.7 Visual Baseline

1.4.7.1 The visual baseline is described in detail, alongside summer and winter photography from each viewpoint, within **Volume 4, Annex 1.2: Visual Baseline, of the PEIR** with the value, susceptibility and sensitivity of each receptor stated here. The location of each viewpoint is shown on **Figure 1.2 : Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**.

Viewpoint 1

1.4.7.2 The susceptibility of receptors at Viewpoint 1 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 1 is judged to be Medium (noteworthy within the wider landscape). The sensitivity of receptors associated with Viewpoint 1 is therefore judged to be **High**.

Viewpoint 2

1.4.7.3 The susceptibility of receptors at Viewpoint 2 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 2 is judged to be Medium (noteworthy within the wider landscape). The sensitivity of receptors associated with Viewpoint 2 is therefore judged to be **High**.

Viewpoint 3

1.4.7.4 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Viewpoint 4

1.4.7.5 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Viewpoint 5

1.4.7.6 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Viewpoint 6

1.4.7.7 The susceptibility of receptors at Viewpoint 6 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 6 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 6 is therefore judged to be **Medium**.

Viewpoint 7

1.4.7.8 The susceptibility of receptors at Viewpoint 7 is judged to be Medium (users of public open spaces), while the value of receptors at Viewpoint 7 is judged to be Medium (noteworthy within the wider landscape). The sensitivity of receptors associated with Viewpoint 7 is therefore judged to be **Medium**.

Viewpoint 8

1.4.7.9 The susceptibility of receptors at Viewpoint 8 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 8 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 8 is therefore judged to be **Medium**.

Viewpoint 9

1.4.7.10 The susceptibility of receptors at Viewpoint 9 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 9 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 9 is therefore judged to be **Medium**.

Viewpoint 10

1.4.7.11 The susceptibility of receptors at Viewpoint 10 is judged to be High (representative of residents of Hawthorn), while the value of receptors at Viewpoint 10 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 10 is therefore judged to be **Medium**.

Viewpoint 11

1.4.7.12 The susceptibility of receptors at Viewpoint 11 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 11 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 11 is therefore judged to be **Medium**.

Viewpoint 12

1.4.7.13 The susceptibility of receptors at Viewpoint 12 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 12 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 12 is therefore judged to be **Medium**.

Viewpoint 13

1.4.7.14 The susceptibility of receptors at Viewpoint 13 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 13 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 13 is therefore judged to be **Medium**.

Viewpoint 14

1.4.7.15 The susceptibility of receptors at Viewpoint 14 is judged to be High (residents and people engaged in outdoor recreation), while the value of receptors at Viewpoint 14 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 14 is therefore judged to be **Medium**.

Viewpoint 15

1.4.7.16 The susceptibility of receptors at Viewpoint 15 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 15 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 15 is therefore judged to be **Medium**.

Viewpoint 16

1.4.7.17 The susceptibility of receptors at Viewpoint 16 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 16 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 16 is therefore judged to be **Medium**.

Viewpoint 17

1.4.7.18 The susceptibility of receptors at Viewpoint 17 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 17 is judged to be Low (commonplace within

the wider landscape). The sensitivity of receptors associated with Viewpoint 17 is therefore judged to be **Medium**.

Viewpoint 18

1.4.7.19 The susceptibility of receptors at Viewpoint 18 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 18 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 18 is therefore judged to be **Medium**.

Viewpoint 19

1.4.7.20 The susceptibility of receptors at Viewpoint 19 is judged to be High (people engaged in outdoor recreation), while the value of receptors at Viewpoint 19 is judged to be Low (commonplace within the wider landscape). The sensitivity of receptors associated with Viewpoint 19 is therefore judged to be **Medium**.

Viewpoint 20

1.4.7.21 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

1.5 Impact assessment methodology

1.5.1 Overview

1.5.1.1 **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** sets out the overarching approach that has been used in developing the preliminary environmental information. This section describes the technical methods used to determine the sensitivity of the receptors and magnitude of effects and sets out the significance criteria that have been used for the preliminary landscape and visual amenity assessment.

1.5.1.2 The criteria for assessing sensitivity, magnitude and significance for landscape and visual amenity are outlined below with further detail on the definitions and the wider landscape and visual amenity methodology provided within **Volume 4, Annex 1.3 Seascape, Landscape and Visual Amenity Impact Assessment Methodology, of the PEIR**.

1.5.2 Relevant guidance

1.5.2.1 The preliminary assessment has been carried out in accordance with the following guidance documents:

- Landscape Institute and The Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3);
- Landscape Institute (2024). LITGN-2024-01 Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3);
- Landscape Institute (2019). Technical Guidance Note 6/19 Visual Representation of Development Proposals;
- Landscape Institute (2021). TGN 02-21: Assessing landscape value outside national designations.

1.5.3 Receptor sensitivity

1.5.3.1 When defining sensitivity, an approach has followed best practice guidance as set out in **Volume 4, Annex 1.3 Landscape and Visual Amenity Impact Assessment Methodology, of the PEIR**. To determine sensitivity of the receptor, the value and susceptibility of each landscape and visual receptor has been considered (see **Table 1.6**).

Table 1.6: Definition of terms relating to the sensitivity of the receptor

Sensitivity	Landscape definition	Visual definition
Very high	Receptor with high value and high susceptibility. Likely characteristics: • Landscape value recognised by international or national designation. • The landscape resource has very little ability to absorb change of the type proposed without fundamentally altering its present character and is of very high importance, rarity and value. • Sense of relatively high levels of tranquillity or remoteness specifically noted in landscape character/tranquillity assessment. • High sensitivity to disturbance specifically noted in landscape character assessment. • The qualities for which the landscape is valued are in very good or good condition, with a clearly apparent distinctive character and absence of detractors. Very limited potential for substitution.	Receptor with high value and high susceptibility. Likely to be receptors whose attention is very likely to be focused on the landscape within nationally designated landscapes where high levels of tranquillity are most likely to be experienced e.g., users of strategic recreational footpaths and cycleways; people experiencing views from important landscape features of physical, cultural or historic interest, beauty spots and picnic areas.
High	Receptor with a combination of high and medium value and susceptibility. Likely characteristics: • Landscape value recognised by national designation. • The landscape resource has little ability to absorb change of the type proposed without fundamentally altering its present character and/or is of high importance, rarity or value. • Sense of relatively high levels of tranquility or remoteness specifically noted in landscape character/tranquility assessment. • High sensitivity to disturbance specifically noted in landscape character assessment. • The qualities for which the landscape is valued are in good condition, with a clearly apparent distinctive character and absence of detractors. Limited potential for substitution.	Receptor with a combination of high and medium value and susceptibility. Likely to be receptors whose attention is focused on the landscape. Includes areas within nationally designated landscapes where high levels of tranquility may be experienced e.g., residents experiencing views from dwellings; users of strategic recreational footpaths and cycleways; people experiencing views from important landscape features of physical, cultural or historic interest, beauty spots and picnic areas. Occupiers of vehicles in highly scenic areas or on recognised tourist routes.

Sensitivity	Landscape definition	Visual definition
Medium	Receptor with high and low, or medium and medium value and susceptibility. Likely characteristics: • Landscape value is recognised or designated locally. • The landscape resource has moderate capacity to absorb change of the type proposed without significantly altering its present character and/or is of medium importance, rarity or value. • The landscape is relatively intact, with a distinctive character and some detractors; and is reasonably tolerant of change. • Sense of moderate levels of tranquillity or remoteness noted in landscape character/tranquillity assessment. Medium sensitivity to disturbance. Limited potential for substitution.	Receptor with high and low, or medium and medium value and susceptibility. Likely to be receptors whose attentions may be focused on landscape, such as users of pavements, footways and secondary footpaths in urban areas, and people engaged in outdoor sport or recreation e.g., horse riding or golf. Occupiers of vehicles in rural areas.
Low	Receptor with a combination of low and medium value and susceptibility. Likely characteristics: • The landscape resource is tolerant of change of the type proposed without detriment to its character and/or is of low importance, rarity or value. • Landscape integrity is low, with a poor condition with the presence of detractors • Capacity to potentially accommodate high levels of change. • Sense of relatively low levels of tranquillity or remoteness noted in landscape character/tranquillity assessment. Low sensitivity to disturbance.	Receptor with a combination of low and medium value and susceptibility. Likely to be receptors at their place of work, or engaged in similar activities, whose attention may be focused on their work or activity and who may therefore be potentially less susceptible to changes in view. Occupiers of vehicles whose attention may be focused on the road.
Negligible	Receptor with low value and low susceptibility. Likely characteristics: • The landscape resource is tolerant of change of the type proposed without detriment to its character and/or is of low importance, rarity or value. • Landscape integrity is low, with a poor condition and a degraded character with the presence of detractors such as dereliction. • Capacity to potentially accommodate considerable change. • Sense of relatively low levels of tranquility or remoteness noted in landscape character/tranquility assessment. Negligible sensitivity to disturbance.	Receptor with low value and low susceptibility. Likely to be receptors at their place of work, or engaged in similar activities, whose attention is most likely to be focused on their work or activity and who therefore are potentially less susceptible to changes in view. Occupiers of vehicles in urban areas.

1.5.4 Magnitude of impact

1.5.4.1 The magnitude of an impact that could affect landscape and visual amenity is influenced by several key factors, including the scale of the change, the spatial extent the impact is likely to occur and the duration and frequency of the impact.

1.5.4.2 The magnitude of impact will be classified in accordance with the criteria set out in **Table 1.7** and **Table 1.8**.

Table 1.7: Magnitude of impact - landscape

Magnitude	Definition
High	MHPGC Project located within affected landscape. Total loss, or/very substantial loss or addition of key elements/features/patterns of the baseline (i.e., pre-development landscape) and/or introduction of dominant, uncharacteristic elements compared with the attributes of the receiving landscape. Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (adverse). Large scale or major improvement of landscape character; extensive restoration or enhancement of quality (beneficial).
Medium	MHPGC Project is within or adjacent to affected landscape. Notable loss or addition of, or notable alteration to, one or more key elements/features/patterns of the baseline (i.e., pre-development landscape) and/or introduction of elements that may be notable but would not be substantially uncharacteristic in comparison to the attributes of the receiving landscape. Notable loss of/damage to key characteristics, features or elements, but not adversely affecting the integrity of landscape (adverse). Notable scale improvement of landscape character; partial restoration or enhancement of quality (beneficial).
Low	Discernible loss or addition of, or alteration to, one or more key elements/features/patterns of the baseline, i.e., pre-development landscape and/or introduction of elements that may not be uncharacteristic compared with the surrounding landscape. Discernible loss of, or alteration to, one (maybe more) key characteristics, features or elements (adverse). Discernible benefit to, or addition of, one (maybe more) key landscape characteristics, features or elements due to partial restoration or enhancement (beneficial).
Negligible	Barely discernible loss or addition of, or alteration to, one or more key elements/features/patterns of the baseline (i.e., pre-development landscape) and/or introduction of elements that are not uncharacteristic in comparison to the surrounding landscape; approximating to a 'no-change' situation. The effect of change on the landscape, the physical characteristics, features or elements is barely discernible (adverse). Barely discernible benefit to or positive addition of one or more landscape characteristics, features or elements (beneficial).
No change	No discernible impact apparent.

Table 1.8: Magnitude of impact - visual

Magnitude	Definition
High	The proposed change forms a dominant or immediately apparent feature that would considerably alter and change view. Where there are substantial changes affecting the amenity of the view through loss of or severe damage to key existing or elements. Scale, mass and form of development out of character with existing elements within view. Substantial change to perception of amenity due to proposed disturbance (adverse). Large scale or major improvement of view; extensive restoration or enhancement of visual quality (beneficial).
Medium	The proposed change forms a notable new element that would affect and change the view. The proposed development forms a visible and recognisable feature in the landscape. Scale of development fits with existing features within view, with some loss of or alterations to elements of the view. Notable change to perception of tranquillity due to proposed disturbance (adverse). Notable scale improvement of view; partial restoration or enhancement of visual quality (beneficial).
Low	The proposed change constitutes only a minor component of view, which is discernible, although might be missed by the casual observer. Awareness of the proposed change would not change the overall nature and amenity of the view. Discernible loss of, or alteration to, one (maybe more) key elements within view. Discernible change to perception of tranquillity due to proposed disturbance (adverse). Discernible benefit to, or improvement in quality of view due to partial restoration or enhancement (beneficial).
Negligible	The proposed change would be barely perceptible, and/or it is at such a distance that it would be scarcely appreciated. Consequently, it would have very little effect on view. The effect of change on the perception of the visible landscape is barely discernible. Barely discernible change to perception of amenity due to proposed disturbance (adverse). Barely discernible benefit to or improvement in quality of view due to partial restoration or enhancement (beneficial).
No change	No discernible impact apparent.

1.5.5 Significance of effect

1.5.5.1 The significance of the effect upon landscape and visual amenity is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The method employed for this assessment is presented in **Table 1.9.**

1.5.5.2 Following the classification of an effect using this methodology, a clear statement will then be made as to whether that effect is significant or not significant. Major and moderate effects are considered to be significant, whilst minor and negligible effects are considered to be not significant. However, professional judgement will also be applied in reaching conclusions as to the significance of effects. Typical definitions for the classification of effects are shown in **Table 1.10**. (if the magnitude is reported as **No change**, the significance of effect would be **Neutral**).

Table 1.9: Matrix used for the assessment of the significance of the effect

Sensitivity of receptor	Magnitude of impact			
	Negligible	Low	Medium	High
Negligible	Negligible	Negligible or minor	Negligible or minor	Minor
Low	Negligible or minor	Negligible or minor	Minor	Minor or moderate
Medium	Negligible or minor	Minor	Moderate	Moderate or major
High	Minor	Minor or moderate	Moderate or major	Major
Very high	Minor	Moderate or major	Major	Major

Table 1.10: Significance definitions

Significance classification	Definition	Significant effect
Major	A large and detrimental change to a valuable/sensitive receptor, likely exceeding an accepted threshold. A large and beneficial change, resulting in enhancements in baseline conditions, transitioning from previously poor conditions to new legal compliance, or making a major contribution to national goals These effects may represent key factors in the decision-making process. Potentially associated with sites and features of national importance or likely to be important considerations at a regional scale. Major effects may relate to features that are unique and irreplaceable.	Significant
Moderate	A medium scale change that, although not beyond an accepted threshold, is still considered to be generally unacceptable, unless offset by significant positive benefits of the project. If adverse, these effects are likely to be important at a regional or local scale and on their own could influence on decision making. A positive moderate effect is a medium scale change that is improves baseline conditions sufficiently to contribute to guideline targets.	Significant
Minor	A minor adverse change that remains within legal and planning policy limits. A minor positive change that is unlikely to significantly impact the overall balance of considerations. These effects might be raised as local issues and could be relevant to the detailed design of a project, but they are unlikely to be critical in the decision-making process.	Not significant
Negligible	A very small change that is so inconsequential it can be considered acceptable to disregard. These effects fall below perceptible limits, lie within normal variations, or fall within the margin of forecasting error. They are unlikely to influence decision-making.	Not significant

1.5.5.3 Based on the reported nature of change and significance of effect for viewpoints representative of residential receptors, consideration will be given as to whether there is potential for the Residential Amenity Threshold to be breached, and therefore whether a Residential Visual Amenity Assessment (RVAA) is required.

1.5.6 Assumptions and limitations of the assessment

1.5.6.1 The following assumptions and limitations have been made during the preparation of this assessment:

- Site visits and photography have been undertaken from publicly accessible locations only, therefore views across the wider landscape from vantage points, professional judgement and desk study has been used to understand the nature of the baseline condition and potential impacts;
- The Landscape and Visual Amenity Study Area has been visited in summer and winter months to understand and capture seasonal variation in the character and visibility of the landscape. The experience of the landscape has been limited to the weather conditions at the time which were deemed to be adequate for the purpose of this assessment.
- Zone of theoretical visibility modelling provides a digitally generated and theoretical indication of visibility of the MHPGC Project, this forms an aid to understanding the likely extent of visibility, but this may vary in reality due to the coarseness of the data, does not provide any indication of the nature of how the MHPGC Project would appear in the view; and
- The assessment has been undertaken based on the maximum design scenario, however specific locations have not been determined for locations of compounds the onshore cable corridor, or the design and location (Green or Blue Option Areas) and layout of the LSS. The assessment therefore assumes a worst-case scenario for each receptor, resulting in an overall assessment that is greater than the likely MHPGC Project would be (for example, the Green LSS Option Area might be worst case for one receptor, with Blue LSS Option Area).
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1.6 Key parameters for assessment

1.6.1.1 The approach to assessment was presented in the MHPGC Project Scoping Report and has been refined in consultation with relevant statutory and non-statutory consultees as detailed in **Section 1.3** and through the MHPGC Project Scoping Opinions received from the PINS, MD-LOT and the MMO.

1.6.1.2 Effects that are not considered likely to be of moderate/major significance have been scoped out of the assessment and these potential impacts will not be considered further. **Table 1.11** summarises the potential impacts considered as part of the assessment, while a summary of the effects scoped out of the assessment is presented in **Table 1.12**.

Table 1.11: Impacts scoped into the assessment

Impact	Potential effects scoped into the assessment
Construction phase	
Construction of the Landfall	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 2km of the MHPGC Project PEIR Red Line Boundary: Onshore.
Construction of the onshore cable corridor	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 2km of the MHPGC Project PEIR Red Line Boundary: Onshore.
Construction of the onshore LSS.	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 5km of the LSS Option Areas.
O&M phase	

Impact	Potential effects scoped into the assessment
O&M of the landfall	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 2km of the MHPGC Project PEIR Red Line Boundary: Onshore.
O&M of the onshore cable corridor	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 2km of the MHPGC Project PEIR Red Line Boundary: Onshore.
O&M of the onshore LSS	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 5km of the LSS Option Areas.
Decommissioning phase	
Decommissioning of the onshore LSS	Direct and indirect potential impacts on landscape elements, landscape/seascape character, landscape designations and on publicly accessible views within 5km of the LSS Option Areas.

Table 1.12: Impacts scoped out of the assessment

Impact	Justification for scoping out of the assessment
Construction phase	
Construction of the offshore cable corridor	All physical works for the MHPGC Project are below sea level. Potential impacts on landscape/seascape character and visual amenity arising from the MHPGC Project would derive from the presence of vessels within the sea, which is a characteristic feature of the MCA, and would be short-term, temporary, and reversible.
O&M phase	
O&M of the offshore cable corridor	The cable corridor would be below sea level. The occasional short-term temporary presence of maintenance vessels associated with the MHPGC Project would be characteristic of existing activity within the area.
Decommissioning phase	
Decommissioning of the landfall	The onshore cable would be left in-situ and there would be no change to landscape/seascape and visual amenity arising from the removal of joint bays.
Decommissioning of the onshore cable corridor	The onshore cable would be left in-situ and there would be no change to landscape/seascape and visual amenity arising from the removal of joint bays.
Decommissioning of the offshore cable corridor	The offshore cable would be left in-situ and there would be no change to the landscape/seascape character or visual amenity.

1.6.2 Maximum design scenario

1.6.2.1 The maximum design scenario (MDS) for each potential impact identified in **Table 1.11** has been selected as those having the potential to result in the greatest effect on an identified receptor or

receptor group. The MDS presented in **Table 1.13**, relevant for the assessment of potential impacts on landscape and visual amenity, has been selected from the parameters provided in **Volume 1, Chapter 2: Project Description** and methodology outlined in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment**.

Table 1.13: MDS relevant for the assessment of potential impacts on Landscape and Visual Amenity

Impact	Maximum Design Scenario	Explanation
Construction		
Landfall		
Impact on landscape features and/or landscape character	**Landfall (trenchless drill)** Duration of trenchless drilling activity: 10 months Construction period for Landfall: 3.5 years Working hours are 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 Saturday, with shoulder mobilisation hours and continuous working required for trenchless techniques **Landfall Instructure offshore (seaward of MLWS)**	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity	Anchored cable lay barge during cable pull-in: number, 1; 180x40 m at minimum 390m distance from MHWL **Landfall vessel activity** There will be up to 250 return trips by installation and support vessels (including CLV, ISV, GV, dredging vessels, tug/anchor handlers, cable barge, CTV and dive support vessels (DSV)); A maximum of 14 vessels may be operational at any one time during the landfall construction phase. Vessels would be of various sizes, up to around 215x40m. **Landfall Infrastructure onshore (landward of MHWS)** Maximum width of trenchless drill area, west of Durham Coast Line: 400m Corridor length: 800m Location of trenchless drill entry point: Within 400m from centre point (E: 443667, N: 546834) except to the east, due to the railway restriction. Number of trenchless drill entry points: 4 bores	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, duration, largest footprint, and the highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.

