

Viking CCS Pipeline

**Environmental
Statement Volume II -
Chapter 1:
Introduction**

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a Harbour Energy Company
PINS Reference: EN070008
Planning Act 2008 (as amended)
The Infrastructure Planning (Applications: Prescribed Forms
and Procedure) Regulations 2009 - Regulation 5(2)(a)
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Table of Contents

1	Introduction.....	1-1
1.1	General Overview.....	1-1
1.2	What is Carbon Capture and Storage?.....	1-4
1.3	The Viking CCS Pipeline	1-4
1.4	Track 2 Status	1-5
1.5	The Applicant.....	1-5
1.6	The Team.....	1-6
1.7	Development Consents Process	1-6
1.8	Requirement for an EIA	1-11
1.9	Structure, Scope and Context of the ES.....	1-12
1.10	Consultation.....	1-13
1.11	Next Steps.....	1-18
1.12	References	1-19

Figures

Figure 1-1: Overall Viking CCS Project (including the Viking CCS Pipeline).....	1-2
Figure 1-2: Viking CCS Pipeline Location in Context of the UK	1-3
Figure 1-3: Carbon Capture and Storage explained.....	1-4
Figure 1-4: Key Components of the Proposed Development	1-8

Tables

Table 1-1: Structure of the Environmental Statement.....	1-12
Table 1-2: Location of key information included within the ES.....	1-15

1 Introduction

1.1 General Overview

1.1.1 This Environment Statement (ES) has been prepared by AECOM on behalf of Chrysaor Production (U.K.) Limited (the 'Applicant'), a Harbour Energy group company, which intends to transport compressed and conditioned Carbon Dioxide (CO₂) from the delivery point at Immingham to storage in depleted gas reservoirs in the Southern North Sea. This overall project is called the Viking CCS Project as shown in **Figure 1-1**.

1.1.2 The Viking CCS Project would consist of the following two key components:

- *The Viking CCS Pipeline*: an onshore transportation system comprising a buried approximately 55.5 kilometre (km) 24-inch diameter onshore pipeline commencing at the Immingham Facility and ending at the Theddlethorpe Facility. Here the onshore pipeline will connect into the existing 36-inch Lincolnshire Offshore Gas Gathering System (LOGGS) offshore pipeline by means of a crossover and continue to Mean Low Water Springs (MLWS) tide mark. ***The application for the Development Consent Order (DCO) will cover this onshore transportation system***; and
- *An offshore pipeline system*: The existing 36-inch LOGGS pipeline, being repurposed for this project, continues beyond the MLWS mark for a distance of approximately 120km. In addition, a new 28 km 36-inch pipeline extension and a Not Permanently Attended Installation (NPAI) with facilities to inject the conveyed CO₂ into the depleted gas reservoirs under the Southern North Sea will be developed. The offshore system will not form part of the DCO and will be subject to a separate consent.

1.1.3 Repurposing the existing offshore gas transmission pipeline infrastructure supports the wider project objective to minimise the environmental impact of delivering the Viking CCS Project.

1.1.4 This ES therefore relates to the **onshore pipeline** transportation system called the **Viking CCS Pipeline**, (hereafter referred to as 'the Proposed Development'). Details on the wider Viking CCS Project will only be included where necessary to help provide a more thorough understanding of the overall context to the development.