	Transition Joint Bays Number of TJBs: 2 Location of TJBs: Within 150m of landfall trenchless drill entry point Working Area for TJB (construction): 750m^2 Depth of TJB: 2.5m **Landfall construction compound** Number of main compounds: 1 Dimension of main compound: 48,000m^2 Number of secondary compounds: 1 Dimension of secondary compound: 900m^2 Number of access tracks: 2 from A182 Construction access track widths: 10m Construction equipment: 50 KVA Generators, toilets, dry/change room, canteen, offices, excavator, drill pipe storage, drilling rig, power pack, control cabin, mud lab, entry pit, mud pump, mixing tank, 350 KVA generators, recycling unit, water storage tank, dry drilling fluid storage, workshop, stores, car park, and crane with a maximum height of 70m.	
Onshore Export Cable and AC Connection Cable		
Impact on landscape features and/or landscape character	**General** Construction corridor length: 9.59km Construction period for Onshore Export Cable: 42 months Construction equipment: tracked dozer, tracked excavator, HGV/tippler, dumper truck, roller, compressor, graders, winch, trenchless drilling rigs (mini to mega), cable drums, large tractor and trailer, low loader, telehandler, bobcat, Hiab, cranes (maximum hook height of 70m), concrete mixers, surveying equipment, CBS batching equipment (storage, silos, distribution points), welding equipment, generators, and general construction equipment Working hours are 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 Saturday, with shoulder mobilisation hours and continuous working required for trenchless techniques	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity		Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the

	The full extent of construction corridor, access routes, and compounds requires topsoil strip and removal of any trees and vegetation Topsoil and subsoil storage mounds: 2 m height, assumed to be covered with protective sheeting Land used temporarily during construction would be reinstated **Dimensions of trench for grid connection export cable (HVAC) – Blue LSS** Number of export cables: 24 Length of cable route: 4,260m Number of cable trenches: 4 Width of cable corridor (temporary including permanent): 100m Onshore cable area (temporary): 426,000m^2 Number of cable route joint bays: 32 Number of link boxes: 32 Volume of material excavated per joint bay: 2,264m^3 (total = 18,112m^3, assuming 4 circuits are jointed in a single excavation) Construction land take for link box: 100m^2 (total = 3200m^2) Volume of material excavated per link box: 12.5m^3 (total = 400m^3) **Dimensions of trench for onshore export cable (HVDC) – Blue LSS** Number of export cables: 4 Length of cable route: 4.83km Width of cable corridor (temporary inc. permanent): 40m Number of cable trenches: 2 Onshore cable area (temporary): 193,200m^2 Number of cable route joint bays: 12 Volume of material excavated per joint bay: 700m^3 (total = 8,400m^3) Volume of material excavated per monitoring box: 18m^3 (total = 216m^3) Construction land take per monitoring box: 64m^2 Construction land take for all monitoring boxes: 768m^2 **Infrastructure**	highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.

	Number of haul roads: 1 Haul road construction: geogrids and 500mm stone Haul road widths: 8m Haul road depth: 0.5m Dimensions of temporary culvert/bridge crossings for the haul road: 10 x 6 x 5 Number of main compounds: 2 Main compound dimensions: 7ha Total area of main compounds: 14ha Number of secondary construction compounds: 6 Dimensions per secondary construction compound: 10,000m^2 Total area of secondary construction compounds: 6ha **Trenchless Drill Crossings** Major Crossings understood to be: 1) A19 road (crossed by all HVDC routes), 2) Dalton Beck and Jade Business Park (crossed by HVAC or HVDC depending on LSS option taken and cable route taken), 3) Pinch-point between Jade Business Park and future asset SEGL convertor station (crossed by HVAC or HVDC depending on selected LSS site and chosen cable route. Trenchless drill methodology: HDD, micro-tunnelling (auger bore or direct pipe) Number of trenchless drill compounds: 6 (3 entry and 3 exit trenchless drill compounds) Dimensions of trenchless drill compounds: 6,000m^2 Total trenchless drill compound area: 36,000m^2 Duration of trenchless drill: TBC Trenchless depth (excluding landfall): 30m **Construction Access** Number of construction access tracks (excluding existing tracks): 6 Land used temporarily during construction would be reinstated	
LSS		
Impact on landscape features and/or landscape character	Area of temporary construction footprint (including permanent area): 7ha	Parameters that would result in the greatest loss of existing

	Area of temporary works (laydown and storage): 3.5ha Buildings number: 14 Main building height: 30 m; width, 100 m; length, 200 m Temporary access number: 2, 15m width (each) Construction/installation of: • Lightning protection: number, 28, height 35m • Firewall height: 15m • Earth switches: number, 96, height 20 m • Lightning/surge arresters: number, 30, height 20 m • Voltage transformers: number, 30, height 20 m • Current transformers: number, 30: height 30 m • Circuit breakers: number, 30; height 20 m • Disconnectors/electrical isolators: number, 159; height 20 m	features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS. Two locations are assessed in this PEIR chapter for the LSS options, one for Option 1: Blue and one for Option 2: Green. In each location, the AIS LSS Option (worst-case) is assessed as the GIS LSS Option would have less buildings and lower overall footprint.
Impact on visual amenity	• Electrical busbars: number, 54; height 20 m • Power transformer: number, 7; height, 20 m • Static VAR compensator: number, 12; height, 20 m • Harmonic filter bank: number, 12; height, 21 m • Shunt reactor: number, 12; height, 21 m • Terminal towers/line-cable interface mast: number, 12; height, 20 m Crane: height, 80 m Removal of topsoil to eliminate vegetation and any organic or made ground, which is expected to be stored on site. Further excavation will bring the ground to foundation level, with separate bunds created to prevent cross-contamination between different soil zones. Land used temporarily during construction would be reinstated Duration: 4.5 years	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS. Two locations are assessed in this PEIR chapter for the LSS options, one for Option 1: Blue and one for Option 2: Green. In each location, the GIS LSS Option (worst-case) is assessed, with narrative provided where the AIS LSS Option would result in notably reduced effects.
Operation and Maintenance		
Landfall		

Impact on landscape features and/or landscape character	Joint bay: number, 2; 25 m^2 (hardstanding/access cover at ground level)	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity		Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.
Onshore export cable corridor		
Impact on landscape features and/or landscape character	Typical duration of operation: 35 years **HVAC Cable Corridor – Blue LSS** Length of cable route: 4.26km Width of cable corridor (permanent): 25m HVAC Onshore cable area (permanent): 106,500m^2 HVAC Operational land take per access cover: 25m^2 (total = 200m^2)	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity	**HVDC Cable Corridor – Blue LSS** Length of cable route: 4.83km Width of cable corridor (permanent): 8.65m HVDC Onshore cable area (permanent): 41,780m^2 Number of operational access tracks (excluding existing tracks): 6	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.

	Operational access track construction: Assume the additional access tracks into the cable route (if required) will use existing access points and unpaved farm tracks where possible. Activities anticipated during operation and maintenance: quarterly No planting over the installed onshore export cables.	
LSS		
Impact on landscape features and/or landscape character	Lighting: Most of the time there will be no lighting associated with the Proposed Development. When lighting is active, it would be short-term and temporary on an occasional basis. Typical duration of operation: 35 years Area of permanent footprint: 6.5ha Impermeable permanent area: 3.5ha SuDS area: 2,300m^2 SuDS volume: 3,500m^3 Number of permanent accesses: 2 Permanent access width: 15m	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest pe, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS. Two locations are assessed in this PEIR chapter for the LSS options, one for Option 1: Blue and one for Option 2: Green. In each location,

Impact on visual amenity	Permanent access points: 2 Buildings: number, 14 Main building: height, 30 m; width, 100 m; length, 200 m Lightning protection: number, 28; height 35 m Firewall: height, 15 m Earth switches: number, 96, height 20 m Lightning/surge arresters: number, 30, height 20 m Voltage transformers: number, 30, height 20 m Current transformers: number, 30: height 30 m Circuit breakers: number, 30; height 20 m Disconnectors/electrical isolators: number, 159; height 20 m Electrical busbars: number, 54; height 20 m Power transformer: number, 7; height, 20 m Static VAR compensator: number, 12; height, 20 m Harmonic filter bank: number, 12; height, 21 m Shunt reactor: number, 12; height, 21 m Terminal towers/line-cable interface mast: number, 12; height, 20 m	the GIS LSS Option (worst-case) is assessed, with narrative provided where the AIS LSS Option would result in notably reduced effects.
Decommissioning		
Onshore export cable corridor		
Impact on landscape features and/or landscape character	Leave cables in place, to minimise/ avoid environmental disturbance. Leaving the cables in place has little or no environmental impact whilst recovering them would disturb the local environment.	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity		Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the

		highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.
LSS		
Impact on landscape features and/or landscape character	Deconstruction in the inverted sequence of installation, after the LSS has been decommissioned. All equipment and materials including foundations will be demolished and disposed of. The site will be reinstated.	Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the largest potential impact on landscape features and/or landscape character and therefore represent the MDS.
Impact on visual amenity		Parameters that would result in the greatest loss of existing features, the greatest amount of activity, largest footprint, and the highest elevation would result in the greatest visibility and largest potential change to visual amenity and therefore represent the MDS.

1.7 Commitments adopted as part of the MHPGC Project

1.7.1.1 As set out in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment** and **Volume 1, Annex 4.1: Draft Commitments Register**, several measures have been adopted as part of the MHPGC Project to reduce the potential for impacts on Landscape and Visual Amenity.

1.7.1.2 Embedded mitigation includes the following measures as identified in the Institute of Environmental Management and Assessment (IEMA) Guide to Shaping Quality Development (IEMA, 2015):

- Primary mitigation - measures included as part of the project design. IEMA describes these as "modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project and do not require additional action to be taken". This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the project and the parameters secured in the DCO and marine licence, or both;
- Tertiary mitigation - IEMA describes these as "actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects".

1.7.1.3 Embedded mitigation measures that will form part of the final design (and are established legislative requirements/good practice, or both) have been taken into account as part of the initial assessment presented in **Section 1.8** (i.e., the initial determination of impact magnitude and significance of effects assumes implementation of these measures). This ensures that the measures that the Applicant is committed to are considered in the assessment of effects.

1.7.1.4 Where an assessment identifies likely significant adverse effects, secondary mitigation measures may be applied. These are measures that could further prevent, reduce and, where possible, offset these effects. They are defined by IEMA as "actions that will require further activity to achieve the anticipated outcome" and may be imposed as part of the planning consent, or through inclusion in the ES. These include measures required to reduce the significance of environmental effects and may be secured through an environmental management plan. For secondary mitigation measures both pre-mitigation and residual effects are presented.

1.7.1.5 The measures relevant to Landscape and Visual Amenity are outlined in **Table .** As there is a secured commitment to implementing these measures, they are considered inherently part of the design of the MHPGC Project and have therefore been considered in the assessment presented in **Section 1.8**.

Table 1.14: Embedded commitments relevant to landscape and visual amenity implemented as part of the MHPGC Project

Commitment number	Measure adopted	How the measure will be secured
During construction phase		
CoT17	Where practicable, the siting of the temporary and permanent footprint of the MHPGC Project will avoid sensitive historic, cultural, ecological and other environmental receptors, both statutory and non-statutory, during the site selection process for the MHPGC Project.	Will be secured via DCO Schedule and/or Requirement.
CoT25	Construction site lighting will only operate when required and will be positioned and directed to avoid unnecessary illumination to residential properties, sensitive ecological receptors and footpath users, and minimise glare to users of adjoining public highways. Construction site lighting will be designed in accordance with latest relevant available guidance and legislation and the details of the location, height, design and luminance of lighting to be used will be covered within the Outline Construction Artificial Light Emissions Management Plan, will form part of the Outline (CoCP), which will be prepared and submitted as part of the application for the development consent.	Will be secured via DCO Schedule and/or Requirement.
CoT35	An Outline Public Rights of Way (PRoW) Management Plan will form part of the Outline Code of Construction Practice (CoCP), which will be prepared and submitted for development consent. A Detailed PRoW Management Plan will be developed substantially in accordance with the Outline PRoW Management Plan. The Outline PRoW Management Plan will: • set out the measures needed to keep PRoWs safe and usable during construction, such as clear signage, pre and post-work condition surveys; • commit to reopening or reinstating any affected route as soon as reasonably practicable, thereby minimising the duration of closures; • specify that, where full closure cannot be avoided, a temporary diversion or gated crossing will be provided unless demonstrably impracticable.	Will be secured via DCO Schedule and/or Requirement.
CoT40	An Outline Soil Management Plan (SMP) will form part of the Outline Code of Construction Practice (CoCP), which will be prepared and submitted as part of the application for the development consent. A Detailed SMP will be developed substantially in accordance with the Outline SMP, in order to characterise and manage soil materials during construction. Soil types would be determined via site-specific survey work as set out in the Outline SMP.	Will be secured via DCO Schedule and/or Requirement.

Commitment number	Measure adopted	How the measure will be secured
CoT42	Vegetation, including trees, woodland and hedgerows, will be mapped through a Vegetation Retention Plan (or similar) to inform construction activities, with vegetation retained wherever practicable. All vegetation works will be undertaken in accordance with BS 5837:2012, including the implementation of appropriate root protection measures. These measures will be consolidated within an Arboricultural Management Plan that will form part of the Outline Landscape and Ecological Management Plan (LEMP), which will be prepared and submitted with the application for development consent.	Will be secured via DCO Schedule and/or Requirement.
CoT43	An Outline LEMP will be prepared and submitted with the development consent application and will establish the mitigation and management measures relevant to terrestrial and intertidal ecology and conservation. It will include: • mitigation measures relating to protected or notable species and/or sensitive habitats; • appointment of an Ecological Clerk of Works (ECoW) where required; and, • details of mitigation planting at the onshore substation site including the number, location, species and details of management and maintenance of planting. A Detailed LEMP will be developed substantially in accordance with the Outline LEMP.	Will be secured via DCO Schedule and/or Requirement.
CoT45	An Outline Site Waste Management Plan (SWMP) will form part of the Outline Code of Construction Practice (CoCP), which will be prepared and submitted with the development consent application. A Detailed SWMP will be developed substantially in accordance with the Outline SWMP, in consideration of the latest relevant available guidance.	Will be secured via DCO Schedule and/or Requirement.
During O&M phase		
CoT17	Where practicable, the siting of the temporary and permanent footprint of the MHPGC Project will avoid sensitive historic, cultural, ecological and other environmental receptors, both statutory and non-statutory, during the site selection process for the MHPGC Project.	Will be secured via DCO Schedule and/or Requirement.

Commitment number	Measure adopted	How the measure will be secured
CoT43	An Outline LEMP will be prepared and submitted with the development consent application and will establish the mitigation and management measures relevant to terrestrial and intertidal ecology and conservation. It will include: • mitigation measures relating to protected or notable species and/or sensitive habitats; • appointment of an Ecological Clerk of Works (ECoW) where required; and, • details of mitigation planting at the onshore substation site including the number, location, species and details of management and maintenance of planting. A Detailed LEMP will be developed substantially in accordance with the Outline LEMP.	Will be secured via DCO Schedule and/or Requirement.
During decommissioning phase		
CoT16	An Onshore Decommissioning Plan will be developed prior to decommissioning. It will include provisions for the removal of all onshore above ground infrastructure and the decommissioning of below ground infrastructure (if and where relevant and practicable), and details relevant to flood risk, pollution prevention, protection of soils and avoidance of ground disturbance. The Onshore Decommissioning Plan will be in line with the latest relevant legislation and available guidance at the time of production, as far as reasonably practicable.	Will be secured via DCO Schedule and/or Requirement.

1.8 Assessment of potential impacts

1.8.1 Overview

1.8.1.1 This section includes the assessment of the potential impacts to landscape and visual amenity arising from the construction, O&M and decommissioning phases of the MHPGC Project. It reports on assessment of potential impacts on landscape receptors (by NCA, MCA, BCA and LCA) then visual receptors (by viewpoint).

1.8.1.2 Photomontages have been prepared from viewpoints 1, 6, 12, 14, and 16 and are presented in **Volume 4, Annex 1.4: Photomontages, of the PEIR**, these viewpoints were selected as a proportionate and representative selection and agreed with the EWG on the basis that they capture a range of distances, directions, and from within four different character areas:

- Viewpoint 1 – View from the south-east, in Area of Higher Landscape Value, the Heritage Coast, and The Durham Coast BCA.
- Viewpoint 6 – View from the west, from a cluster of public rights of way, in Central East Durham Plateau BCA.
- Viewpoint 12 – View from the south, in Central East Durham Plateau BCA.
- Viewpoint 14 – View from the east, in the direction of both LSS Site Options and close to the MHPGC Project PEIR Red Line Boundary, in Coastal East Durham Plateau BCA.
- Viewpoint 16 – View from the north, a more distant view, from Sunderland City Council area, in Warden Law and Eppleton Moor LCA.

1.8.1.3 In the absence of specific design and layouts of the LSS Option Areas there is not a set of specific landscape mitigation proposals against which the MHPGC Project can be assessed at year 1 and year 15. Mitigation planting would be proposed as part of the outline LEMP (CoT43) and implemented post-consent. In the O&M phase assessment it has been assumed a date of the end of construction phase plus five years as a basis for the assessment for the purpose of this PEIR. This reflects a period of time when reinstatement hedgerow planting would be reasonably assumed to be established (at 2-3m height) while leaving a reasonable worst case for the LSS within this PEIR assessment where effects of landscape mitigation such as tree planting would not be fully established and effective. While general reinstatement hedgerow planting within the onshore cable corridor (reinstatement within MDS **Table 1.13**) and around the boundary of the LSS can be reasonably assumed (CoT43), the layout of the LSS sites and specific landscape mitigation proposals around the LSS and are yet to be prepared. Details of landscape mitigation proposals will be contained within the outline Landscape and Ecological Management Plan to be submitted at application for development consent (CoT43). Once the specific LSS layout and landscape proposals for are prepared, once established this would likely provide greater screening and integration of the LSS within the landscape and views and reduce some of the potential impacts reported in this PEIR, by fifteen years from the end of the construction phase.

1.8.1.4 The potential impacts for an individual landscape and visual receptor may vary depending on the LSS Option Area taken forward and the position of the onshore export cable corridor within the MHPGC Project PEIR Red Line Boundary. The assessment reports on the worst-case scenario however the narrative text indicates whether an individual LSS Option Area or if the onshore cable corridor were located within specific part of the MHPGC Project PEIR Red Line Boundary would result in a different level of potential impact.

1.8.2 Construction phase

Potential impacts on Durham Magnesian Limestone Plateau (NCA 15)

Sensitivity of receptor

1.8.2.1 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Durham Magnesian Limestone Plateau (NCA 15) is **low**.

Magnitude of impact

Landfall

1.8.2.2 There would be ground-level construction work in relation to the landfall, associated TJBs and construction compounds. The removal of trees and lengths of hedgerows to facilitate construction, soil stripping activities and the stockpiling of topsoil and subsoil would result in a potential change to landscape features and characteristics within a small proportion of the NCA and a localised reduction in tranquillity. Effects on the NCA would be perceived locally to construction activities and not experienced across the wider NCA due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements. Potential impacts on landscape character would be greater around the landfall area and construction compounds, which would be situated within a rural context. Construction work would take place outside of designated areas such as the Heritage Coast and Registered Parks and Gardens (CoT17). Construction activity associated with the landfall area would likely be located within part of an AHLV to the east of Seaham Garden Village.

Onshore cable corridor

1.8.2.3 Construction of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would require some tree and hedgerow removal, as well as soil stripping and storage. This would cause temporary changes to the landscape and reduce tranquillity in a localised area of the NCA. The effects would be limited to areas close to the works and would not affect the wider NCA due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements. The greatest effects on landscape character would occur around the construction compounds within the rural landscape. Some work connecting to landfall would take place within part of an AHLV to the east of Seaham Garden Village.

LSS

1.8.2.4 The Green and Blue LSS Option Areas would be located within the NCA. The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would be theoretically visible from a range of locations across the NCA.

1.8.2.5 Irrespective of the preferred LSS Option Area, construction activities associated with the LSS would result in localised potential impacts on character and tranquillity due to earthworks and vehicle movements. There would likely be a requirement to remove existing vegetation to facilitate the LSS.

1.8.2.6 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.7 During the construction phase, the MHPGC Project would result in some localised disturbance to the existing character that would not influence the character of the wider NCA due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements.

1.8.2.8 Therefore, it is considered that the magnitude of potential impacts on Durham Magnesian Limestone Plateau (NCA 15), during the construction phase, is judged to be **negligible**.

Significance of effect

1.8.2.9 Overall, the receptor sensitivity is **low** and the magnitude of impact is **negligible**. Therefore, the effect of the MHPGC Project, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the temporary and reversible aspects of the change, occurring within part of the NCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.10 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.11 Therefore, the residual effect of potential impacts on Durham Magnesian Limestone Plateau (NCA 15) would remain **negligible adverse**.

Potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters

1.8.2.12 The location of the MCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.13 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters is **medium**.

Magnitude of impact

Landfall

1.8.2.14 The presence of a stationary cable lay barge in the sea within the vicinity of the coastline would be a discernible addition to the local seascape at a minimum 390m distance from MHWL. While the presence of large vessels is a baseline feature of the MCA, including being stationary for periods of time, they are typically located at a greater distance from the coastline.

1.8.2.15 Vessels making trips to and from the cable lay barge and exit pit location would add increased movement to the local seascape. While this would not be wholly uncharacteristic of a seascape environment within a busy shipping area, the proximity to shore would be more notable, providing a point of interest within the open water while also detracting from distant clear views to the east.

1.8.2.16 Onshore landfall works to the west of the railway line would have a limited potential impact on the character of the seascape due to the distance from the coastline (150m plus), with the nature of the topography, and presence of vegetation along the railway corridor providing some screening.

1.8.2.17 The underlying character of the seascape would be largely unchanged, with potential impacts being medium-term, localised, and fully reversible.

Onshore cable corridor

1.8.2.18 There would be no potential impact on the character of the seascape due to the nature of the topography and construction activity at Landfall screening views from the coast along the onshore cable corridor.

LSS

1.8.2.19 The Green and Blue LSS Option Areas would be located outside the MCA. The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would not be theoretically visible from a range of locations across the MCA.

1.8.2.20 There would be no potential impact on the character of the seascape from either LSS Option Area due to the nature of the topography screening views from the coast.

Summary

1.8.2.21 Therefore, the magnitude of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters, during the construction phase, are judged to be **low**.

Significance of effect

1.8.2.22 Overall, the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters CA, during the construction phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.23 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.24 Therefore, the residual effect of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters would remain as **minor adverse**.

Potential impacts on Northern Limestone Escarpment BCA

1.8.2.25 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.26 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Northern Limestone Escarpment BCA is **medium**.

Magnitude of impact

Landfall

1.8.2.27 The landfall is located outside the BCA, therefore it is not anticipated to result in any direct potential impacts from landfall on this receptor. The presence of intervening landform and vegetation would prevent potential indirect potential impacts from landfall construction activities.

Onshore cable corridor

1.8.2.28 Construction activities associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be located outside the BCA and be imperceptible due to the presence of intervening vegetation and built form if they were located to the north of Batter Law Hill due to effects of screening. However, constriction activity would form a small part of the background context if it were located to the south of Batter Law Hill, but not change the overall perception of character within the BCA.

LSS

1.8.2.29 Both LSS Option Areas are located outside the BCA resulting in no potential for direct potential landscape impacts on the BCA. The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would form part of the background context of the BCA, this would likely be from discreet areas of higher open ground to the north and east of the BCA, with limited influence on the overall perception of character.

1.8.2.30 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.31 Any influence of construction activities on the perceived character of the BCA would be set against the presence of existing energy infrastructure such as the Hawthorn Pit National Grid substation and associated extension, the Eastern Green Link 1 substation, existing electrical (400kV) pylons and associated transmission lines and located beyond existing vegetation and built form in the vicinity of South Hetton (as illustrated on the photography from viewpoint 15). With this existing context, construction activities associated with the LSS (irrespective of the preferred LSS Option Area) and/or the installation of the onshore export cables and/or AC connection cables would have a barely perceptible indirect potential impact on the perceived character of the BCA.

1.8.2.32 Therefore, the magnitude of potential impacts on Northern Limestone Escarpment BCA, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.33 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Northern Limestone Escarpment BCA, during the construction phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the BCA, its key characteristics remain, and the impacts would be experienced locally within part of the BCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.34 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.35 Therefore, the residual effect of potential impacts on Northern Limestone Escarpment BCA would remain as **negligible adverse**.

Potential impacts on Central East Durham Plateau BCA

1.8.2.36 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.37 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Central East Durham Plateau BCA is **negligible**.

Magnitude of impact

Landfall

1.8.2.38 The landfall area is located outside the BCA and construction activities within it associated with the construction, it is not anticipated to result in any potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.39 The western portion of the onshore cable corridor is located within the Central East Durham Plateau. Construction activities associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks within the BCA would result in ground-level construction activity within the BCA. This would include localised vegetation removal, soil stripping and temporary soil storage, leading to changes in landscape features and characteristics within a small part of the BCA, and a temporary reduction in tranquillity. These effects would be limited to areas close to the construction works and would not be experienced across the wider BCA due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements. The greatest effects on landscape character would occur around construction compounds located in a rural setting. Construction activity would take place outside areas of AHLV, and it is not anticipated that the Tree Preservation Order at Coop House Wood would be impacted (CoT17 and Cot42, also refer to **Figure 2.5** within **Volume 1, Chapter 2: Project Description**).

LSS

1.8.2.40 The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would be theoretically visible from a range of locations across the BCA.

1.8.2.41 The Green LSS Option Area would be located within this BCA while the Blue LSS Option Area would be located outside the BCA to the east. There would be potential for direct landscape effects arising from construction activities in relation to the Green LSS Option Area. There is the potential for indirect landscape effects to arise from activities within the Blue LSS Option Area.

1.8.2.42 Potential construction activities within the Green LSS Option Area would result in localised potential impacts on character and tranquillity through the presence of construction activity, earthworks and vehicle movements. There would likely be a requirement to remove existing vegetation within the Green LSS Option Area. Construction activity would likely take place in the vicinity of Jade Business Park and against the context of existing substation and electricity transmission infrastructure.

1.8.2.43 Potential construction activities within the Blue LSS Option Area would be located outside the BCA. Due to the nature of the undulating landform within and outside the BCA, there would be limited indirect potential impacts on the character of the BCA from individual locations where construction activity of the LSS would form a small part of the wider landscape context.

1.8.2.44 The scale of potential impacts on this receptor would be greater from the Green LSS Option Area.

Summary

1.8.2.45 During the construction phase, the MHPGC Project would result in some localised disturbance to the existing character within and adjacent to the MHPGC Project PEIR Red Line Boundary. It would form a defining but temporary characteristic of the BCA, but it would not influence the perception of character across the wider BCA (to the north of Murton or south of West Lane) due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements.

1.8.2.46 Therefore, the magnitude of potential impacts on Central East Durham Plateau BCA, during the construction phase, are judged to be **medium**.

Significance of effect

1.8.2.47 Overall, it is considered that the receptor sensitivity is **negligible** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts on Central East Durham Plateau BCA, during the

construction phase, are judged to be **minor adverse** (rather than negligible, due to the changes occurring across the BCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.48 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.49 Therefore, the residual effect of potential impacts on Central East Durham Plateau BCA would remain **minor adverse**.

Potential impacts on Coastal East Durham Plateau BCA

1.8.2.50 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.51 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Coastal East Durham Plateau BCA is **medium**.

Magnitude of impact

Landfall

1.8.2.52 The central section of the MHPGC Project PEIR Red Line Boundary: Onshore is located within the Coastal East Durham Plateau BCA. The landfall area is located inside the BCA along its eastern edge, adjacent to the Heritage Coast and within part of an AHLV to the east of Seaham Garden Village. The removal of trees and lengths of hedgerows to facilitate construction, soil stripping activities and the stockpiling of topsoil and subsoil could likely result in a change to landscape pattern, features and characteristics across a notable proportion of the BCA and result in a localised reduction in tranquillity. Potential landscape effects on the BCA would be perceived within and in the vicinity of the MHPGC Project PEIR Red Line Boundary as this is where construction activities and physical change to the landscape would take place. Effects are not anticipated to be experienced across the wider BCA due to screening by landform, vegetation, and built form.

Onshore cable corridor

1.8.2.53 Construction activities associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks within the Coastal East Durham Plateau BCA would result in similar effects to those described for the landfall works across a wider area. Ground-level construction activities, including vegetation removal, soil stripping and temporary soil storage, would result in changes to landscape pattern, features and characteristics across a notable proportion of the BCA and a localised reduction in tranquillity. These effects would be limited to areas within and close to the MHPGC Project PEIR Red Line Boundary and would not be experienced across the wider BCA due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements. The greatest effects on landscape character would occur around the onshore export cables and AC connection cables construction compounds, particularly where these are located within a rural setting and part of an AHLV to the east of Seaham Garden Village.

LSS

1.8.2.54 The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would be theoretically visible from a range of locations across the BCA.

1.8.2.55 The Blue LSS Option Area would be located within this BCA while the Green LSS Option Area would be located outside the BCA to its west. There would be potential for direct landscape effects arising from activities in relation to the Blue LSS Option Area and the installation of the onshore export cables and the AC connection cables. There is the potential for indirect landscape effects to arise from activities within the Green LSS Option Area as they would be visible within part of the landscape context from this BCA.

1.8.2.56 Potential construction activities within the Blue LSS Option Area would likely result in localised potential impacts on character and tranquillity through the presence of construction activity, earthworks and vehicle movements. There would likely be a requirement to remove existing

vegetation within the Blue LSS Option Area. This would be against the context of existing infrastructure and vehicle movements along the A19 highway and Access Road to Jade Business Park.

1.8.2.57 Potential construction activities within the Green LSS Option Area would be located outside the BCA. Due to the nature of the undulating landform within and outside the BCA, there would be limited indirect potential impacts on the perceived character of the BCA from individual locations where construction activity associated with the LSS would form a small part of the wider landscape context.

1.8.2.58 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.59 The potential direct impacts on the AHLV within the MHPGC Project PEIR Red Line Boundary would include loss of existing landscape features and a temporary change from a rural landscape to one of predominantly construction activities. Due to the nature of landform and vegetation in and around the MHPGC Project PEIR Red Line Boundary, wider potential impacts on the AHLV to the north and south would be limited and indirect, primarily from the area to the northeast of Hawthorn.

1.8.2.60 During the construction phase, the MHPGC Project would result in localised disturbance to the existing character within and adjacent to the MHPGC Project PEIR Red Line Boundary. It would form a defining temporary characteristic of the BCA, but it would not influence the perception of character across the wider BCA (beyond approximately 1km from the MHPGC Project PEIR Red Line Boundary) due to screening by existing landform, vegetation, screening by and presence of built form, and tranquillity affected by other activities and vehicle movements.

1.8.2.61 Therefore, the magnitude of impact of potential landscape impacts on Coastal East Durham Plateau BCA during the construction phase are judged to be **medium**.

Significance of effect

1.8.2.62 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of Potential impacts on Coastal East Durham Plateau BCA, during the construction phase, are judged to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.63 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.64 Therefore, the residual effect of Potential impacts on Coastal East Durham Plateau BCA would remain **moderate adverse**.

Potential impacts on The Durham Coast BCA

1.8.2.65 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.66 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of The Durham Coast BCA is **high**.

Magnitude of impact

Landfall

1.8.2.67 The east of the MHPGC Project PEIR Red Line Boundary: Onshore is located within The Durham Coast BCA, although there would be no surface-level construction activity within the BCA. The landfall area is located immediately to the west of the BCA and a cable lay barge and up to 14 vessels would be present at the exit pit locations in the sea to the east of the BCA resulting in the potential for indirect impacts.

1.8.2.68 There would be no direct loss of elements or features of the landscape within the BCA, however construction activities within the landfall area are likely to be perceptible from this BCA including as a result of earthworks, the presence of temporary compounds and movement of construction machinery. The railway corridor provides some physical and visual separation from the construction of the MHPGC Project to the west and the wider character of the BCA, as perceived from within the

BCA including the Heritage Coast, AHLV, King Charles III England Coast Path and Noses Point Local Nature Reserve (these areas are shown on **Figure 1.6: Designations and classifications** and **Figure 1.8: Amenity access**).

1.8.2.69 The works would result in localised disturbance to the tranquillity of the BCA in the vicinity of the landfall area, reducing to the east as ground slopes away from the landfall area and railway corridor towards the cliff.

1.8.2.70 From Beacon Hill (in the vicinity Viewpoint 1) the wider landscape context outside of the BCA would include the presence of small elements of construction activity within the landfall area and works eastward associated with the installation of the onshore export cables between landform and blocks of woodland. This would form part of a wider panoramic view in a direction away from the North Sea and not result in a notable change to the perception of character of the BCA in this location.

1.8.2.71 To the east of the BCA within the North Sea, a cable lay barge and up to 14 vessels would be present at the exit pit locations. This would comprise a small part of a wider panoramic view across the sea which also includes the presence of other vessels and is therefore not determined to result in a notable change of the perception of character of the BCA.

Onshore cable corridor

1.8.2.72 Construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks west of Landfall would be screened by intervening vegetation, landform or by separate works associated with Landfall, including in relation to the construction of the transition joint bays. The primary influence on the character of this location would remain its relationship with the coast to the east, in the opposite direction to the construction activity within the landfall area.

1.8.2.73 There would be no direct loss of landscape features within this BCA; however, construction activities, including earthworks, temporary compounds and construction plant, may be perceptible from parts of the BCA.

1.8.2.74 The effects would be localised and primarily associated with temporary changes to views and a reduction in tranquillity in areas closest to the works. Existing vegetation, landform and built features would provide screening in many locations, limiting the extent of visibility and reducing the influence of the construction activities on the wider character of the BCA.

1.8.2.75 While construction activities may form a small part of the landscape context in some views, the key characteristics of the BCA, including its strong relationship with the coast, would remain unchanged. As a result, effects on landscape character would be limited and would not be experienced across the wider BCA.

LSS

1.8.2.76 The Green and Blue LSS Option Areas and landfall area would be located outside this BCA. The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would be theoretically visible from Beacon Hill (at a distance of approximately 3km to the Blue LSS Option Area and 4.75km to the Green LSS Option Area) and from the very northern extent of the BCA (at a distance of approximately 5km to the Blue LSS Option Area and 6km to the Green LSS Option Area). It is not considered likely to have an influence on the character or perception of the BCA at those distances beyond representing a very small proportion of the wider landscape context.

1.8.2.77 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.78 Aside from the localised disturbance to tranquillity and views to the west throughout the construction period of the landfall area, there would be no other change to the special qualities or features of the Durham Heritage Coast.

1.8.2.79 Therefore, the magnitude of potential impacts on The Durham Coast BCA during the construction phase are judged to be **low**.

Significance of effect

1.8.2.80 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **low**. Therefore, the effect of potential impacts on Coastal East Durham Plateau BCA, during the construction phase, are judged to be **minor adverse** (rather than moderate, as there are no physical changes to the character of the BCA, its key characteristics remain, and the impacts would be experienced locally within part of the BCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.81 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.82 Therefore, the residual effect of potential impacts on Coastal East Durham Plateau BCA would remain **minor adverse**.

Potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c)

1.8.2.83 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.84 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of Rainton Lowland Coalfield Lowland Terraces (LCA 2c) is **medium**.

Magnitude of impact

Landfall

1.8.2.85 The MHPGC Project PEIR Red Line Boundary is located outside LCA 2c resulting in no potential for direct landscape impacts. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.86 Potential construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.87 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would likely not form part of the background context of this LCA within the Landscape and Visual Amenity 5km Study Area, however if they were visible it would be perceived from a discreet area beyond this distance.

1.8.2.88 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.89 Forming a small part of the overall background context of LCA 2c at this distance, and from a discreet location within the overall LCA, construction activity associated with the LSS, irrespective of the preferred LSS Option Area, is judged to result in a barely perceptible indirect potential impact on the overall character.

1.8.2.90 Therefore, the magnitude of potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c), during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.91 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c), during the construction phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.92 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.93 Therefore, the residual effect of potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c) would remain **negligible adverse**.

Potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)

1.8.2.94 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.95 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c) is **medium**.

Magnitude of impact

Landfall

1.8.2.96 The MHPGC Project PEIR Red Line Boundary is located outside LCA 5c resulting in no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.97 Construction activity associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.98 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either of the LSS Option Areas would not form part of the background context from the majority of this LCA, however if they were visible it would be perceived from a discreet area at the southeastern extent of the LCA.

1.8.2.99 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.100 Any construction activities would be perceived against the presence of existing pylons and associated transmission lines and situated beyond existing vegetation. With this existing context, the temporary construction activities within the LSS Option Areas would have a barely perceptible indirect potential impact on the perceived character of LCA 5c.

1.8.2.101 Therefore, the magnitude of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c) during the construction phase are judged to be **negligible**.

Significance of effect

1.8.2.102 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c), during the construction phase, are judged to be **negligible adverse** (rather than moderate, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.103 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.104 Therefore, the residual effect of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c) would remain **negligible adverse**.

Potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)

1.8.2.105 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.106 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b) is **medium**.

Magnitude of impact

Landfall

1.8.2.107 The MHPGC Project PEIR Red Line Boundary is located outside LCA 6b resulting in no potential for direct landscape impacts. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.108 Construction activity associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.109 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either of the LSS Option Areas would not form part of the background context from the majority of this LCA, however it would be perceived from two discreet areas, including at the southeastern extent of the LCA at Orchard Hill and to the west of Hetton Lyons Country Park. Both locations are inaccessible to the public.

1.8.2.110 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.111 Construction activities across the MHPGC Project PEIR Red Line Boundary would be perceived against the presence of existing pylons and associated transmission lines and situated beyond existing vegetation. With this existing context, the construction activities within the LSS Option Areas would have a barely perceptible indirect potential impact on the perceived character of LCA 6b.

1.8.2.112 Therefore, that the magnitude of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b) during the construction phase are judged to be **negligible**.

Significance of effect

1.8.2.113 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b), during the construction phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.114 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.115 Therefore, the residual effect of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b) would remain **negligible adverse**.

Potential impacts on High Moorsley Limestone Escarpment (LCA 6c)

1.8.2.116 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.117 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of High Moorsley Limestone Escarpment (LCA 6c) is **medium**.

Magnitude of impact

Landfall

1.8.2.118 The MHPGC Project PEIR Red Line Boundary is located outside LCA 6c and as a result there is no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.119 Potential construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.120 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would form part of the background context of the LCA, this would be from an area of higher open ground within the centre of the LCA to the east of High Moorsley Quarry (in the vicinity of Viewpoint 13).

1.8.2.121 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.122 Construction activities across the wider MHPGC Project PEIR Red Line Boundary would be perceived against the presence of existing pylons and associated transmission lines and beyond existing vegetation and built form at Hetton-le-Hole (as illustrated on the photography from Viewpoint 13). With this existing context, the construction activities associated with the LSS, irrespective of the preferred LSS Option Area, would likely have a barely perceptible indirect impact on the perceived character of LCA 6c.

1.8.2.123 Therefore, the magnitude of potential impacts on High Moorsley Limestone Escarpment (LCA 6c) during the construction phase are judged to be **negligible**.

Significance of effect

1.8.2.124 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on High Moorsley Limestone Escarpment (LCA 6c), during the construction phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.125 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.126 Therefore, the residual effect of potential impacts on High Moorsley Limestone Escarpment (LCA 6c) would remain as **negligible adverse**.

Potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a)

1.8.2.127 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.128 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of Warden Law and Eppleton Moor Clay Plateau (LCA 7a) is **medium**.

Magnitude of impact

Landfall

1.8.2.129 The MHPGC Project PEIR Red Line Boundary is located outside LCA 7a and as a result there is no potential for direct landscape impacts. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.130 Potential construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.131 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would form part of the background context of the LCA, this

would be from an area south of Murton Lane, around Windmill Hill and Great Eppleton Wind Farm (in the vicinity of Viewpoint 16) and around the Hetton-Warden Law Trail and Salters Lane (in the vicinity of Viewpoint 17).

1.8.2.132 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.133 Potential construction activities across the wider MHPGC Project PEIR Red Line Boundary would be perceived against the presence of existing wind turbines, pylons and associated transmission lines and beyond existing vegetation and built form at Murton. With this existing context, the construction activities associated with the LSS, irrespective of the preferred LSS Option Area, would have a barely perceptible indirect potential impact on the perceived character of LCA 7a.

1.8.2.134 Therefore, the magnitude of potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a), during the construction phase, are considered to be **negligible**.

Significance of effect

1.8.2.135 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a), during the construction phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.136 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.137 Therefore, the residual effect of potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a) would remain **negligible adverse**.

Potential impacts on Burdon to Ryhope (LCA 8c)

1.8.2.138 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.2.139 The baseline is described fully in **Volume 4 Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of Burdon to Ryhope (LCA 8c) is **medium**.

Magnitude of impact

Landfall

1.8.2.140 The MHPGC Project PEIR Red Line Boundary is located outside LCA 8c and as a result there is no potential for direct landscape impacts. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.141 Potential construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened by the presence of topography, intervening vegetation and/or built form.

LSS

1.8.2.142 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m above ground level within either LSS Option Area would form part of the background context of the southern extent of the LCA within the Landscape and Visual Amenity 5km Study Area, and from the northern part of the LCA south of Ryhope beyond this distance (in the vicinity of Viewpoint 20).

1.8.2.143 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.144 Wider construction works across the MHPGC Project PEIR Red Line Boundary is likely to form a small part of the overall background context of LCA 8c, notably when considering the separation in

distance, and is judged to result in a barely perceptible indirect potential impact on the overall character of LCA 8c.

1.8.2.145 Therefore, the magnitude of potential impacts on Burdon to Ryhope (LCA 8c), during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.146 Overall, it is considered that the receptor sensitivity is **Medium** and the magnitude of impact is **Negligible**. Therefore, the effect of potential impacts on Burdon to Ryhope (LCA 8c), during the construction phase, are considered to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.147 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.148 Therefore, the residual effect of potential impacts on Burdon to Ryhope (LCA 8c) would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 1

Sensitivity of receptor

1.8.2.149 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 1 is **high**.

Magnitude of impact

Landfall

1.8.2.150 Construction activity and earthworks within Landfall would be present across multiple parts of the background of the view, though likely partially screened by the presence of woodland within Hawthorn Dene and landform.

1.8.2.151 There would be visibility to the north from the viewpoint towards construction activity associated with Landfall (beyond the Hawthorn Quarry), which would add an incremental, temporary change to the existing context but not appear completely incongruous against the presence of the quarry.

1.8.2.152 The presence of the cable lay barge and occasional other landfall construction vessels within the view would be perceptible but not prominent in the water off the coast. Subject to the specific location, it is likely that they would only be visible from the highest point on Beacon Hill due to the presence of landform, vegetation, and cliffs screening potential views.

Onshore cable corridor

1.8.2.153 Construction activity and earthworks associated with installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would be present across multiple parts of the background of the view, though likely partially screened by the presence of woodland within Hawthorn Dene and landform. In part this would be in front of the built form at Seaham Garden Village, in others would be against a rural part of the view, and in others within the vicinity of existing pylons and wind turbines against the skyline.

LSS

1.8.2.154 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.155 Potential construction activity associated with taller elements of the LSS within the Blue LSS Option Area would be visible on the distant horizon to the northwest and would be viewed in the context of other existing vertical infrastructure features.

1.8.2.156 Potential construction activity associated with elevated elements of the LSS, if within Green LSS Option Area, would be barely perceptible above the distant horizon line to the northwest beyond Hawthorn, viewed in the context of other existing vertical infrastructure features on the horizon.