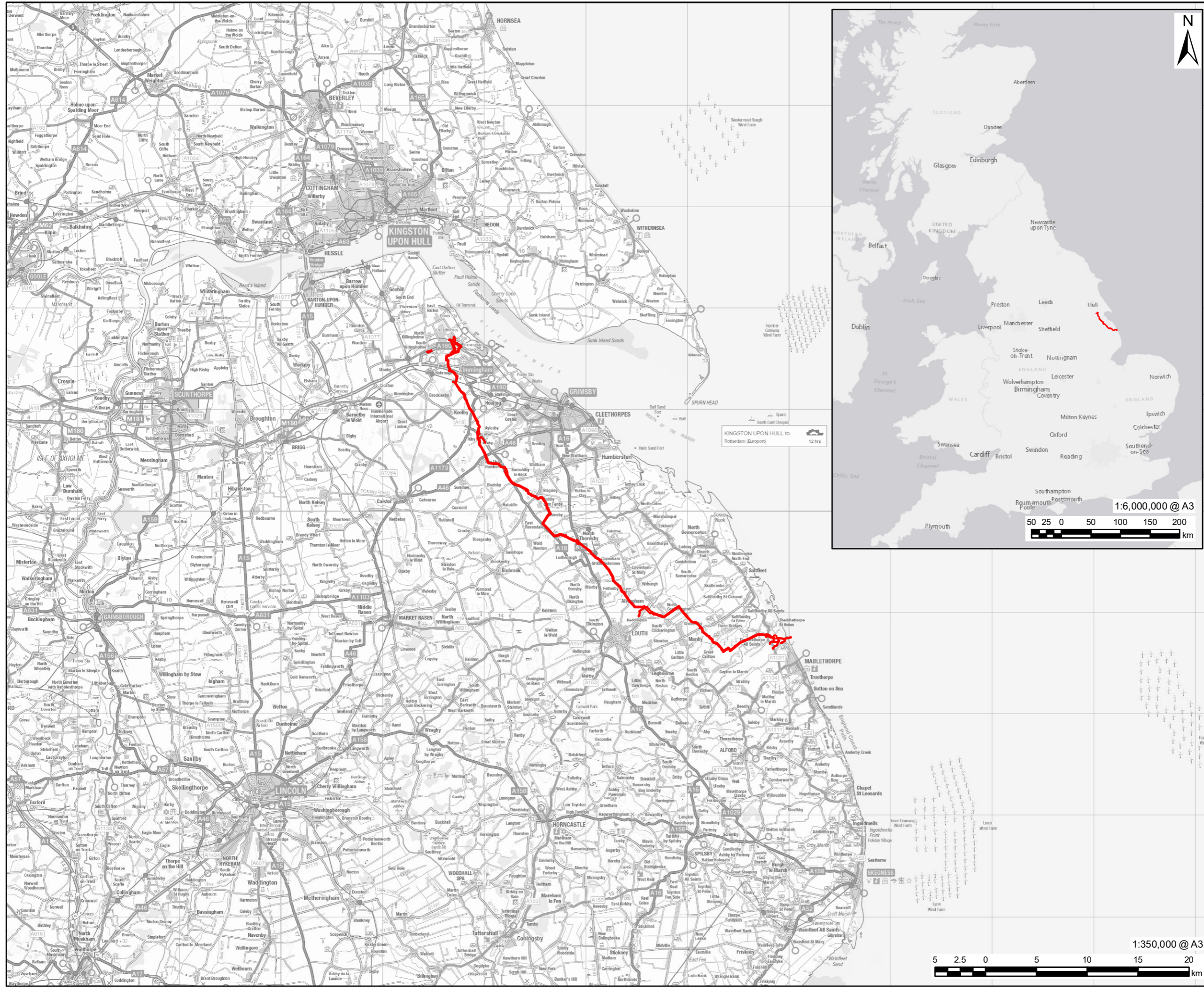
1.1.5 This ES presents:

- a description of the Proposed Development;
- an assessment of the likely significant environmental effects of its construction, operation and decommissioning;
- measures to avoid or reduce such effects; and
- details on the alternative sites, technologies and routes considered as it evolved.

1.1.6 The ES details the findings of an Environmental Impact Assessment (EIA) undertaken to identify the likely significant effects of the Proposed Development on the environment. The ES forms one of a series of documents that comprise the DCO application. The Planning Inspectorate will appoint an Examining Authority to examine the DCO application who will make a recommendation to the Secretary of State on whether development consent for the Proposed Development should be granted or refused. The Secretary of State will then decide whether to grant the DCO. The location of the Proposed Development is shown in **Figure 1-2**.

Figure 1-1: Overall Viking CCS Project (including the Viking CCS Pipeline)





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FIGURE TITLE
 Figure 1-2
 Project Location in Context of the UK

ISSUE PURPOSE
 ENVIRONMENTAL STATEMENT
 PROJECT NUMBER / REFERENCE

60668955 / VCCS_230914_ES_1-2

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1.2 What is Carbon Capture and Storage?