1.8.2.157 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.158 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a discernible change to elements of the background of the view, however the prevailing amenity of the view (including the panoramic views, the presence of the coast and sea, distant views and the rural context) would remain as existing.

1.8.2.159 Therefore, the magnitude of potential impacts in relation to Viewpoint 1 during the construction phase are judged to be **low**.

Significance of effect

1.8.2.160 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 1, during the construction phase, are judged to be **minor adverse** (rather than moderate, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.161 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.162 Therefore, the residual effect of potential impacts in relation to Viewpoint 1 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 2

Sensitivity of receptor

1.8.2.163 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 2 is **high**.

Magnitude of impact

Landfall

1.8.2.164 The construction activity within the Landfall would be located to the west of Viewpoint 2, beyond the existing railway corridor. This would result in a notable change to the amenity of the view to the west from one of an open agricultural landscape to one with disturbed ground, construction machinery, construction activity and fencing. The presence of vegetation along the existing railway corridor would likely screen or filter some elements of construction and act as a form of separation, however, some works would potentially remain visible between or above.

1.8.2.165 A cable lay barge and up to 14 vessels would be present at the exit pit locations in the sea to the east of the viewpoint and would be visible from other locations in the vicinity of Viewpoint 2 including along the King Charles III Coastal Path to the north and south. The difference in elevation to the exit pit location and extent of sea visible to the east means that the presence of these vessels would result in a barely discernible change to the nature of the view as they would not interfere with views of the horizon. The presence of the vessels would be more prominent for users of Blast Beach due to their proximity and the visibility above the distant horizon line beyond.

Onshore cable corridor

1.8.2.166 Construction activities associated with the installation of the onshore export cables and associated joint bays, link boxes, compounds and access tracks would result in similar effects to those described for the landfall works, although these effects would be less pronounced. Construction activity may be visible within parts of the view and would introduce temporary elements such as construction machinery, disturbed ground and fencing. However, visibility would generally be more limited due to intervening landform and vegetation, and the works would form a smaller component of the overall view. Visibility of construction activity associated with the AC connection cables would be screened by intervening landform.

LSS

1.8.2.167 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would not be theoretically visible.

1.8.2.168 There would be no visibility towards construction activity within either LSS Option Area due to the presence of intervening landform and vegetation.

Summary

1.8.2.169 The overall change to the view during construction would be a notable alteration to the view experienced from PRoW 5 and 14 (Easington), which form part of the Heritage Coast and King Charles III English Coast Path, however the defining characteristic of the view would remain as the coastal character and views along the coastal edge and out across the wider seascape.

1.8.2.170 There may be opportunities to avoid or reduce visual impacts on receptors associated with this viewpoint through refinement to the potential routing corridors and/or installation methods employed at select locations during installation of the onshore export cables and AC connection cables, reducing the loss of existing vegetation and considering sensitive siting of temporary storage and construction compounds. This would be explored through the ES stage and as the design develops.

1.8.2.171 Therefore, the magnitude of potential impacts in relation to Viewpoint 2, during the construction phase are judged to be **medium**.

Significance of effect

1.8.2.172 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts in relation to Viewpoint 2, during the construction phase, are judged to be **moderate adverse** (rather than major, due to the primary focus of the view remaining broadly as the baseline condition), which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.173 s and AC connection cables, reducing the loss of existing vegetation and considering sensitive siting of temporary storage and construction compounds. This would be explored through the ES stage and as the design developsNo additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.174 Therefore, the residual effect of potential impacts in relation to Viewpoint 2 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 3

1.8.2.175 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 4

1.8.2.176 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 5

1.8.2.177 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 6

Sensitivity of receptor

1.8.2.178 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 6 is **medium**.

Magnitude of impact

Landfall

1.8.2.179 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.180 Construction activity and earthworks associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be present across part of the background of the view, either side of Batter Law Hill and potentially present on a small section of the horizon line. It would likely be located beyond pylons

and electricity transmission lines, and screened in places by the presence of intervening vegetation, undulating landform and existing buildings. The change would be perceptible but would not alter the overall perception and amenity of the view.

LSS

1.8.2.181 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.182 Potential construction activity within the Green LSS Option Area would be a notable addition to the midground of the view and sit in front of some of the distant landscape beyond. Ground-level activity would be screened by the presence of intervening vegetation. Taller elements of construction would extend above the visible horizon line but not beyond the height in the view of existing pylons and electricity transmission lines.

1.8.2.183 Potential construction activity within the Blue LSS Option Area would be a notable addition to the background of the view to the left of Batter Law Hill, within what was previously an agricultural field. It would sit in front of some of the distant landscape beyond. Taller elements of construction would extend above the visible horizon line, but not beyond the height in the view of existing pylons and electricity transmission lines.

1.8.2.184 The scale of potential impacts on this receptor would be greater from the Green LSS Option Area.

Summary

1.8.2.185 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a notable change to elements of the midground and/or background of the view, however the prevailing amenity of the view (including the open views across an undulating context with a mix of built form and energy infrastructure) would remain broadly as existing.

1.8.2.186 Therefore, the magnitude of potential impacts in relation to Viewpoint 6, during the construction phase are judged to be **medium**.

Significance of effect

1.8.2.187 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts in relation to Viewpoint 6, during the construction phase, are judged to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.188 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.189 Therefore, the residual effect of potential impacts in relation to Viewpoint 6 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 7

Sensitivity of receptor

1.8.2.190 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 7 is **medium**.

Magnitude of impact

Landfall

1.8.2.191 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.192 Construction activity and earthworks associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be present across part of the background of the view, either side of Batter Law Hill and potentially present on a small section of the horizon line. Works would likely be located beyond and between intervening landform, security fencing and tree canopies and form a barely perceptible temporary change to the overall amenity of the view.

LSS

1.8.2.193 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.194 Potential construction activity associated with the Green LSS Option Area would be located beyond existing tree canopies in the background of the view. Ground-level activity would likely be screened by the presence of intervening vegetation. Taller elements of construction would extend above the tree canopies but not beyond the height in the view of existing pylons and electricity transmission lines.

1.8.2.195 Potential construction activity associated with the Blue LSS Option Area would likely be a notable addition to the background of the view to the left of Batter Law Hill, within what was previously an agricultural field. The low-lying nature of the view would likely limit its prominence, though taller elements of construction would extend above the visible horizon line.

1.8.2.196 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.197 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a notable change to elements of the midground and/or background of views from Viewpoint 7, however the prevailing amenity of views (including the open views across an undulating context with a mix of built form and energy infrastructure) would remain broadly as existing.

1.8.2.198 Therefore, the magnitude of potential impacts in relation to Viewpoint 7, during the construction phase are judged to be **low**.

Significance of effect

1.8.2.199 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 7, during the construction phase, are considered to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.200 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.201 Therefore, the residual effect of potential impacts in relation to Viewpoint 7 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 8

Sensitivity of receptor

1.8.2.202 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 8 is **medium**.

Magnitude of impact

Landfall

1.8.2.203 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.204 Construction activity and earthworks associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be screened by the presence of intervening landform, buildings and vegetation.

LSS

1.8.2.205 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.2.206 Potential construction activity associated with the Green LSS Option Area would likely be screened in summer months, with filtered views towards construction activity through tree canopies during winter months.

1.8.2.207 The majority of potential construction activity associated with the Blue LSS Option Area would likely be screened by intervening landform, buildings and vegetation. The upper extents of taller construction activity would likely be visible in the distance slightly above the height of intervening tree canopies and below the height of existing telegraph poles and associated lines.

1.8.2.208 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.209 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a barely perceptible change to the background of the view and the prevailing amenity of the view is anticipated to remain as existing.

1.8.2.210 Therefore, the magnitude of potential impacts in relation to Viewpoint 8, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.211 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 8, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.212 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.213 Therefore, the residual effect of potential impacts in relation to Viewpoint 8 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 9

Sensitivity of receptor

1.8.2.214 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoints 9a and 9b is **medium**.

Magnitude of impact

Landfall

1.8.2.215 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.216 Potential earthworks and construction activities associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be experienced in immediate proximity to PRoW 11 Hawthorn (on which the viewpoint is located) which would intersect with the construction footprint.

1.8.2.217 Due to the rising landform towards the centre of the MHPGC Project PEIR Red Line Boundary, construction activities associated with the installation of the onshore export cables and AC connection cables would be partially screened from views along PRoW 11 Hawthorn, with visibility varying depending on the viewer's location. The presence of soil storage mounds may enclose some elements of the view when in closer proximity to them. Visibility of earthworks and construction activity would likely extend into the distance to both the east and west away from the PRoW making it a considerable alteration to the overall amenity of the view.

LSS

1.8.2.218 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.219 Taller elements of potential construction activity associated with the Green LSS Option Area would be visible in the context of existing built form at Jade Business Park from the southern section of the PRoW 11 Hawthorn (illustrated by photograph 9b), above the canopies of trees in Coop House Wood and against the backdrop of pylons and electricity transmission lines beyond. This would result in a discernible alteration to the view. From the northern section of the PRoW (illustrated by photography 9a) views would be screened by the hedgerow along the western edge of the PRoW.

1.8.2.220 Potential construction activity associated with the Blue LSS Option Area would likely be clearly visible to the east across an open agricultural field with few existing urban features in the view. Taller elements of construction would likely be present against the skyline and result in a notable change to the overall amenity of the view.

1.8.2.221 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.222 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a considerable change to the nature of the view due to the proximity and scale of the activity experienced along the length of the PRoW. Open and long distance views are likely to remain however the proximity and prominence of construction activity would temporarily detract from them.

1.8.2.223 Therefore, the magnitude of potential impacts in relation to Viewpoint 9a and 9b, during the construction phase, are judged to be **high**.

Significance of effect

1.8.2.224 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **high**. Therefore, the effect of potential impacts in relation to Viewpoint 9a and 9b, during the construction phase, are judged to be **major adverse** (rather than moderate, due to the scale and proximity of the potential change to the view), which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.225 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.226 Therefore, the residual effect of potential impacts in relation to Viewpoint 9a and 9b would remain **major adverse**.

Potential impacts in relation to Viewpoint 10

Sensitivity of receptor

1.8.2.227 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 10 is **medium**.

Magnitude of impact

Landfall

1.8.2.228 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.229 If located within the southern side of the MHPGC Project PEIR Red Line Boundary, construction activity and earthworks associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be experienced across the width of the view in the foreground to middle ground. The presence of temporary soil storage mounds may enclose some elements of the view when in closer proximity to them. Visibility of the construction activity would likely extend into the distance to both the east and west and would result in a notable alteration to the overall amenity of the view from West Lane and a considerable alteration from residential properties to the north. If construction works and earthworks associated with the installation of the onshore export cables and AC connection cables were to take place across the northern side of the MHPGC Project PEIR Red Line Boundary, there would be limited visibility of activity from West Lane, screened by the nature of the landform.

LSS

1.8.2.230 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.231 The upper extent of taller elements of potential construction activity associated with the Green LSS Option Area would likely be barely perceptible in the background of the view, above intervening landform and vegetation.

1.8.2.232 Taller elements of potential construction activity associated with the Blue LSS Option Area would likely be visible in the mid ground of the view immediately beyond the crest of the agricultural field, adding a notable additional element to the view against the skyline beyond.

1.8.2.233 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.234 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a notable change to the nature of the view due to the presence of construction activity across the view, if construction activity and earthworks associated with the installation of the onshore export cables and AC connection cables were to take place across the southern side of the MHPGC Project PEIR Red Line Boundary.

1.8.2.235 Therefore, the magnitude of potential impacts in relation to Viewpoint 10, during the construction phase are judged to be **high**.

Significance of effect

1.8.2.236 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **high**. Therefore, the effect of potential impacts in relation to Viewpoint 10, during the construction phase, are judged to be **moderate adverse** (rather than major, as there would still be elements of the existing view in the foreground in all directions), which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.237 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.238 Therefore, the residual effect of potential impacts in relation to Viewpoint 10 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 11

Sensitivity of receptor

1.8.2.239 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 11 is **medium**.

Magnitude of impact

Landfall

1.8.2.240 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.241 Construction activity and earthworks associated with the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be present across part of the background of the view, partially screened by the presence of hedgerows and landform and beyond properties in Hawthorn.

LSS

1.8.2.242 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.243 Potential construction activity associated with elevated elements of the Green LSS Option Area is considered likely to be barely perceptible and filtered by existing hedgerow and trees to the northwest.

1.8.2.244 Potential construction activity associated with elevated elements of the Blue LSS Option Area would be visible above the distant horizon line to the northwest, viewed in the context of other existing vertical infrastructure features on the horizon.

1.8.2.245 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.246 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a discernible change to elements of the background of the view; however, the prevailing amenity of the open distant view would remain as existing.

1.8.2.247 Therefore, the magnitude of potential impacts in relation to Viewpoint 11, during the construction phase, are judged to be **low**.

Significance of effect

1.8.2.248 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 11, during the construction phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.249 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.250 Therefore, the residual effect of potential impacts in relation to Viewpoint 11 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 12

Sensitivity of receptor

1.8.2.251 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 12 is **medium**.

Magnitude of impact

Landfall

1.8.2.252 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.253 If located to the south of Batter Law Hill, potential construction activity and earthworks associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be present across part of the background of the view to the northeast, on an area of rising ground directed towards the viewpoint location.

LSS

1.8.2.254 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.255 Potential construction activity associated with elevated elements of the Green LSS Option Area is likely to be barely perceptible in the background of the view to the north, situated behind and between intervening tree canopies, in the context of existing built form in the background of the view and not extending above the horizon line.

1.8.2.256 Potential construction activity associated with elevated elements of the Blue LSS Option Area would likely be visible above the distant horizon line to the northeast beyond Batter Law Hill, viewed in the context of some existing vertical infrastructure features on the horizon however it would be a discernible addition.

1.8.2.257 The scale of potential impacts on this receptor would be greater for the Blue LSS Option Area.

Summary

1.8.2.258 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a discernible change to elements of the background of the view; however, the prevailing amenity of the open distant view would remain as existing.

1.8.2.259 Therefore, the magnitude of potential impacts in relation to Viewpoint 12, during the construction phase, are judged to be **low**.

Significance of effect

1.8.2.260 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 12, during the construction phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.261 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.262 Therefore, the residual effect of potential impacts in relation to Viewpoint 12 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 13

Sensitivity of receptor

1.8.2.263 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 13 is **medium**.

Magnitude of impact

Landfall

1.8.2.264 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.265 Construction activity and earthworks associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be screened by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.266 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.267 Potential construction activity associated with elevated elements of both the Green and Blue LSS Option Areas is likely to be barely perceptible in the background of the view to the east, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.2.268 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.269 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a barely discernible change to elements of the background of the view.

1.8.2.270 Therefore, the magnitude of potential impacts in relation to Viewpoint 13, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.271 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 13, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.272 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.273 Therefore, the residual effect of potential impacts in relation to Viewpoint 13 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 14

Sensitivity of receptor

1.8.2.274 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 14 is **medium**.

Magnitude of impact

Landfall

1.8.2.275 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.276 Construction activity and earthworks associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be experienced across the width of the view in the middle ground at a slightly lower elevation to the viewpoint, however PRoW 9 Hawthorn does pass through the MHPGC Project PEIR Red Line Boundary (to the south of the viewpoint) from which there would be clear and dominant visibility. The presence of soil storage mounds may enclose some elements of the wider view when in closer proximity to them, however distant views would remain from more elevated locations. Visibility of the construction activity would extend to both the east and west and would result in a notable alteration to the overall amenity of the view.

LSS

1.8.2.277 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.278 The upper extent of taller elements of potential construction activity associated with the Green LSS Option Area would likely be barely perceptible in the background of the view, above intervening landform and vegetation and against the backdrop of existing pylons and electricity transmission lines.

1.8.2.279 Potential construction activity associated with the Blue LSS Option Area would likely be clearly visible in the mid ground of the view to the west, adding a prominent additional temporary element to the view and replacing the existing agricultural field in the context of Batter Law Hill, and of noticeable scale and height.

1.8.2.280 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.281 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a notable change to the nature of the view due to the temporary presence of construction activity across the view, and the prominence of potential construction activity within the Blue LSS Option Area.

1.8.2.282 Therefore, the magnitude of Potential impacts in relation to Viewpoint 14, during the construction phase, are judged to be **high**.

Significance of effect

1.8.2.283 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **high**. Therefore, the effect of potential impacts in relation to Viewpoint 14, during the construction phase, are judged to be **major adverse** (rather than moderate, due to the scale, proximity, and extent of potential change in multiple directions), which is significant in EIA terms.

Additional mitigation and residual effect

1.8.2.284 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES.

1.8.2.285 Therefore, the residual effect of potential impacts in relation to Viewpoint 14 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 15

Sensitivity of receptor

1.8.2.286 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 15 is **medium**.

Magnitude of impact

Landfall

1.8.2.287 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.288 Construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be screened from Viewpoint 15 by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.289 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.290 Potential construction activity associated with elevated elements of either the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the northeast, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.2.291 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.292 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a barely discernible change to elements of the background of the view.

1.8.2.293 Therefore, the magnitude of potential impacts in relation to Viewpoint 15, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.294 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 15, during the construction phase, is considered to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.295 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.296 Therefore, the residual effect of potential impacts in relation to Viewpoint 15 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 16

Sensitivity of receptor

1.8.2.297 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 16 is **medium**.

Magnitude of impact

Landfall

1.8.2.298 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.299 Construction activity associated with the installation of onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks is likely to be screened from Viewpoint 16 by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.300 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.301 Potential construction activity associated with elevated elements of either the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the southeast,

situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.2.302 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.303 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a barely discernible change to elements of the background of the view.

1.8.2.304 Therefore, the magnitude of potential impacts in relation to Viewpoint 16, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.305 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 16, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.306 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.307 Therefore, the residual effect of potential impacts in relation to Viewpoint 16 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 17

Sensitivity of receptor

1.8.2.308 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 17 is **medium**.

Magnitude of impact

Landfall

1.8.2.309 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.310 Construction activity associated with the installation of onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would be screened from Viewpoint 17 by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.311 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.2.312 Construction activity associated with the Green LSS Option Area, would be screened from Viewpoint 17 by the presence of intervening landform, vegetation, and built form.

1.8.2.313 Potential construction activity associated with elevated elements of the Blue LSS Option Area would likely be barely perceptible in the background of the view to the southeast, situated behind tree canopies and rising slightly above the horizon line.

1.8.2.314 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.2.315 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a barely discernible change to elements of the background of the view.

1.8.2.316 Therefore, the magnitude of potential impacts in relation to Viewpoint 17, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.317 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 17, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.318 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.319 Therefore, the residual effect of potential impacts in relation to Viewpoint 17 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 18

Sensitivity of receptor

1.8.2.320 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 18 is **medium**.

Magnitude of impact

Landfall

1.8.2.321 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.322 Construction activity associated with the installation of the onshore export cables, the AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be screened from Viewpoint 18 by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.323 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.2.324 Construction activity associated with the Green LS Option Area would likely be screened from Viewpoint 18 by the presence of intervening landform, vegetation, and built form.

1.8.2.325 Potential construction activity associated with elevated elements of the Blue LSS Option Area would likely be barely perceptible in the background of the view to the southeast, situated behind intervening tree canopies.

1.8.2.326 The scale of potential impacts on this receptor would be greater for the Blue LSS Option Area.

Summary

1.8.2.327 Construction activity across the MHPGC Project PEIR Red Line Boundary is likely to result in a barely discernible change to elements of the background of the view.

1.8.2.328 Therefore, the magnitude of potential impacts in relation to Viewpoint 18, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.329 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 18, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.330 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.331 Therefore, the residual effect of potential impacts in relation to Viewpoint 18 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 19

Sensitivity of receptor

1.8.2.332 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of Viewpoint 19 is **medium**.

Magnitude of impact

Landfall

1.8.2.333 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.2.334 Construction activity associated with the installation of the onshore export cables, AC connection cables and associated joint bays, link boxes, compounds and access tracks would likely be screened from Viewpoint 19 by the presence of intervening landform, vegetation, and built form.

LSS

1.8.2.335 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that construction activity up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.2.336 Potential construction activity associated with elevated elements of the LSS within either the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the north, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, wind turbines, pylons and electricity transmission lines.

1.8.2.337 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.2.338 Construction activity across the MHPGC Project PEIR Red Line Boundary would likely result in a barely discernible change to elements of the background of the view.

1.8.2.339 Therefore, the magnitude of potential impacts in relation to Viewpoint 19, during the construction phase, are judged to be **negligible**.

Significance of effect

1.8.2.340 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 19, during the construction phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.2.341 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.2.342 Therefore, the residual effect of potential impacts in relation to Viewpoint 19 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 20

1.8.2.343 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Residential visual amenity

1.8.2.344 Based on the visual impact findings during the construction phase, we do not expect that a RVAA will be required.

1.8.2.345 The nature of potential impacts experienced by residents are not considered to be overwhelming, overbearing, or overly intrusive, or of such a nature and/or magnitude that it potentially affects living conditions or residential amenity.

1.8.2.346 The impacts resulting from the MHPGC Project are therefore not considered likely to breach the Residential Visual Amenity Threshold.

1.8.3 O&M phase

Potential impacts on Durham Magnesian Limestone Plateau (NCA 15)

Sensitivity of receptor

1.8.3.1 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Durham Magnesian Limestone Plateau (NCA 15) is **low**.

Magnitude of impact

Landfall

1.8.3.2 Only TJBs would be present as small features in the landscape positioned at ground-level. These would be visible in immediate proximity but would not exert an influence on the wider character of the NCA due to the limited scale and presence at ground-level only. Agricultural land disturbed during construction would be reinstated (as stated in the MDS **Table 1.13**).

Onshore cable corridor

1.8.3.3 The onshore export cables and AC connection cables would be underground, with only ground-level access covers, joint bays, and link boxes present above ground post-construction as small features in the landscape positioned at ground-level. These would be visible in immediate proximity but would not exert an influence on the wider character of the NCA due to the limited scale and presence at ground-level only. Agricultural land disturbed during construction would be reinstated to its original condition (as stated in the MDS **Table 1.13**).

1.8.3.4 Gaps in hedgerows created during installation of the onshore export cables and AC connection cables would likely result in some segmentation of green infrastructure corridors, replanted hedgerows would reduce gap widths along the corridor to the minimum width needed for easements, safe access for cable maintenance or replacement purposes. Once established there would be a barely perceptible change to the green infrastructure network and landscape pattern, including within the AHLV to the east of Seaham Garden Village.

LSS

1.8.3.5 If the Green LSS Option Area were developed, a small proportion of open land in the vicinity of Jade Business Park would be replaced by an LSS footprint with built form up to 30m high and 200m length with associated infrastructure, fencing, access route and landscape planting (CoT43). The LSS would be present alongside other energy and industrial features and buildings in the NCA which contains existing electricity pylons and transmission lines, wind turbines, Hawthorn Pit Substation and large-scale commercial buildings.

1.8.3.6 If the Blue LSS Option Area were developed, an area open agricultural land in the vicinity of the A19 highway would be replaced by an LSS footprint with built form up to 30m high and 200m wide with associated infrastructure, fencing, access route and landscape planting (CoT43). The LSS would be a notable addition to the local landscape around the Blue LSS Option Area, but would be consistent with features of the wider NCA which contains existing electricity pylons and transmission lines, wind turbines, Hawthorn Pit Substation and large-scale commercial buildings.

1.8.3.7 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.8 There would be limited and localised changes to the landform, land use, vegetation, scale, or pattern of this NCA resulting from the MHPGC Project and the underlying character and composition would remain largely unaltered.

1.8.3.9 Therefore, the magnitude of potential impacts on Durham Magnesian Limestone Plateau (NCA 15), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.10 Overall, it is considered that the receptor sensitivity is **low** and the magnitude of impact is **negligible**. Therefore, the effect of the potential impacts on Durham Magnesian Limestone Plateau (NCA 15), during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the change occurring within a localised area of the NCA and being similar to other existing features), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.11 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.12 Therefore, the residual effect of potential impacts on Durham Magnesian Limestone Plateau (NCA 15) would remain **negligible adverse**.

Potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters

1.8.3.13 The location of the MCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.14 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters is **medium**.

Magnitude of impact

Landfall

1.8.3.15 Typically, there would be no elements of the MHPGC Project within or perceptible within or from the MCA. Maintenance vessels would be present within the MCA, these visits would be infrequent and short-term and would be perceived as a typical component of the wider seascape context.

Onshore cable corridor

1.8.3.16 There would be no potential impact on the character of the seascape from the reinstated landscape along the onshore cable corridor, returning the appearance of the wider coast outside of the MCA to equivalent to its baseline condition.

LSS

1.8.3.17 There would be no potential impact on the character of the seascape from either LSS Option Area due to the nature of the topography screening views from the coast.

Summary

1.8.3.18 Therefore, the magnitude of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.19 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters CA, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the change occurring occasionally within a localised area of the MCA and being equivalent to other existing features), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.20 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.21 Therefore, the residual effect of potential impacts on MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters would remain as **negligible adverse**.

Potential impacts on Northern Limestone Escarpment BCA

1.8.3.22 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.23 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Northern Limestone Escarpment BCA is **medium**.

Magnitude of impact

Landfall

1.8.3.24 The MHPGC Project PEIR Red Line Boundary is located outside the BCA resulting in no potential for direct landscape impacts on the BCA. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.25 Any potential impacts arising during installation of the onshore export cables and the AC connection cables would be mitigated during the O&M phase due to landscape planting and reinstatement of agricultural land (CoT43 and as stated in the MDS **Table 1.13**). There would be no perceptible change to the character of the BCA during O&M as a result of the installation of the onshore export cables and the AC connection cables.

LSS

1.8.3.26 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m within either LSS Option Area would form part of the background context of the BCA, this would be from discrete areas of higher open ground to the north and east of the BCA.

1.8.3.27 Any influence of the presence of an LSS on the perceived character of the BCA would be set against the presence of existing pylons and associated transmission lines and located beyond existing vegetation and built form in the vicinity of South Hetton (as illustrated on the photography from viewpoint 15). With this existing context, the LSS would have a barely perceptible indirect potential impact on the perceived character of the BCA.

1.8.3.28 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.29 Therefore, the magnitude of potential impacts on Northern Limestone Escarpment BCA, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.30 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Northern Limestone Escarpment BCA, during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the BCA, its key characteristics remain, and the impacts would be experienced locally within part of the BCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.31 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.32 Therefore, the residual effect of potential impacts on Northern Limestone Escarpment BCA would remain **negligible adverse**.

Potential impacts on Central East Durham Plateau BCA

1.8.3.33 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.34 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Central East Durham Plateau BCA is **negligible.**

Magnitude of impact

Landfall

1.8.3.35 TJBs would be present as small features in the landscape positioned at ground-level, outside the BCA. Agricultural land disturbed during construction outside the BCA would be reinstated (as stated in the MDS **Table 1.13**). With the presence of intervening landform, vegetation, and built form, there would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.36 The onshore export cables and AC connection cables would be underground, with only ground-level access covers, joint bays, and link boxes present above ground post-construction as small features in the landscape at ground level. These would be visible in immediate proximity but would not exert an influence on the wider character of the BCA. Agricultural land disturbed during construction would be reinstated (as stated in the MDS **Table 1.13**).

1.8.3.37 Gaps in hedgerows created during installation of the onshore export cables and AC connection cables would likely result in some segmentation of green infrastructure corridors, replanted

hedgerows would reduce gap widths along the corridor to the minimum width needed for easements, safe access for cable maintenance or replacement purposes. Although there would be gaps within hedgerows, existing hedgerows within the BCA are not fully intact and have existing large gaps in places, therefore it would not be notably out of character. Once established there would be a barely perceptible change to the green infrastructure network and landscape pattern in the area associated with the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.38 If the Green LSS Option Area were developed, a small proportion of open land in the vicinity of Jade Business Park would be replaced by the LSS footprint with built form up to 30m high and 200m wide with associated infrastructure, fencing, access route and landscape planting. The LSS would be present alongside other energy and industrial features and buildings in the BCA which contains existing electricity pylons and transmission lines, wind turbines, Hawthorn Pit Substation and large-scale commercial buildings.

1.8.3.39 If the Blue LSS Option Area were developed, there would be no direct potential landscape impacts however it would form part of the wider landscape context to the east of the BCA, adding additional built form and energy infrastructure from part of the western side of the BCA and replacing some of the existing rural context.

1.8.3.40 The scale of potential impacts on this receptor would be greater from the Green LSS Option Area.

Summary

1.8.3.41 There would be limited and localised changes to the landform, land use, vegetation, scale, or pattern of this BCA resulting from the MHPGC Project and the underlying character and composition would remain largely unaltered. Due to the location of the LSS Option Areas there would be limited change to the overall perception of character from the wider BCA in addition to the existing buildings and infrastructure.

1.8.3.42 Therefore, the magnitude of potential impacts on Central East Durham Plateau BCA, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.43 Overall, it is considered that the receptor sensitivity is **negligible** and the magnitude of impact is **low**. Therefore, the effect of potential impacts on Central East Durham Plateau BCA, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the change being limited geographical extent and equivalent to other existing features), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.44 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.45 Therefore, the residual effect of potential impacts on Central East Durham Plateau BCA would remain **negligible adverse**.

Potential impacts on Coastal East Durham Plateau BCA

1.8.3.46 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.47 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Coastal East Durham Plateau BCA is **medium**.

Magnitude of impact

Landfall

1.8.3.48 Only TJBs would be present as small features in the landscape positioned at ground-level within the BCA. These would likely be visible in immediate proximity but would not exert an influence on the wider character of the BCA. Agricultural land disturbed during construction would be reinstated (as stated in the MDS **Table 1.13**).

Onshore cable corridor

1.8.3.49 The onshore export cables and AC connection cables would be underground, with only ground-level access covers, joint bays, and link boxes present above ground post-construction as small features

in the landscape at ground level. These would likely be visible in immediate proximity but would not exert an influence on the wider character of the BCA. Agricultural land disturbed during construction would be reinstated (as stated in the MDS **Table 1.13**).

1.8.3.50 Gaps in hedgerows created during installation of the onshore export cables and AC connection cables would likely result in some segmentation of green infrastructure corridors, replanted hedgerows would reduce gap widths along the corridor to the minimum width needed for easements, safe access for cable maintenance or replacement purposes. Although there would be gaps within hedgerows, existing hedgerows within the BCA are not fully intact and have existing large gaps in places, therefore it would not be notably out of character. Once established there would be a barely perceptible change to the green infrastructure network and landscape pattern across the area associated with the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.51 If the Green LSS Option Area were developed, there would be no direct potential landscape impacts however it would form part of the wider landscape context to the west of the BCA, adding additional built form and energy infrastructure from part of the eastern side of the BCA within the context of existing built form and electricity infrastructure around Jade Business Park.

1.8.3.52 If the Blue LSS Option Area were developed, an area of open agricultural land in the vicinity of the A19 highway would be replaced by the LSS footprint with built form up to 30m high and 200m wide with associated infrastructure, fencing, access route and landscape planting. The LSS would add a new notable built urban feature within the BCA, the height of the LSS and the nature of the surrounding undulating agricultural landscape would make it a prominent but not defining element of the BCA.

1.8.3.53 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.54 The potential impacts on this BCA resulting from the MHPGC Project would be notably different depending on the LSS Option Area to be developed.

1.8.3.55 Therefore, the magnitude of potential impacts on Coastal East Durham Plateau BCA, during the O&M phase, are judged to be **medium**.

Significance of effect

1.8.3.56 It is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts on Coastal East Durham Plateau BCA, during the O&M phase, is considered to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.3.57 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES .

1.8.3.58 Therefore, the residual effect of potential impacts on Coastal East Durham Plateau BCA would remain **moderate adverse**.

Potential impacts on The Durham Coast BCA

1.8.3.59 The location of the BCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.60 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of The Durham Coast BCA is **high**.

Magnitude of impact

Landfall

1.8.3.61 TJBs would be present as small features in the landscape positioned at ground-level, outside the BCA. Agricultural land disturbed during construction outside the BCA would be reinstated (as stated in the MDS **Table 1.13**). There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.62 Following construction, disturbed areas would be reinstated and hedgerows replanted, with gaps retained only where required for easements and maintenance access. While some localised changes to hedgerow pattern may remain, these would be consistent with the existing landscape character, where hedgerows are not always continuous, and would not result in a notable change to the character of the BCA.

LSS

1.8.3.63 The ZTV (presented on **Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that an LSS up to a height of 30m above ground level within either LSS Option Area would be theoretically visible from Beacon Hill (at a distance of approximately 3km to the Blue LSS Option Area and 4.75km to the Green LSS Option area) and from the very northern extent of the BCA (at a distance of approximately 5km to the Blue LSS Option Area and 6km to the Green LSS Option Area). It Is not considered likely to have an influence on the character or perception of the BCA at those distances as a small proportion of the wider context.

1.8.3.64 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.65 Overall, there would be no perceptible change to the character of the BCA resulting from the O&M phase of the MHPGC Project.

1.8.3.66 Therefore, the magnitude of potential impacts on The Durham Coast BCA, during the O&M phase, are judged to be **no change**.

Significance of effect

1.8.3.67 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **no change**. Therefore, the effect of potential impacts on The Durham Coast BCA, during the O&M phase, are judged to be **neutral**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.68 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.69 Therefore, the residual effect of potential impacts on The Durham Coast BCA would remain **neutral**.

Potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c)

1.8.3.70 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.71 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Rainton Lowland Coalfield Lowland Terraces (LCA 2c) is **medium**.

Magnitude of impact

Landfall

1.8.3.72 The MHPGC Project PEIR Red Line Boundary is located outside LCA 2c resulting no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.73 There would likely be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.74 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m above ground level within the LSS Option Areas would not form part of the background context of this LCA within the landscape and visual amenity 5km Study Area, however it would be perceived from a discreet area beyond this distance.

1.8.3.75 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.76 Forming a small part of the overall background context of LCA 2c at this distance, and from a discreet location within the overall LCA, the presence of an LSS at either LSS Option Area is judged to result in a barely perceptible indirect potential impact on the overall character.

1.8.3.77 Therefore, the magnitude of potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.78 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c), during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.79 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.80 Therefore, the residual effect of potential impacts on Rainton Lowland Coalfield Lowland Terraces (LCA 2c) would remain **negligible adverse**.

Potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)

1.8.3.81 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.82 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c) is **medium**.

Magnitude of impact

Landfall

1.8.3.83 The MHPGC Project PEIR Red Line Boundary is located outside LCA 5c resulting in no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.84 There would likely be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.85 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m above ground level within either of the LSS Option Areas would not form part of the background context from the majority of this LCA, however it would be perceived from a discreet area at the southeastern extent of the LCA.

1.8.3.86 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.87 Any LSS would be perceived against the presence of existing pylons and associated transmission lines and situated beyond existing vegetation. With this existing context, either of the LSS Option Areas would have a barely perceptible indirect impact on the perceived character of LCA 5c.

1.8.3.88 Therefore, the magnitude of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.89 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c), during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.90 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.91 Therefore, the residual effect of potential impacts on Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c) would remain **negligible adverse**.

Potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)

1.8.3.92 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.93 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b) is **medium**.

Magnitude of impact

Landfall

1.8.3.94 The MHPGC Project PEIR Red Line Boundary is located outside LCA 6b resulting no potential for direct landscape impacts. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.95 There would likely be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.96 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m above ground level within either LSS Option Area would not form part of the background context from the majority of this LCA, however it would be perceived from two discrete areas – one at the southeastern extent of the LCA at Orchard Hill and one to the west of Hetton Lyons Country Park. Both locations are inaccessible to the public.

1.8.3.97 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.98 The Green or Blue LSS Option Area would be perceived against the presence of existing pylons and associated transmission lines and situated beyond existing vegetation. With this existing context, either of the LSS Option Areas would likely have a barely perceptible indirect impact on the perceived character of LCA 6b.

1.8.3.99 Therefore, the magnitude of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.100 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b), during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.101 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.102 Therefore, the residual effect of potential impacts on Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b) would remain **negligible adverse**.

Potential impacts on High Moorsley Limestone Escarpment (LCA 6c)

1.8.3.103 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.104 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the High Moorsley Limestone Escarpment (LCA 6c) is **medium**.

Magnitude of impact

Landfall

1.8.3.105 The MHPGC Project PEIR Red Line Boundary is located outside LCA 6c resulting no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.106 There would be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.107 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m within either LSS Option Area would form part of the background context of the LCA, this would be from an area of higher open ground within the centre of the LCA to the east of High Moorsley Quarry (in the vicinity of viewpoint 13).

1.8.3.108 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.109 Any LSS would be perceived against the presence of existing pylons and associated transmission lines and beyond existing vegetation and built form at Hetton-le-Hole (as illustrated on the photography from viewpoint 13). With this existing context, either of the LSS Option Areas would have a barely perceptible indirect potential impact on the perceived character of LCA 6c.

1.8.3.110 Therefore, the magnitude of potential impacts on High Moorsley Limestone Escarpment (LCA 6c), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.111 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on High Moorsley Limestone Escarpment (LCA 6c), during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.112 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.113 Therefore, the residual effect of potential impacts on High Moorsley Limestone Escarpment (LCA 6c) would remain **negligible adverse**.

Potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a)

1.8.3.114 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.115 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Warden Law and Eppleton Moor Clay Plateau (LCA 7a) is **medium**.

Magnitude of impact

Landfall

1.8.3.116 The MHPGC Project PEIR Red Line Boundary is located outside LCA 6c resulting no potential for direct landscape impacts. There would be no indirect impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.117 There would be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.118 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that the presence of a LSS up to a height of 30m within either LSS Option Area would form part of the background context of the LCA, this would be from an area south of Murton Lane, around Windmill Hill and Great Eppleton Wind Farm (in the vicinity of viewpoint 16) and around the Hetton-Warden Law Trail and Salters Lane (in the vicinity of viewpoint 17).

1.8.3.119 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.120 Any LSS would be perceived against the presence of existing wind turbines, pylons and associated transmission lines and beyond existing vegetation and built form at Murton. With this existing context, either of the LSS Option Areas would have a barely perceptible indirect potential impact on the perceived character of LCA 7a.

1.8.3.121 Therefore, the magnitude of potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.122 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a), during the O&M phase, are judged to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.123 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.124 Therefore, the residual effect of the potential impacts on Warden Law and Eppleton Moor Clay Plateau (LCA 7a) would remain **negligible adverse**.

Potential impacts on Burdon to Ryhope (LCA 8c)

1.8.3.125 The location of the LCA is shown on **Figure 1.5, Landscape character**.

Sensitivity of receptor

1.8.3.126 The baseline is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**, it is judged that the sensitivity of the Burdon to Ryhope (LCA 8c) is **medium**.

Magnitude of impact

Landfall

1.8.3.127 The MHPGC Project PEIR Red Line Boundary is located outside LCA 8c resulting no potential for direct landscape impacts. There would be no indirect potential impacts from landfall relating to the wider landscape context of this receptor as there is no direct line of sight. There would be no potential impacts from landfall on this receptor.

Onshore cable corridor

1.8.3.128 There would be no perceptible change to the character of the LCA during O&M as a result of the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.129 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that an LSS up to a height of 30m above ground level within either LSS Option Area would form part of the background context of the southern extent of the LCA within the landscape and visual amenity 5 km Study Area, and from the northern part of the LCA south of Ryhope beyond this distance (in the vicinity of viewpoint 20).

1.8.3.130 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.131 A LSS forming a small part of the overall background context of LCA 8c at this distance is judged to result in a barely perceptible indirect potential impact on the overall character.

1.8.3.132 Therefore, the magnitude of potential impacts on Burdon to Ryhope (LCA 8c), during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.133 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts on Burdon to Ryhope (LCA 8c), during the O&M phase, is considered to be **negligible adverse** (rather than minor, as there are no physical changes to the character of the LCA, its key characteristics remain, and the impacts would be experienced locally within part of the LCA), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.134 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.135 Therefore, the residual effect of potential impacts on Burdon to Ryhope (LCA 8c) would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 1

Sensitivity of receptor

1.8.3.136 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 1 is **high**.

Magnitude of impact

Landfall

1.8.3.137 The landfall would be underground, with only TJBs present as small features in the landscape positioned at ground-level. These would likely be visible in immediate proximity but would not exert an influence on the wider amenity of the view. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity from this location in relation to the landfall area.

Onshore cable corridor

1.8.3.138 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity from this location along the length of the area associated with the installation of the onshore export cables and AC connection cables.

LSS

1.8.3.139 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up at a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.140 If the Green LSS Option Area were developed, the upper elements of the LSS would be likely visible against the skyline in the background of the view. However, the change would be barely discernible due to distance and the presence of existing infrastructure elements against the skyline in this portion of the view.

1.8.3.141 If the Blue LSS Option Area were developed, the LSS would likely be identifiable against the skyline to the northwest in the background of the view. The scale of the LSS would make it a discernible alteration to the view (adding built form to a proportion of the view where there is currently none) however it would form one of many buildings and infrastructure elements that are present in the overall view from this location. The prevailing amenity of the view (including the panoramic views, the presence of the coast and sea, distant views and the rural context) would remain as existing.

1.8.3.142 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.143 Therefore, the magnitude of potential impacts in relation to Viewpoint 1, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.144 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 1, during the O&M phase, are judged to be **minor adverse** (rather than moderate, due to the distance and nature of other existing features within the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.145 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.146 Therefore, the residual effect of potential impacts in relation to Viewpoint 1 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 2

Sensitivity of receptor

1.8.3.147 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 2 is **high**.

Magnitude of impact

Landfall

1.8.3.148 The landfall would be underground, with only TJBs present as small features in the landscape positioned at ground-level. These would likely be visible in immediate proximity but would not exert an influence on the wider amenity of the view. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity from this location along the length of the area associated with the installation of the onshore export cables and AC connection cables.

Onshore cable corridor

1.8.3.149 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity from this location in relation to the landfall area.

LSS

1.8.3.150 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up at a height of 30m within either LSS Option Area would not be theoretically visible.

1.8.3.151 Existing landform and vegetation would screen any potential visibility towards either LSS Option Area.

Summary

1.8.3.152 This would reinstate the baseline visual amenity for receptors from this location.

1.8.3.153 Therefore, the magnitude of potential impacts in relation to Viewpoint 2, during the O&M phase, are judged to be **no change**.

Significance of effect

1.8.3.154 Overall, it is considered that the receptor sensitivity is **high** and the magnitude of impact is **no change**. Therefore, the effect of potential impacts in relation to Viewpoint 2, during the O&M phase, are judged to be **neutral**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.155 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.156 Therefore, the residual effect of potential impacts in relation to Viewpoint 2 would remain **neutral**.

Potential impacts in relation to Viewpoint 3

1.8.3.157 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 4

1.8.3.158 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 5

1.8.3.159 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Potential impacts in relation to Viewpoint 6

Sensitivity of receptor

1.8.3.160 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 6 is **medium**.