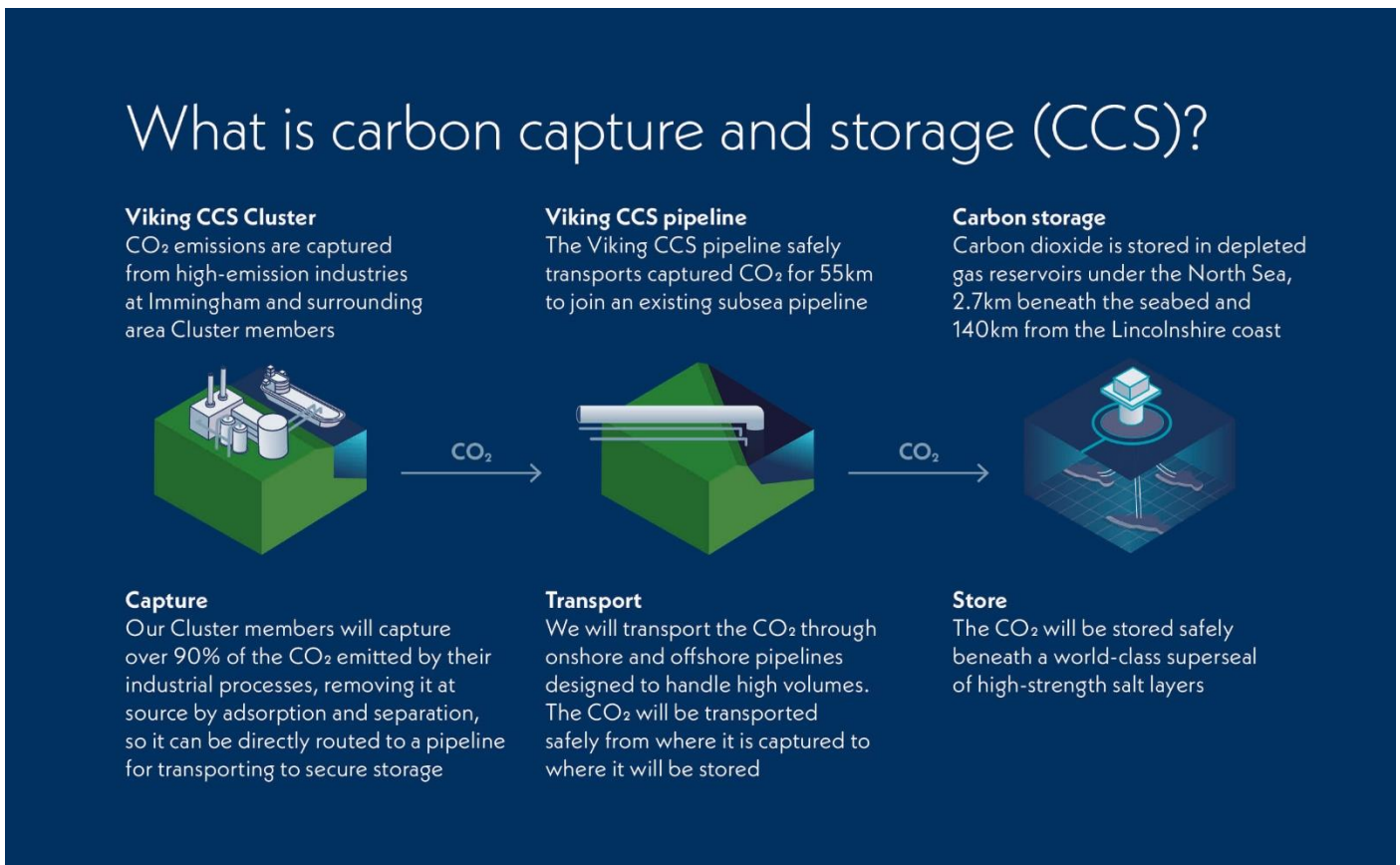
1.2.1 Carbon capture and storage (CCS) is a technique that reduces CO₂ emissions to the atmosphere. CCS usually involves a three-step process, involving:

- Capturing the CO₂ emissions from industrial processes, such as steel and cement production, or from the burning of fossil fuels in power generation and oil refining;
- Transporting the captured CO₂ emissions from where they were produced, for example via a pipeline or a vessel; and
- Storing the CO₂ deep underground in geological formations.