Magnitude of impact

Landfall

1.8.3.161 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.162 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.163 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up at a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.164 The presence of a LSS within the Green LSS Option Area would likely be clearly visible in the view in the context of existing built form within Jade Business Park in the middle ground of the view. The LSS would be of greater height than existing buildings and extend above the distant horizon line. This would result in a notable addition to the view and increase the prominence of urban features in the view.

1.8.3.165 The presence of a LSS within the Blue LSS Option Area would likely be clearly visible in the view in the vicinity of Batter Law Hill in the background of the view. The LSS would add a new urban feature within a generally rural aspect of the overall view. This would result in a notable addition to the view and increase the prominence of urban features in the view.

1.8.3.166 The scale of potential impacts on this receptor would be grater from the Green LSS Option Area.

Summary

1.8.3.167 The LSS would result in a notable addition to elements of the midground or background of the view, however the prevailing amenity of the view (including the open views across an undulating context with a mix of built form and energy infrastructure) would remain broadly as existing.

1.8.3.168 Therefore, the magnitude of potential impacts in relation to Viewpoint 6, during the O&M phase, are judged to be **medium**.

Significance of effect

1.8.3.169 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts in relation to Viewpoint 6, during the O&M phase, are judged to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.3.170 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES .

1.8.3.171 Therefore, the residual effect of potential impacts in relation to Viewpoint 6 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 7

Sensitivity of receptor

1.8.3.172 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 7 is **medium**.

Magnitude of impact

Landfall

1.8.3.173 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.174 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.175 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up at a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.176 The presence of a LSS within the Green LSS Option Area would likely be visible above and filtered by intervening tree canopies and result in a discernible addition to the view alongside other urban and built elements.

1.8.3.177 The presence of a LSS within the Blue LSS Option Area would likely be a notable addition to the background of the view to the left of Batter Law Hill, within what was previously an agricultural field. The low-lying nature of the view would limit its prominence, however the taller elements of the LSS would extend above the visible horizon line.

1.8.3.178 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.179 The LSS would likely result in a notable change to elements of the midground or background of the view, however the prevailing amenity of the view (including the open views across an undulating context with a mix of built form and energy infrastructure) would remain broadly as existing.

1.8.3.180 Therefore, the magnitude of potential impacts in relation to Viewpoint 7, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.181 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 7, during the O&M phase, is considered to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.182 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.183 Therefore, the residual effect of potential impacts in relation to Viewpoint 7 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 8

Sensitivity of receptor

1.8.3.184 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 8 is **medium**.

Magnitude of impact

Landfall

1.8.3.185 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.186 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.187 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.3.188 The presence of a LSS within the Green LSS Option Area would be screened by existing vegetation, with filtered views towards built form through tree canopies during winter months, resulting in a barely perceptible change.

1.8.3.189 The upper extents of a LSS within the Blue LSS Option Area would be visible in the distance slightly above the height of intervening tree canopies and below the height of existing telegraph poles and associated lines. This would add an urbanising element to a small proportion of the view but not be wholly out of context with existing agricultural buildings.

1.8.3.190 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.191 The LSS would result in a barely perceptible change to the background of the view, the prevailing amenity of the view would remain as existing.

1.8.3.192 Therefore, the magnitude of potential impacts in relation to Viewpoint 8, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.193 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 8, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.194 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.195 Therefore, the residual effect of potential impacts in relation to Viewpoint 8 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 9

Sensitivity of receptor

1.8.3.196 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 9 is **medium**.

Magnitude of impact

Landfall

1.8.3.197 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.198 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.199 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.200 The presence of a LSS within the Green LSS Option Area would be likely visible in the context of existing built form at Jade Business Park from the southern section of the PRoW 9 Hawthorn (illustrated by photograph 9b), above the canopies of trees in Coop House Wood and against the backdrop of pylons and electricity transmission lines beyond. This would likely result in a discernible alteration to the view. From the northern section of the PRoW (illustrated by photograph 9a) views would be screened by the hedgerow along the western edge of the PRoW.

1.8.3.201 The presence of a LSS within the Blue LSS Option Area would likely be clearly visible to the east across an open agricultural field with few existing urban features in the view. Taller elements of the LSS would be present against the skyline and result in a notable change to the overall amenity of the view. From parts of the PRoW it is likely that boundary fencing and landscape planting would be visible at the western edge of the Blue LSS Option Area.

1.8.3.202 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.203 The magnitude of potential impacts in relation to Viewpoint 9, during the O&M phase, are judged to be **medium**.

Significance of effect

1.8.3.204 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts in relation to Viewpoint 9, during the O&M phase, is considered to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.3.205 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES .

1.8.3.206 Therefore, the residual effect of potential impacts in relation to Viewpoint 9 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 10

Sensitivity of receptor

1.8.3.207 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 10 is **medium**.

Magnitude of impact

Landfall

1.8.3.208 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.209 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.210 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.211 The presence of a LSS within the Green LSS Option Area would likely result in visibility of the upper extent of built form being partially visible and barely perceptible within the background of the view, above intervening landform and vegetation.

1.8.3.212 The presence of a LSS within the Blue LSS Option Area would likely result in visibility of the upper extents of built form in the mid ground of the view immediately beyond the crest of the agricultural field, adding a discernible additional element to the view against the skyline beyond.

1.8.3.213 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.214 Therefore, the magnitude of potential impacts in relation to Viewpoint 10, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.215 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 10, during the O&M phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.216 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.217 Therefore, the residual effect of potential impacts in relation to Viewpoint 10 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 11

Sensitivity of receptor

1.8.3.218 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 11 is **medium**.

Magnitude of impact

Landfall

1.8.3.219 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.220 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.221 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.222 The presence of a LSS within the Green LSS Option Area would likely be barely perceptible and filtered by existing hedgerow trees to the northwest.

1.8.3.223 The presence of a LSS within the Blue LSS Option Area would likely be visible above the distant horizon line to the northwest, viewed in the context of other existing vertical infrastructure features on the horizon but being a discernible addition.

1.8.3.224 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.225 Therefore, the magnitude of potential impacts in relation to Viewpoint 11, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.226 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 11, during the O&M phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.227 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.228 Therefore, the residual effect of potential impacts in relation to Viewpoint 11 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 12

Sensitivity of receptor

1.8.3.229 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 12 is **medium**.

Magnitude of impact

Landfall

1.8.3.230 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.231 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.232 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.233 The presence of a LSS within the Green LSS Option Area would likely be barely perceptible and filtered by existing hedgerow trees to the north, in the context of existing built form in the background of the view and not extending above the horizon line.

1.8.3.234 The presence of a LSS within the Blue LSS Option Area would likely be visible above the distant horizon line to the northeast, beyond Batter Law Hill, viewed in the context of some existing vertical infrastructure features on the horizon however it would be a discernible addition.

1.8.3.235 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.236 Therefore, the magnitude of potential impacts in relation to Viewpoint 12, during the O&M phase, are judged to be **low**.

Significance of effect

1.8.3.237 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **low**. Therefore, the effect of potential impacts in relation to Viewpoint 12, during the O&M phase, are judged to be **minor adverse**, which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.238 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.239 Therefore, the residual effect of potential impacts in relation to Viewpoint 12 would remain **minor adverse**.

Potential impacts in relation to Viewpoint 13

Sensitivity of receptor

1.8.3.240 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 13 is **medium**.

Magnitude of impact

Landfall

1.8.3.241 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.242 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.243 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.244 The presence of a LSS within either the Green or Blue LSS Option Areas would be barely perceptible in the background of the view to the east, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.3.245 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.246 Therefore, it is considered that the magnitude of potential impacts in relation to Viewpoint 13, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.247 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 13, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.248 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.249 Therefore, the residual effect of potential impacts in relation to Viewpoint 13 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 14

Sensitivity of receptor

1.8.3.250 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 14 is **medium**.

Magnitude of impact

Landfall

1.8.3.251 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.252 The onshore export cables and AC connection cables would be underground, with access covers, joint bays, and link boxes present at ground level, which would not be identifiable in the view from receptors associated with this viewpoint. Agricultural land disturbed during construction would be reinstated and replacement hedgerows would be planted (CoT43 and as stated in the MDS **Table 1.13**). This would reinstate the baseline visual amenity along the length of the cable corridor from this location.

LSS

1.8.3.253 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.254 The presence of the upper extent of taller elements of an LSS within the Green LSS Option Area would likely be barely perceptible in the background of the view, above intervening landform and vegetation and against the backdrop of existing pylons and electricity transmission lines.

1.8.3.255 An LSS within the Blue LSS Option Area would likely be clearly visible in the mid ground of the view to the west, adding a prominent additional element to the view and replacing the existing agricultural field in the context of Batter Law Hill. From an elevated position relative to the Blue LSS Option Area, there would be visibility across a range of LSS infrastructure.

1.8.3.256 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.257 Therefore, the magnitude of potential impacts in relation to Viewpoint 14, during the O&M phase, are judged to be **medium**.

Significance of effect

1.8.3.258 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **medium**. Therefore, the effect of potential impacts in relation to Viewpoint 14, during the O&M phase, are judged to be **moderate adverse**, which is significant in EIA terms.

Additional mitigation and residual effect

1.8.3.259 No additional mitigation is proposed within the PEIR, the embedded mitigation is deemed to be adequate for a development of this nature. The need for additional mitigation will remain under review throughout production of the ES .

1.8.3.260 Therefore, the residual effect of potential impacts in relation to Viewpoint 14 would remain **moderate adverse**.

Potential impacts in relation to Viewpoint 15

Sensitivity of receptor

1.8.3.261 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 15 is **medium**.

Magnitude of impact

Landfall

1.8.3.262 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.263 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.264 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.265 The presence of an LSS within either of the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the northeast, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.3.266 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.267 Therefore, the magnitude of potential impacts in relation to Viewpoint 15, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.268 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 15, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.269 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.270 Therefore, the residual effect of potential impacts in relation to Viewpoint 15 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 16

Sensitivity of receptor

1.8.3.271 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 16 is **medium**.

Magnitude of impact

Landfall

1.8.3.272 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.273 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.274 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.275 The presence of an LSS within either of the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the southeast, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, pylons and electricity transmission lines.

1.8.3.276 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.277 Therefore, the magnitude of potential impacts in relation to Viewpoint 16, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.278 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 16, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.279 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.280 Therefore, the residual effect of potential impacts in relation to Viewpoint 16 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 17

Sensitivity of receptor

1.8.3.281 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 17 is **medium**.

Magnitude of impact

Landfall

1.8.3.282 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.283 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.284 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.3.285 An LSS within the Green LSS Option Area would likely be screened by the presence of intervening landform, vegetation, and built form.

1.8.3.286 The elevated elements of an LSS within the Blue LSS Option Area is likely to be barely perceptible in the background of the view to the southeast, situated behind tree canopies and rising slightly above the horizon line, resulting in a barely discernible change to elements of the background of the view.

1.8.3.287 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.288 Therefore, the magnitude of potential impacts in relation to Viewpoint 17, during the O&M phase, is judged to be **negligible**.

Significance of effect

1.8.3.289 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 17, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.290 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.291 Therefore, the residual effect of potential impacts in relation to Viewpoint 17 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 18

Sensitivity of receptor

1.8.3.292 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 18 is **medium**.

Magnitude of impact

Landfall

1.8.3.293 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.294 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.295 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m would be theoretically visible within the Blue LSS Option Area but only within the bare earth analysis (without existing trees and buildings) for the Green LSS Option Area.

1.8.3.296 If within the Green LSS Option Area, the LSS would likely be screened by the presence of intervening landform, vegetation, and built form.

1.8.3.297 If within the Blue LSS Option Area, elevated elements of the LSS would likely be barely perceptible in the background of the view to the southeast, situated behind intervening tree canopies, resulting in a barely discernible change.

1.8.3.298 The scale of potential impacts on this receptor would be greater from the Blue LSS Option Area.

Summary

1.8.3.299 Therefore, the magnitude of potential impacts in relation to Viewpoint 18, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.300 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 18, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.301 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.302 Therefore, the residual effect of potential impacts in relation to Viewpoint 18 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 19

Sensitivity of receptor

1.8.3.303 The baseline is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**, it is judged that the sensitivity of the Viewpoint 19 is **medium**.

Magnitude of impact

Landfall

1.8.3.304 There would be no potential impacts from landfall on this receptor as there is no direct line of sight.

Onshore cable corridor

1.8.3.305 There would be no potential impacts from onshore cable corridor on this receptor.

LSS

1.8.3.306 The ZTV (**Figure 1.2: Zone of theoretical visibility and viewpoints – green LSS** and **Figure 1.3: Zone of theoretical visibility and viewpoints – blue LSS**) illustrates that built form up to a height of 30m within either LSS Option Area would be theoretically visible.

1.8.3.307 The presence of elevated elements of a LSS within either the Green or Blue LSS Option Areas would likely be barely perceptible in the background of the view to the north, situated behind tree canopies and rising slightly above the horizon line in the context of existing built form, wind turbines, pylons and electricity transmission lines. This is considered to result in a barely discernible change to elements of the background of the view.

1.8.3.308 The scale of potential impacts on this receptor would be equal for either LSS Option Area.

Summary

1.8.3.309 Therefore, the magnitude of potential impacts in relation to Viewpoint 19, during the O&M phase, are judged to be **negligible**.

Significance of effect

1.8.3.310 Overall, it is considered that the receptor sensitivity is **medium** and the magnitude of impact is **negligible**. Therefore, the effect of potential impacts in relation to Viewpoint 19, during the O&M phase, are judged to be **negligible adverse** (rather than minor, due to the limited change to the overall nature of the view), which is not significant in EIA terms.

Additional mitigation and residual effect

1.8.3.311 Additional mitigation is not required as there would not be significant effects on this receptor.

1.8.3.312 Therefore, the residual effect of potential impacts in relation to Viewpoint 19 would remain **negligible adverse**.

Potential impacts in relation to Viewpoint 20

1.8.3.313 Receptors at this viewpoint are not judged to have the potential for significant visual impacts, so have been scoped out from further consideration.

Residential visual amenity

1.8.3.314 Based on the visual impact findings during the O&M phase, we do not expect that a RVAA will be required.

1.8.3.315 The nature of potential impacts experienced by residents are not considered to be overwhelming, overbearing, or overly intrusive, or of such a nature and/or magnitude that it potentially affects living conditions or residential amenity.

1.8.3.316 The impacts resulting from the MHPGC Project are therefore not considered likely to breach the Residential Visual Amenity Threshold.

1.8.4 Decommissioning phase

1.8.4.1 The decommissioning phase for landfall, the onshore cable corridor and the offshore cable corridor has been scoped out of the landscape and visual amenity assessment (**Table 1.12**) and is therefore not considered.

1.8.4.2 The effects of decommissioning for the LSS are judged to be equal to or less than the effects during construction, refer to Section 1.8.2 for a description of the impacts.

1.9 Cumulative effects

1.9.1 Cumulative Effects Assessment Methodology

1.9.1.1 The Morven Programme comprises four distinct projects: Morven North, Morven South, Morven Hawthorn Pit Grid Connection Project (MHPGC Project), and Morven Branxton Area Grid Connection Project (MBAGC Project). As the largest Zone of Influence (ZOI) for the onshore CEA does not overlap with Morven North, Morven South or MBAGC, the onshore Cumulative Effects Assessment (CEA) has been undertaken to assess the MHPGC Project alone with relevant projects, plans and activities using a tiered approach. The CEA has been undertaken in accordance with the methodology described in Volume 1, Chapter 4: Approach to Environmental Impact Assessment.

1.9.1.2 The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see **Volume 1, Annex 4.4: Cumulative Screening and Location Plan**). Each project or plan has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

1.9.1.3 In undertaking the CEA for MHPGC Project, it should be noted that other projects and plans under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to a cumulative impact alongside MHPGC Project. Therefore, a tiered approach has been adopted, whereby all third-party projects and plans considered have been allocated into 'tiers' reflecting their current stage within the planning and development process. This provides a framework for placing relative weight upon the potential for each project/plan included in the CEA to ultimately be realised, based upon the project/plan's current stage of maturity and certainty in the project/plan's parameters. The tiered approach utilised within the MHPGC Project CEA employs the following tiers:

- Tier 1 assessment – Existing developments either built (operational) or under construction; approved developments awaiting implementation; and permitted/submitted application(s), but not yet determined, plus Morven North and Morven South.
- Tier 2 assessment – All plans/projects assessed under Tier 1, plus plans/projects where a scoping report has been submitted and is in the public domain.
- Tier 3 assessment – All plans/projects assessed under Tier 1 and 2, plus MBAGC Project, and plans/projects that are reasonably foreseeable (e.g. projects identified in development plans, projects in other plans and programmes, offshore renewable energy projects that have a Crown Estate Scotland Lease Option Agreement).

1.9.1.4 The specific projects and plans screened into the CEA for landscape and visual amenity are outlined in **Table 1.15**.

1.9.1.5 All potential impacts from the MHPGC Project alone assessment have been scoped into to the CEA (listed in Table 1.11).

1.9.1.6 Similarly, some of the potential impacts considered within the MHPGC Project alone assessment are specific to a particular phase of development (e.g. construction, O&M or decommissioning). Where cumulative effects with other plans or projects only have potential to occur where there is spatial or temporal overlap with MHPGC Project during certain phases of development, impacts associated with a certain phase may be omitted from further consideration where no plans or projects have been identified that have the potential for cumulative effects during this period.

1.9.1.7 The cumulative landscape and visual amenity study area extends 10km from the LSS Option Areas. This allows for consideration of a worst-case scenario where a receptor located at the edge of the 5km Landscape and Visual Amenity Study Area may be impacted by both the MHPGC Project in one direction and a cumulative project in another.

1.9.1.8 Tier 1 cumulative projects where the construction period is due to complete before commencement of the MHPGC Project Construction Phase are considered as future baseline.

1.9.1.9 Cumulative projects located within character areas not directly impacted by MHPGC Project and with no likely intervisibility have been screened out of the CEA. Landscape effects from the cumulative

projects would be direct, with indirect landscape impacts from the MHPGC Project on areas elsewhere in the character area unlikely to result in cumulative landscape impacts – as it would form a very small part of the wider landscape context against other similar elements and energy infrastructure and not influence the key characteristics of those character areas.

Table 1.15: List of other projects and plans considered within the Cumulative Effects Assessment for landscape and visual amenity

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
Tier 1					
DCC1 Electric Vehicle Charging Hub	Consented	0.73km	Change of use of land to electric vehicle charging hub including resurfacing, erection of electricity substation, installation of electric vehicle charging points, landscaping and associated external works	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Coastal East Durham Plateau BCA
DCC2 Land To The West Of Elemore View 50 dwellings	In Planning - Application submitted	0.73km	Erection of 50no. affordable dwellings with associated access and landscaping (amended description).	Detail not available	Within Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA
DCC5 Croup Hill Solar Farm	Consented	0km	Commencement of Development for the creation of a solar farm	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with: • Viewpoint 6

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC7 Phase 2 Jade Business Park	Consented	0km	Application for reserved matters comprising the construction of 3 industrial units with associated access, parking, landscaping and drainage (Phase 2) pursuant to outline planning permission DM/21/002901/OUT (B2/B8 industrial development).	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with: • Viewpoint 6 • Viewpoint 7 • Viewpoint 9
DCC8 Transport hub and active travel scheme	Consented	0km	Transport hub and active travel scheme including improvements to bus, cycle and pedestrian facilities and access road, car parking and associated works including landscaping and biodiversity enhancement.	Under construction, due to be complete April 2027	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA
DCC9 Temporary installation of a battery energy storage system	In Planning - Application submitted	0km	Temporary installation of a battery energy storage system, along with ancillary infrastructure, acoustic and security fencing, access, landscaping provision and ecological enhancements.	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC11 Eastern Green Link 1, Converter Station	Consented	0km	Reserved Matters application (all matters, being details of the permanent access, appearance, landscaping, layout and scale) for the erection of a converter station, and the laying out of replacement public open space on land to the west and south of Jade Business Park pursuant to DM/22/01663/OUT	Under construction, works to be complete in 2029	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with: • Viewpoint 9
DCC12 81 homes and a convenience store	In Planning - Application submitted	0km	Erection of 81 no. homes, a convenience store (use class E) and associated infrastructure and landscaping	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Coastal East Durham Plateau BCA Views from receptors associated with: • Viewpoint 1 • Viewpoint 11 • Viewpoint 14

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC13 149 homes, Land East of Seaham Garden Village	In Planning - Application submitted	0km	Demolition of existing farm buildings and dwellings and erection of 149 dwellings (use class C3) with vehicle access, open space, landscaping, SUDS, and associated infrastructure works	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Coastal East Durham Plateau BCA The Durham Coast BCA Views from receptors associated with: • Viewpoint 1 • Viewpoint 2 • Viewpoint 14
DCC14 Land North West Of Hallfield Farm Solar Farm	Pre-application	0km	Screening Opinion request for the construction, operation and decommissioning of a Battery Energy Storage System (BESS) with a storage capacity of up to 300 megawatts (MW).	Detail not available	Within MHPGC Project PEIR Red Line Boundary Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA
DCC15 South Sharpley Solar Farm	In Planning - Application submitted	1.5km	Installation of a solar farm together with all associated works, equipment and necessary infrastructure including battery storage (Cross boundary site with Sunderland City Council)	Construction to span 12 months, with a project lifespan of 40 years	Durham Magnesian Limestone Plateau (NCA 15) Warden Law and Eppleton Moor Clay Plateau (LCA 7a) Central East Durham Plateau BCA Views from receptors associated with:

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
					• Viewpoint 16 • Viewpoint 18
DCC16 Land At Former Forest Estate/South Of Murton Lane - Erection of 135 no. dwellings	Consented	1.6km	Erection of 135 no. residential dwellings (Use Class C3) with associated access, parking, landscaping, sustainable drainage and associated infrastructure.	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)
DCC114 Land To The North Of Hackworth Road Solar Farm	In Planning - Application submitted	2km	Temporary planning permission for 40 years for the construction and operation of a solar farm, battery energy storage system (BESS) with associated infrastructure, access improvements, and ancillary development, including ecological enhancements and continued agricultural use.	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with: • Viewpoint 11 • Viewpoint 19
DCC115 Harehill Farm Solar Farm	Refused - Appeal Lodged	3.3km	Installation of a solar farm, Battery Energy Storage System (BESS), associated infrastructure such as hardstanding area and internal access track.	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with:

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
					• Viewpoint 19
DCC120 Battery Energy Storage System	In Planning - Application submitted	4.2km	Proposed battery energy storage system (BESS) together with associated infrastructure, engineering works and landscaping	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Central East Durham Plateau BCA Views from receptors associated with: • Viewpoint 19
DCC140 Land To The East, South And West Of Benridge Farm, Solar Farm	In Planning - Application submitted	9.14km	Installation of a solar farm together with all associated works, equipment and necessary infrastructure including battery storage.	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Coastal East Durham Plateau BCA
SCC28 Land at Salters Lane Slingley Hill - Installation of a Solar Farm	In Planning - Application submitted	3.7km	Installation of a solar farm together with all associated works, equipment and necessary infrastructure including battery storage. (Additional plans and	Detail not available	Durham Magnesian Limestone Plateau (NCA 15) Warden Law and Eppleton Moor Clay Plateau (LCA 7a) Central East Durham Plateau BCA

Project/plan	Status	Distance from MHPGC Project (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
			documents received 28.05.2026).		Views from receptors associated with: • Viewpoint 16 • Viewpoint 18

1.9.2 Maximum Design Scenario – Cumulative Effects Assessment

1.9.2.1 The MDSs identified in **Table 1.13** have been selected as those having the potential to result in the greatest effect on landscape and visual amenity. The cumulative effects presented and assessed in this section have been based on **Volume 1, Chapter 2: Project Description**, of the PEIR alongside available information from other projects and plans to define an MDS for CEA.

1.10 Cumulative Effects Assessment

1.10.1 Overview

1.10.1.1 A description of the significance of cumulative effects upon landscape and visual amenity receptors arising from each identified potential impact is given below. The CEA for MHPGC Project is presented in **Table 1.16** and **Table 1.17**.

1.10.2 Landscape

1.10.2.1 There is potential for cumulative landscape and seascape impacts as a result of activities associated with MHPGC Project and other projects that are under construction, in operation or with planned decommissioning. The summary of the Cumulative Effects Assessment is presented in Table 1.16.

1.10.2.2 For Tier 1 cumulative projects there is potential for cumulative potential landscape impacts on the following character areas:

- Durham Magnesian Limestone Plateau (NCA 15)
- Tyne, Tees and Wear Estuaries and Coastal Waters (MCA 22)
- Central East Durham Plateau BCA
- Coastal East Durham Plateau BCA
- The Durham Coast BCA
- Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)
- Warden Law and Eppleton Moor Clay Plateau (LCA 7a)

1.10.2.3 The likely potential cumulative landscape impacts and key generating potential impacts during construction are as a result of:

- Reduced tranquillity
- Change of land use
- Change of landform
- Addition of noticeable construction activity and features
- Loss of existing landscape features

1.10.2.4 The likely potential cumulative landscape impacts and key generating potential impacts during operation and maintenance are as a result of:

- Change of land use
- Change of landform
- Change of landscape pattern
- Addition of new built form
- Addition of new energy infrastructure
- Loss of existing landscape features
- Presence of new/replacement landscaping

1.10.2.5 No Tier 2 or Tier 3 cumulative projects with potential for potential cumulative landscape impacts have been identified.

1.10.2.6 Primary landscape cumulative effects are likely due to the presence of multiple solar and BESS projects (which retain the overall landform and landscape pattern but increase the presence of energy and urbanising infrastructure over large areas of the landscape) and large scale residential and commercial developments on greenfield land (which result in changes to land use, landform, and increase the prominence of urban development across the wider landscape).

1.10.2.7 These cumulative projects have direct potential impacts on the character areas within which they are located, and have the potential to be experienced together from individual locations and/or sequentially across the landscape.

Table 1.16: MHPGC Project CEA for Landscape

	Cumulative Effects Assessment
	Tier 1
Construction phase	
Magnitude of impact	Tier 1 Durham Magnesian Limestone Plateau (NCA 15): All cumulative projects identified within the BCA and LCA character areas below are also located within the NCA, as the NCA overlays all the BCA and LCA. As such, specific commentary on the potential landscape impacts of each cumulative project are described within each BCA and LCA and not repeated for the NCA. The nature and scale of the cumulative projects within the NCA would add a discernible level of change to the NCA during construction, through presence of additional activity and reduced tranquillity, but not wholly uncharacteristic of general change to be expected across a large geographic area. The potential cumulative impact is predicted to be of distributed spatial extent, medium-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **low**. Central East Durham Plateau BCA: Cumulative projects DCC2, DCC5, DCC7, DCC8, DCC9, DCC11, DCC14, DCC15, DCC114, DCC115, and DCC120 are located within the BCA, with SCC28 immediately to the west. DCC7 is located immediately to the east of the Green LSS Option Area, if construction of this cumulative projects was concurrent this would add to a localised intensity of activity and change within one part of the BCA. Construction activity associated with DCC5, DCC15, DCC114, DCC115 and SCC28 would be of limited prominence as they are predominantly solar farm proposals, however the additional activity would be noticeable incrementally throughout the BCA alongside DCC14 and DCC120. DCC2 is separated from the MHPGC Project by existing residential areas at Cock Hill and South Hetton but would contribute incrementally to reduction in tranquillity and change of land use within the BCA. Construction of DCC8 and DCC9 are considered to have limited influence on the character of the BCA against their baseline condition. Construction of DCC11 would be complete prior to construction of the MHPGC Project, it is considered in the operations and maintenance phase only. Overall, there is a large scale of change within the BCA, with the nature of the development types limiting the specific construction stage potential impacts. The potential cumulative impact is predicted to be of distributed spatial extent with some concentrated activity within and around Jade Business Park, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **medium**. Coastal East Durham Plateau BCA: Cumulative projects DCC1, DCC12, DCC13, and DCC140 are located within the BCA. DCC13 is located within the MHPGC Project PEIR Red Line Boundary immediately west of the railway line (within the AHLV), with DCC12 located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. During construction, the presence of DCC12 and DCC13 (along with the construction associated with the MHPGC Project landfall and the onshore cable corridor within the BCA) would contribute to an increased scale of change, intensity of construction activity, and associated reduction of tranquillity with approximately 2.5km distance between them. Due to the presence of existing built form, woodland blocks and variation in landform, this potential cumulative impact would be localised within this area of the BCA. DCC1 would be

	Cumulative Effects Assessment
	physically separated from the MHPGC Project by the presence of Seaham Garden Village with DCC140 located over 9km to the south and would not be experienced cumulatively within the landscape, although they would contribute incrementally to an overall level of change and construction activity within the BCA. The potential cumulative impact is predicted to be of localised spatial extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **medium**. The Durham Coast BCA: Cumulative project DCC13 would be located immediately west of the BCA separated by the railway corridor, it is located wholly within the MHPGC PEIR Red Line Boundary. If construction were to happen together there would be a larger area of activity alongside the BCA with increased reduction in tranquillity within a small part of the BCA while if construction were to happen sequentially there would be an equivalent potential impact over a longer period of time. Due to the presence of built form and required construction activity DCC13 would have greater visual prominence across the BCA than the MHPGC Project, increasing the presence of urbanising influences. There would be no direct potential impact on the BCA from DCC13. The potential cumulative impact is predicted to be of localised spatial extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): Cumulative project DCC16 would be located within the LCA at the southeastern extent, located adjacent to existing urban and residential built form and infrastructure. Construction activity would incrementally change the land use and tranquillity, however due to its location would not change the underlying character of the area or wider LCA. The MHPGC Project is located outside the LCA and construction would form a negligible addition to the wider landscape context. The potential cumulative impact is predicted to be of localised spatial extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **negligible**. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): Cumulative projects SCC28 and DCC15 are a single solar farm development, with the SCC28 proportion located within the LCA along the eastern boundary and the DCC15 proportion located immediately to the east of the LCA. There would be noticeable direct potential impacts on the LCA during construction of SCC28 through the addition of activity across the site, activities for site set-up, storage areas, and installation of panels and associated infrastructure. This would change the use of these parcels of land. The MHPGC Project is located outside the LCA and construction would form a negligible addition to the wider landscape context. The potential cumulative impact is predicted to be of localised spatial extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **low**. All other character areas: The magnitude of potential cumulative construction impact is judged to remain as reported for the MHPGC Project.
Sensitivity of receptor	The baseline for all character areas is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**. Durham Magnesian Limestone Plateau (NCA 15): It is judged that the sensitivity is **medium**. Central East Durham Plateau BCA: It is judged that the sensitivity is **negligible**.

	Cumulative Effects Assessment
	Coastal East Durham Plateau BCA: It is judged that the sensitivity is **medium**. The Durham Coast BCA: It is judged that the sensitivity is **high**. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): It is judged that the sensitivity is **medium**. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): It is judged that the sensitivity is **medium**.
Significance of effect	Durham Magnesian Limestone Plateau (NCA 15): The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with other cumulative projects. Central East Durham Plateau BCA: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **negligible**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be slightly greater than others due to the geographic extent of construction for the onshore cable corridor. Coastal East Durham Plateau BCA: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with the combined impact of DCC12 and DCC13. The Durham Coast BCA: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **high**. The cumulative effect will therefore be of **minor adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with DCC13. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): The magnitude of the potential cumulative impact is deemed to be **negligible**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **negligible adverse** significance, which is not significant in EIA terms. The MHPGC Project would have limited contribution to this cumulative effect due to the indirect nature of potential impact considered against the direct potential impact of the cumulative project. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than the cumulative projects. All other character areas: The magnitude, sensitivity, and significance of cumulative construction impact and significance is judged to remain as reported for the MHPGC Project.
Further mitigation and residual significance	No mitigation measures for landscape receptors are proposed (beyond the designed in commitments outlined in **Table 1.14**), as the nature of the significant impacts arise from the inherent nature and scale of the cumulative projects and they are not considered mitigable through proportionate landscape mitigation measures.

	Cumulative Effects Assessment
Operations and maintenance phase	
Magnitude of impact	Tier 1 Durham Magnesian Limestone Plateau (NCA 15): All cumulative projects identified within the BCA and LCA character areas are also located within the NCA. As such, specific details on the potential landscape impacts of each are described within each BCA and LCA and not repeated here. The nature and scale of the cumulative projects within the NCA would add a discernible level of change to the NCA, but not wholly uncharacteristic of it. The most notable change would be the presence of multiple large scale solar farms, with their presence impacting the localised character around them rather than the prevailing character of the area due to their integration with landscape pattern, landform, and reversibility. The potential cumulative impact is predicted to be of distributed spatial extent, long-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **low**. Central East Durham Plateau BCA: Cumulative projects DCC2, DCC5, DCC7, DCC8, DCC9, DCC11, DCC14, DCC15, DCC114, DCC115, and DCC120 are located within the BCA. DCC7 is located immediately to the east of the Green LSS Option Area with DCC11 to the south, the presence of these commercial and energy infrastructure projects would add to a localised intensity of development and change within one part of the BCA. The presence of DCC5, DCC15, DCC114 and DCC115 solar farm proposals would add a combined relatively large-scale change of land use and make solar development a notable feature of the BCA, in addition to DCC14 and DCC120 BESS cumulative projects with existing wind farm and transmission lines across the BCA increasing the prominence of energy infrastructure. DCC2 is separated from the MHPGC Project by existing residential areas at Cock Hill and South Hetton but would contribute incrementally to reduction in change of land use within the BCA. The presence of DCC8 and DCC9 are considered to have limited influence on the character of the BCA against their baseline condition. Overall, there is a large scale of change within the BCA, with the low-lying nature of the solar developments limiting their broader influence beyond their immediate locality. The potential cumulative impact is predicted to be of distributed spatial extent with some concentrated urbanising and development within and around Jade Business Park, long-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **medium**. Coastal East Durham Plateau BCA: Cumulative projects DCC1, DCC12, DCC13, and DCC140 are located within the BCA. DCC13 is located within the MHPGC Project PEIR Red Line Boundary immediately west of the railway line (within the AHLV), with DCC12 located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. The presence of DCC12 and DCC13 would contribute to an increased scale of change, change of land use, and addition of built form within the BCA including loss of part of the AHLV, with associated landscape schemes integrating them within the landscape to some degree. Due to the presence of existing built form, woodland blocks and variation in landform, this potential cumulative impact would be localised within this area of the BCA. DCC1 would be physically separated from the MHPGC Project by the presence of Seaham Garden Village with DCC140 located over 9km to the south and would not be experienced cumulatively within the landscape, although they would contribute incrementally to an overall level of land use change within the BCA. The potential cumulative impact is

	Cumulative Effects Assessment
	predicted to be of localised spatial extent, medium duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **medium**. The Durham Coast BCA: There would be no O&M effects from the MHPGC Project, therefore there would be no cumulative O&M effects. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): Cumulative project DCC16 would be located within the LCA at the southeastern extent, located adjacent to existing urban and residential built form and infrastructure. The presence of additional built form and landscape scheme would incrementally change the land use, however due to its location would not change the underlying character of the area or wider LCA. The MHPGC Project is located outside the LCA and construction would form a negligible addition to the wider landscape context. The potential cumulative impact is predicted to be of localised spatial extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **negligible**. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): Cumulative projects SCC28 and DCC15 are a single solar farm development, with the SCC28 proportion located within the LCA along the eastern boundary and the DCC15 proportion located immediately to the east of the LCA. There would be noticeable direct potential impacts on the LCA resulting from the presence of SCC28 through the addition of solar panels into the landscape with the associated infrastructure and landscape scheme. This would change the use of these parcels of land. The MHPGC Project is located outside the LCA and would form a negligible addition to the wider landscape context. The potential cumulative impact is predicted to be of localised spatial extent, long-term duration, continuous and with high reversibility. It is predicted that the potential impact will affect the receptor directly. The cumulative magnitude of impact is deemed to be **low**. All other character areas: The magnitude of cumulative operations and maintenance impact is judged to remain as reported for the MHPGC Project.
Sensitivity of receptor	The baseline for all character areas is described fully in **Volume 4, Annex 1.1: Landscape Character Baseline, of the PEIR**. Durham Magnesian Limestone Plateau (NCA 15): It is judged that the sensitivity is **medium**. Central East Durham Plateau BCA: It is judged that the sensitivity is **negligible**. Coastal East Durham Plateau BCA: It is judged that the sensitivity is **medium**. The Durham Coast BCA: It is judged that the sensitivity is **high**. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): It is judged that the sensitivity is **medium**. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): It is judged that the sensitivity is **medium**.
Significance of effect	Durham Magnesian Limestone Plateau (NCA 15): The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with other cumulative projects.

	Cumulative Effects Assessment
	Central East Durham Plateau BCA: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **negligible**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal to other cumulative projects within and around Jade Business park if the Green LSS Option Area were taken forward, and with limited contribution if only the onshore cable corridor were passing through this BCA. Coastal East Durham Plateau BCA: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The MHPGC Project would have equal contribution to other cumulative projects if the Blue LSS Option Area were taken forward, with limited contribution if only the onshore cable corridor were passing through this BCA. The Durham Coast BCA: **None**. Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c): The magnitude of the potential cumulative impact is deemed to be **negligible**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **negligible adverse** significance, which is not significant in EIA terms. The MHPGC Project would have limited contribution to this cumulative effect due to the indirect nature of impact considered against the direct impact of the cumulative project. Warden Law and Eppleton Moor Clay Plateau (LCA 7a): The magnitude of the potential cumulative impact is deemed to be **negligible**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **negligible adverse** significance, which is not significant in EIA terms. The MHPGC Project would have limited contribution to this cumulative effect due to the indirect nature of impact considered against the direct impact of the cumulative project. All other character areas: The magnitude, sensitivity, and significance of cumulative operations and maintenance impact and significance is judged to remain as reported for the MHPGC Project.
Further mitigation and residual significance	As per construction phase.
Decommissioning phase	
Magnitude of impact	As per construction phase.
Sensitivity of receptor	
Significance of effect	
Further mitigation and residual significance	

1.10.3 Visual

1.10.3.1 There is potential for cumulative visual impacts as a result of activities associated with MHPGC Project and other projects that are under construction, in operation or with planned decommissioning. The summary of the Cumulative Effects Assessment is presented in Table 1.17.

1.10.3.2 For Tier 1 cumulative projects there is potential for cumulative visual impacts on receptors associated with the following viewpoints:

- Viewpoint 1
- Viewpoint 2
- Viewpoint 6
- Viewpoint 7
- Viewpoint 9
- Viewpoint 11
- Viewpoint 14
- Viewpoint 16
- Viewpoint 18
- Viewpoint 19

1.10.3.3 The likely potential cumulative visual impacts and key generating potential impacts during construction are as a result of:

- Presence of construction activity within views
- Obtrusion of existing views
- Loss of features within existing views

1.10.3.4 The likely potential cumulative visual impacts and key generating potential impacts during operation and maintenance are as a result of:

- Presence of additional forms of development within views
- Obtrusion of existing views
- Loss of features within existing views
- Presence of new/replacement landscaping

1.10.3.5 No Tier 2 or Tier 3 cumulative projects with potential for cumulative landscape impacts have been identified.

1.10.3.6 Primary visual cumulative effects are likely due to the presence of multiple solar and BESS projects (are of limited height but noticeable change or addition to views where present) and large scale residential and commercial developments on greenfield land (resulting in noticeable additional features within views).

1.10.3.7 These cumulative projects have direct potential impacts on visual receptors by being visible to them, and have the potential to be experienced together from individual locations and/or sequentially from multiple locations on PRoW or transport routes.

Table 1.17: MHPGC Project CEA for Visual

	Cumulative Effects Assessment
	Tier 1
Construction phase	
Magnitude of impact	Tier 1 Viewpoint 1: Construction associated with cumulative project DCC12 (located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432) and DCC13 (located within the MHPGC Project PEIR Red Line Boundary immediately west of the railway line) would be visible within part of the background of the view with construction activity for the MHPGC Project situated between them. The potential cumulative impact is predicted to be of distributed spatial extent, medium-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 2: Cumulative project DCC13 would be located immediately west of the viewpoint beyond the railway corridor, it is located wholly within the MHPGC PEIR Red Line Boundary. If construction were to happen together there would be a larger area of activity to the west of the view and addition of urbanising elements at relatively close proximity, however the focus of the view is out across the coast to the north, east, and south. Due to the presence of built form and required construction activity DCC13 would have greater visual prominence in the view than the MHPGC Project, increasing the presence of urbanising influences. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **medium**. Viewpoint 6: The viewpoint and associated PRoW 9 and 11 Murton are located within the boundary of cumulative project DCC5, with DCC7 located within the MHPGC PEIR Red Line Boundary in the vicinity of Jade Business Park. Activity during the construction of DCC5 would take place in the immediate foreground of the receptors and be prominent within any views extending across the landscape beyond. To the background of the view construction activity associated with DCC7 would be seen alongside construction associated with the upper extents of the LSS and part of the onshore cable corridor. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **high**. Viewpoint 7: Cumulative project DCC7 would be located within the MHPGC Project PEIR Red Line Boundary to the east of the Green LSS Option Area. The upper extent of construction activity would be visible in the background of the view partially obscured by vegetation. This would appear alongside construction activity associated with the Green LSS Option Area or in a slightly different direction of the view in addition to construction activity associated with the Blue LSS Option Area and the onshore cable corridor. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**.

	Cumulative Effects Assessment
	Viewpoint 9: Cumulative projects DCC7 and DCC11 would be located within the MHPGC Project PEIR Red Line Boundary, DCC7 to the east and DCC11 located to the south of the Green LSS Option Area. The upper extent of construction activity would be partially visible in the background against the skyline beyond, rising above intervening features of the landscape. This would appear alongside and partially in front of the upper extent of the Green LSS Option Area. Visibility of cumulative projects with the Blue LSS Option Area would be seen sequentially along PRoW 11 Hawthorn but not together. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 11: Cumulative project DCC12 would be located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. Construction activity would form part of the background of the view in the vicinity of residential properties in Hawthorn. This would be visible in front of, and in the same proportion of the view as, construction activity associated with MHPGC Project onshore cable corridor passing across the view and the Blue LSS Option Area beyond. The potential cumulative impact is predicted to be of distributed spatial extent, medium-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 14: Cumulative project DCC12 would be located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. Visibility of DCC12 would vary along the length of PRoW 9 Hawthorn travelling south, with construction activity forming part of the background of the view beyond construction of the MHPGC Project onshore cable corridor before becoming more prominent on approach to Hawthorn. DCC12 would be visible within one part of the view while the MHPGC Project construction activity would pass across the view occupying a greater proportion of the view for the onshore cable corridor along with visibility of the Blue LSS Option Area construction to the west. The potential cumulative impact is predicted to be of localised spatial extent, medium-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **high**. Viewpoint 16: Cumulative projects DCC15 and SCC28 are a single solar farm development, with the SCC28 proportion located closest and to the east and southeast of this viewpoint at a closer proximity than the MHPGC Project. The implementation of the solar panels into the view with the construction of associated infrastructure and landscape scheme would be noticeable in the middle ground of the view in the direction of the MHPGC Project, changing the appearance from open agricultural fields. The potential cumulative impact is predicted to be of localised spatial extent, medium-term duration, continuous and with high reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 18: The viewpoint and associated PRoW 5 Seaton with Slingley are located along part of the boundary between two parcels of cumulative project DCC15 and SCC28. Activity during the construction of DCC15 would take place in the immediate foreground of the view and be prominent in any views beyond to the north and south. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **high**. Viewpoint 19: The viewpoint and associated PRoW 11 Easington Village are located along the western boundary of cumulative project DCC114. Activity during the construction of DCC114 would take place in the immediate foreground of the view and be

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	prominent in any views beyond to the north and east. The potential cumulative impact is predicted to be of localised extent, medium duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **medium**. All other viewpoints: The magnitude of cumulative potential construction impact is judged to remain as reported for the MHPGC Project.
Sensitivity of receptor	The baseline for all viewpoints is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**. Viewpoint 1: It is judged that the sensitivity is **high**. Viewpoint 2: It is judged that the sensitivity is **high**. Viewpoint 6: It is judged that the sensitivity is **medium**. Viewpoint 7: It is judged that the sensitivity is **medium**. Viewpoint 9: It is judged that the sensitivity is **medium**. Viewpoint 11: It is judged that the sensitivity is **medium**. Viewpoint 14: It is judged that the sensitivity is **medium**. Viewpoint 16: It is judged that the sensitivity is **medium**. Viewpoint 18: It is judged that the sensitivity is **medium**. Viewpoint 19: It is judged that the sensitivity is **medium**.
Significance of effect	Viewpoint 1: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **high**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with other cumulative projects. Viewpoint 2: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **high**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be slightly lower than other cumulative projects. Viewpoint 6: The magnitude of the potential cumulative impact is deemed to be **high**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **major adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than other cumulative projects. Viewpoint 7: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be slightly higher than other cumulative projects. Viewpoint 9: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be slightly higher than other cumulative projects.

	Cumulative Effects Assessment
	Viewpoint 11: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be higher than other cumulative projects. Viewpoint 14: The magnitude of the potential cumulative impact is deemed to be **high**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **major adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be higher than other cumulative projects. Viewpoint 16: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than other cumulative projects. Viewpoint 18: The magnitude of the potential cumulative impact is deemed to be **high**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **major adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than other cumulative projects. Viewpoint 19: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be higher than other cumulative projects. All other viewpoints: The magnitude, sensitivity, and significance of potential cumulative construction impact and significance is judged to remain as reported for the MHPGC Project.
Further mitigation and residual significance	No mitigation measures for visual receptors are proposed (beyond the designed in commitments outlined in **Table 1.14**), as the nature of the significant impacts arise from the inherent nature and scale of the cumulative projects and they are not considered mitigable through proportionate visual mitigation measures.
Operations and maintenance phase	
Magnitude of impact	Tier 1 Viewpoint 1: The presence of cumulative project DCC12 (located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432) and DCC13 (located within the MHPGC Project PEIR Red Line Boundary immediately west of the railway line) would be visible within part of the background of the view in the vicinity of existing residential areas, with the Blue LSS Option Area also forming part of the background of the view. The potential cumulative impact is predicted to be of distributed spatial extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 2: Cumulative project DCC13 would be located immediately west of the viewpoint beyond the railway corridor, it is located wholly within the MHPGC PEIR Red Line Boundary. DCC13 would result in the addition of residential development at relatively close proximity, however the focus of the view is out across the coast to the north, east, and south. The MHPGC Project would have no impact on the view. The potential cumulative impact is predicted to be of localised extent, long-term duration,

	Cumulative Effects Assessment
	continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **medium**. Viewpoint 6: The viewpoint and associated PRoW 9 and 11 Murton are located within the boundary of cumulative project DCC5, with DCC7 located within the MHPGC PEIR Red Line Boundary in the vicinity of Jade Business Park. The height of solar panels within DCC5 around the PRoW would be prominent in any foreground views with glimpsed views east-west between rows. Views towards DCC7 and the MHPGC Project would be limited and not influence the overall amenity of the view. The potential cumulative impact is predicted to be of localised extent, long-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **high**. Viewpoint 7: Cumulative project DCC7 would be located within the MHPGC Project PEIR Red Line Boundary to the east of the Green LSS Option Area. The upper extent of built form would be partially visible in the background of the view obscured by vegetation to some degree. This would appear alongside the upper extent of the Green LSS Option Area, or in a slightly different direction of the view in addition to the Blue LSS Option Area. The potential cumulative impact is predicted to be of localised extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 9: Cumulative projects DCC7 and DCC11 would be located within the MHPGC Project PEIR Red Line Boundary, DCC7 to the east and DCC11 located to the south of the Green LSS Option Area. The upper extent of built form would be partially visible in the background of the view against the skyline beyond. This would appear alongside and partially in front of the upper extent of the Green LSS Option Area. Visibility of cumulative projects with the Blue LSS Option Area would be seen sequentially along PRoW 11 Hawthorn but not together. The potential cumulative impact is predicted to be of localised extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 11: Cumulative project DCC12 would be located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. The addition of further residential properties would form part of the background of the view in the vicinity of existing residential properties in Hawthorn. This would be visible in front of, and in the same proportion of the view as, the Blue LSS Option Area which would be of greater prominence due to its form and scale. The potential cumulative impact is predicted to be of distributed spatial extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 14: Cumulative project DCC12 would be located immediately south of the MHPGC Project PEIR Red Line Boundary to the east of the B1432. Visibility of DCC12 would vary along the length of PRoW 9 Hawthorn travelling south, with residential development forming part of the background of the view and appearing alongside existing properties within Hawthorn. The Blue LSS Option Area to the west would be a more notable edition to the view in a different direction to DCC12. The potential cumulative impact is predicted to be of localised spatial extent, long-term duration, continuous and with limited reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **medium**.

	Cumulative Effects Assessment
	Viewpoint 16: Cumulative projects SCC28 and DCC15 are a single solar farm development, with the SCC28 proportion located closest and to the east and southeast of this viewpoint at a closer proximity than the MHPGC Project. The addition of solar panels into the view with the associated infrastructure and landscape scheme would be noticeable in the middle ground of the view in the direction of the MHPGC Project, changing the appearance from open agricultural fields. The potential cumulative impact is predicted to be of localised spatial extent, long-term duration, continuous and with high reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **low**. Viewpoint 18: The viewpoint and associated PRoW 5 Seaton and Slingleyare located along part of the boundary between two parcels of cumulative project DCC15 and SCC28. The presence of solar panels and associated landscaping within DCC15 would be present in the immediate foreground of the view and be prominent in any views beyond to the north and south, likely screening any potential visibility of the MHPGC Project. The potential cumulative impact is predicted to be of localised extent, long-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **high**. Viewpoint 19: The viewpoint and associated PRoW 11 Easington Village are located along the western boundary of cumulative project DCC114. The presence of solar panels and associated landscaping within DCC114 would be present in the immediate foreground of the view and be prominent in any views to the north and east, likely screening any potential visibility of the MHPGC Project. The potential cumulative impact is predicted to be of localised extent, long-term duration, continuous and with some reversibility. It is predicted that the potential impact will affect the receptor indirectly. The cumulative magnitude of impact is deemed to be **medium**. All other viewpoints: The magnitude of cumulative operations and maintenance potential impact is judged to remain as reported for the MHPGC Project.
Sensitivity of receptor	The baseline for all viewpoints is described fully in **Volume 4, Annex 1.2: Visual Baseline, of the PEIR**. Viewpoint 1: It is judged that the sensitivity is **high**. Viewpoint 2: It is judged that the sensitivity is **high**. Viewpoint 6: It is judged that the sensitivity is **medium**. Viewpoint 7: It is judged that the sensitivity is **medium**. Viewpoint 9: It is judged that the sensitivity is **medium**. Viewpoint 11: It is judged that the sensitivity is **medium**. Viewpoint 14: It is judged that the sensitivity is **medium**. Viewpoint 16: It is judged that the sensitivity is **medium**. Viewpoint 18: It is judged that the sensitivity is **medium**. Viewpoint 19: It is judged that the sensitivity is **medium**.

	Cumulative Effects Assessment
Significance of effect	Viewpoint 1: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **high**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with other cumulative projects. Viewpoint 2: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **high**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be none. Viewpoint 6: The magnitude of the potential cumulative impact is deemed to be **high**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **major adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than other cumulative projects. Viewpoint 7: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be equal with other cumulative projects. Viewpoint 9: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be slightly higher than other cumulative projects. Viewpoint 11: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be higher than other cumulative projects. Viewpoint 14: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be higher than other cumulative projects. Viewpoint 16: The magnitude of the potential cumulative impact is deemed to be **low**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be lower than other cumulative projects. Viewpoint 18: The magnitude of the potential cumulative impact is deemed to be **high**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **major adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be none. Viewpoint 19: The magnitude of the potential cumulative impact is deemed to be **medium**, and the sensitivity of the receptor is **medium**. The cumulative effect will therefore be of **moderate adverse** significance, which is significant in EIA terms. The contribution of the MHPGC Project to this cumulative effect is considered to be none. All other viewpoints: The magnitude, sensitivity, and significance of cumulative operations and maintenance potential impact is judged to remain as reported for the MHPGC Project.

	Cumulative Effects Assessment
Further mitigation and residual significance	As per construction phase.
Decommissioning phase	
Magnitude of impact	As per construction phase.
Sensitivity of receptor	
Significance of effect	
Further mitigation and residual significance	

1.10.4 Proposed monitoring

1.10.4.1 Site specific monitoring is not proposed as the nature of the potential significant impacts arise from the inherent nature and scale of the cumulative projects and they are not considered to be reduced or managed through monitoring measures. The Applicant will, however, continue to liaise with key stakeholders to help identify opportunities for proportionate, evidence led regional or strategic monitoring that can improve understanding of the environmental implications of onshore transmission infrastructure.

1.11 Transboundary effects

1.11.1.1 A screening of potential transboundary impacts has been carried out and any potential for significant transboundary effects with regard to landscape and visual amenity from the construction, O&M and decommissioning phases of the MHPGC Project upon interests of other states has been assessed as part of the PEIR.

1.11.1.2 The potential transboundary impacts are screened within **Volume 1, Annex 4.3: Transboundary Screening** and are summarised below:

- No transboundary effects are screened into the assessment.

1.12 Inter-related effects

1.12.1.1 Inter-related effects are the combined impact of multiple aspects of the MHPGC Project on a single receptor. These are as follows:

- **Project lifetime effects**: Assessment of the scope for effects that occur throughout more than one phase of the MHPGC Project (construction, O&M and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases.
- **Receptor led effects**: Assessment of the scope for all effects (including inter-relationships between environmental topics) to interact, spatially and temporally, to create inter-related effects on a receptor.

1.12.1.2 Inter-related effects are assessed within **Volume 4, Chapter 5: Inter-related Effects** and are summarised below.

- Potential for project lifetime effects from changes to landscape elements, landscape character, landscape designations and visual amenity arising from construction, operation and decommissioning activities.
- Potential for receptor-led effects associated with changes to landscape character and visual amenity arising from the interaction of landscape and visual effects with effects in **Volume 3, Chapter 4: Onshore Archaeology and Cultural Heritage, of the PEIR, Volume 3, Chapter 5: Traffic and Transport**, **of the PEIR**, **Volume 3, Chapter 6: Onshore Noise and Vibration**, **of the PEIR, Volume 4, Chapter 2: Human Health, of the PEIR** and **Volume 3, Chapter 3: Terrestrial Ecology and Terrestrial and Intertidal Ornithology, of the PEIR**.

1.12.1.3 No significant inter-related effects have been identified, the assessment and conclusions are detailed within **Volume 4, Chapter 5: Inter-related Effects**, **of the PEIR**.

1.13 Summary

1.13.1 Summary of effects

1.13.1.1 This chapter has assessed the potential impacts on landscape and visual amenity from the construction, O&M and decommissioning phases of the MHPGC Project.

1.13.1.2 **Table 1.20** presents a summary of potential impacts and confirms the residual effects.

1.13.1.3 We do not expect that a RVAA will be required. The potential impacts resulting from the MHPGC Project are not considered likely to breach the Residential Visual Amenity Threshold. This position will be kept under active review as the design develops further. If any future changes to the scheme increase the potential impact on visual amenity nearby homes, the need for a RVAA will be reassessed.

Construction

1.13.1.4 There would be short-term, temporary significant landscape effects on the Coastal East Durham Plateau BCA. The MHPGC Project PEIR Red Line Boundary passes through this BCA and the effects arise as direct potential impacts on landscape character due to the presence of large-scale

construction activity within primarily rural landscapes impacting tranquillity, land use and landscape pattern and introducing notable new changes and features into the local landscape. There would be direct non-significant potential impacts on NCA 15 Durham Magnesian Limestone Plateau, The Durham Coast BCA and Central East Durham Plateau BCA. There would be no significant potential impacts on any landscape character areas situated outside the MHPGC Project PEIR Red Line Boundary.

1.13.1.5 There would be short-term, temporary significant visual effects on receptors associated with viewpoints 2 (representative of King Charles III English Coastal Path), 6, 9, 10 and 14. Viewpoints 2 and 9 are located within the MHPGC Project PEIR Red Line Boundary while viewpoints 6, 10 and 14 are located within 500m of the MHPGC Project PEIR Red Line Boundary. The significant visual effects arise from a combination of proximity to a change in visual amenity, the presence of construction activity across a large extent of the view and addition of construction activity to a predominantly rural context.

1.13.1.6 The assessment considers the worst-case impact for each landscape and visual receptor from either the Green or Blue LSS Option Area. **Table 1.18** below tabulates each receptor against whether scale of potential impacts during the construction phase would be greater from either Green or Blue LSS Option Area, or equal. It identifies that the Green and Blue LSS Option Area would both be the worst-case for one BCA, that the Blue LSS Option Area would be the worst-case for receptors at 10 viewpoints, and the Green LSS Option Area being worst-case for receptors at one viewpoint.

Table 1.18: Worst-case LSS Option Area – construction phase

Receptor	Worst-case LSS Option Area – construction phase
NCA 15, Durham Magnesian Limestone Plateau	Equal
MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters	None
Northern Limestone Escarpment BCA	Equal
Central East Durham Plateau BCA	Green LSS Option Area
Coastal East Durham Plateau BCA	Blue LSS Option Area
The Durham Coast BCA	Equal
Rainton Lowland Coalfield Lowland Terraces (LCA 2c)	Equal
Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)	Equal
Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)	Equal
High Moorsley Limestone Escarpment (LCA 6c)	Equal
Warden Law and Eppleton Moor Clay Plateau (LCA 7a)	Equal
Burdon to Ryhope (LCA 8c)	Equal
Viewpoint 1	Blue LSS Option Area
Viewpoint 2	None
Viewpoint 6	Green LSS Option Area
Viewpoint 7	Blue LSS Option Area
Viewpoint 8	Blue LSS Option Area
Viewpoint 9	Blue LSS Option Area

Receptor	Worst-case LSS Option Area – construction phase
Viewpoint 10	Blue LSS Option Area
Viewpoint 11	Blue LSS Option Area
Viewpoint 12	Blue LSS Option Area
Viewpoint 13	Equal
Viewpoint 14	Blue LSS Option Area
Viewpoint 15	Equal
Viewpoint 16	Equal
Viewpoint 17	Blue LSS Option Area
Viewpoint 18	Blue LSS Option Area
Viewpoint 19	Equal

O&M

1.13.1.7 There would be long-term, permanent significant landscape effects on the Coastal East Durham Plateau BCA. This would be as a result of a LSS situated within the Blue LSS Option Area only, if the LSS were located within the Green LSS Option Area, there would be no long-term, permanent significant landscape effects. This is due to the addition of a large scale LSS and associated infrastructure within a relatively rural context. There would be no long-term, permanent potential landscape impacts on The Durham Coast BCA (including the Durham Heritage Coast) following restoration of the landscape around landfall and along the onshore cable corridor.

1.13.1.8 There would be long-term, permanent significant visual effects on receptors associated with viewpoints 6, 9 and 14. Significant effects from viewpoints 9 and 14 would arise from the presence of a LSS within the Blue LSS Option Area and from viewpoint 6 arising from the presence of a LSS within the either the Green or Blue LSS Option Areas. This is due to a combination of the prominence of the LSS (Green or Blue LSS Option Areas) within the views and the presence of the LSS within a relatively rural context (Blue LSS Option Area). There would be no long-term, permanent potential visual impacts on users of the King Charles III English Coastal Path following restoration of the landscape around landfall and along the onshore cable corridor.

1.13.1.9 The assessment considers the worst-case impact for each landscape and visual receptor from either the Green or Blue LSS Option Area. **Table 1.19** below tabulates each receptor against whether scale of potential impacts during the O&M phase would be greater from either Green or Blue LSS Option Area, or equal. It identifies that the Green and Blue LSS Option Area would both be the worst-case for one BCA, that the Blue LSS Option Area would be the worst-case for receptors at 10 viewpoints, and the Green LSS Option Area being worst-case for receptors at one viewpoint.

Table 1.19: Worst-case LSS Option Area – O&M phase

Receptor	Worst-case LSS Option Area – O&M phase
NCA 15, Durham Magnesian Limestone Plateau	Equal
MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters	None
Northern Limestone Escarpment BCA	Equal
Central East Durham Plateau BCA	Green LSS Option Area
Coastal East Durham Plateau BCA	Blue LSS Option Area
The Durham Coast BCA	Equal

Receptor	Worst-case LSS Option Area – O&M phase
Rainton Lowland Coalfield Lowland Terraces (LCA 2c)	Equal
Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)	Equal
Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)	Equal
High Moorsley Limestone Escarpment (LCA 6c)	Equal
Warden Law and Eppleton Moor Clay Plateau (LCA 7a)	Equal
Burdon to Ryhope (LCA 8c)	Equal
Viewpoint 1	Blue LSS Option Area
Viewpoint 2	None
Viewpoint 3	None
Viepwoint 4	None
Viewpoint 5	None
Viewpoint 6	Green LSS Option Area
Viewpoint 7	Blue LSS Option Area
Viewpoint 8	Blue LSS Option Area
Viewpoint 9	Blue LSS Option Area
Viewpoint 10	Blue LSS Option Area
Viewpoint 11	Blue LSS Option Area
Viewpoint 12	Blue LSS Option Area
Viewpoint 13	Equal
Viewpoint 14	Blue LSS Option Area
Viewpoint 15	Equal
Viewpoint 16	Equal
Viewpoint 17	Blue LSS Option Area
Viewpoint 18	Blue LSS Option Area
Viewpoint 19	Equal
Viewpoint 20	None

1.13.2 Summary of secondary mitigation and monitoring

1.13.2.1 No additional mitigation or monitoring is proposed within the PEIR.

Table 1.20: Summary of potential impacts and residual effects

Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Construction phase					
NCA 15, Durham Magnesian Limestone Plateau	Low	Negligible	Negligible Adverse	N/A.	Negligible Adverse
MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Northern Limestone Escarpment BCA	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Central East Durham Plateau BCA	Negligible	Medium	Minor Adverse	N/A.	Minor Adverse
Coastal East Durham Plateau BCA	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
The Durham Coast BCA	High	Low	Minor Adverse	N/A.	Minor Adverse
Rainton Lowland Coalfield Lowland Terraces (LCA 2c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
High Moorsley Limestone Escarpment (LCA 6c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse

Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Warden Law and Eppleton Moor Clay Plateau (LCA 7a)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Burdon to Ryhope (LCA 8c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 1	High	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 2	High	Medium	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 6	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 7	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 8	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 9	Medium	High	Major Adverse	N/A.	Major Adverse
Viewpoint 10	Medium	High	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 11	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 12	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 13	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 14	Medium	High	Major Adverse	N/A.	Major Adverse
Viewpoint 15	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 16	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 17	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 18	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 19	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
O&M phase					
NCA 15, Durham Magnesian Limestone Plateau	Low	Negligible	Negligible Adverse	N/A.	Negligible Adverse

Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
MCA 22, Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Northern Limestone Escarpment BCA	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Central East Durham Plateau BCA	Negligible	Low	Negligible Adverse	N/A.	Negligible Adverse
Coastal East Durham Plateau BCA	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
The Durham Coast BCA	High	No Change	Neutral	N/A.	Neutral
Rainton Lowland Coalfield Lowland Terraces (LCA 2c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Hetton-le-Hole, Easington Lane and East Rainton Coalfield Villages (LCA 5c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Hastings Hill and Copt Hill Limestone Escarpment (LCA 6b)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
High Moorsley Limestone Escarpment (LCA 6c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Warden Law and Eppleton Moor Clay Plateau (LCA 7a)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Burdon to Ryhope (LCA 8c)	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse

Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Viewpoint 1	High	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 2	High	No Change	Neutral	N/A.	Neutral
Viewpoint 6	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 7	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 8	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 9	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 10	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 11	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 12	Medium	Low	Minor Adverse	N/A.	Minor Adverse
Viewpoint 13	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 14	Medium	Medium	Moderate Adverse	N/A.	Moderate Adverse
Viewpoint 15	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 16	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 17	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 18	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse
Viewpoint 19	Medium	Negligible	Negligible Adverse	N/A.	Negligible Adverse

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