1.2.2 Possible storage sites for carbon emissions include saline aquifers or depleted oil and gas reservoirs, which typically need to be 0.62 miles (1km) or more below the ground where greater pressures exist (Ref. 1-1).

1.2.3 **Figure 1-3** illustrates the three-step process described above specifically relating to the overall Viking CCS Project.

Figure 1-3: Carbon Capture and Storage explained



1.3 The Viking CCS Pipeline

1.3.1 The Proposed Development is located in the Yorkshire and Humber and East Midlands regions of England (**Figure 1-2**). The Proposed Development comprises the development of an approximately 55.5 km buried pipeline, which would enable CO₂ captured by emitters in Immingham to be transported to Theddlethorpe, for onward transportation within the existing offshore LOGGS Pipeline and a newly installed offshore spur pipeline, to the offshore injection facilities for permanent storage.

1.3.2 As outlined in section 1.1.4, this ES and DCO application relates to the onshore pipeline transportation system. In particular, the Proposed Development consists of:

- Immingham Facility, including inlet manifold, permanent pig launcher and receiver, high-integrity pressure protection system, emergency shutdown valve, venting system, central control room, local equipment room and analyser house;
- A buried 24" onshore pipeline, approximately 55.5 km in length (including cathodic protection);
- Above Ground Installations (AGIs), including Block Valve Stations (BVS) and venting systems;
- Theddlethorpe Facility, including LOGGS pipeline tie-in, emergency shutdown valve, pig receiver and launcher, high integrity pressure protection system, venting system, and local equipment room; and
- Existing LOGGS Pipeline down to the extent of the DCO limits at MWLS including the isolation valve.

1.3.3 A full description of all components of the Proposed Development is included within *ES Volume II: Chapter 3: Description of the Proposed Development, (Application Document 6.2.3)*.

1.3.4 The Proposed Development is located within four Local Planning Authorities (LPA's), namely North Lincolnshire Council, North-East Lincolnshire Council, West Lindsey District Council and East Lindsey District Council, as well as being partly located within Lincolnshire County Council.

1.4 Track 2 Status

1.4.1 The UK government began a cluster sequencing process in 2020 with progression of two Track 1 clusters, an important first step in building the UK's CCS industry and decarbonising its economy.

1.4.2 In its Ten Point Plan, the UK Government committed to establish 4 industrial clusters for Carbon Capture Utilisation and Storage, with 2 clusters to be established by the mid-2020s and a further 2 to be established by 2030 (Ref 1-14).

1.4.3 Two clusters have been progressed through the previously awarded Track 1 process (HyNet and East Coast Cluster). On July 31, 2023, the Viking CCS Project was awarded Track 2 status as part of the UK Government's cluster sequencing process. The announcement marked an important milestone for the Proposed Development.

1.5 The Applicant

1.5.1 The Proposed Development is being developed by Chrysaor Production (U.K.) Limited, which is a subsidiary of Harbour Energy plc. Harbour Energy plc was formed in 2021 through a merger between Chrysaor Holdings Limited and Premier Oil plc, and is the largest UK listed independent oil and gas company with its legacy companies having 90 years operating experience.

1.5.2 The Applicant is committed to helping solve the dual challenge the world energy markets face, namely increasing energy supply to meet growing demand and doing so with lower greenhouse-gas emissions. They are committed to playing their role in the transition to a lower-carbon economy whilst minimising the environmental impact of their operations around the world. Their overall strategy also includes leveraging their existing skills and infrastructure to pursue CO₂ transport and storage.

1.5.3 In line with this strategy, the Applicant has been awarded carbon storage licences by the Oil & Gas Authority (OGA), now called the North Sea Transition Authority (NSTA), and has applied for a seabed lease with The Crown Estate (TCE) in relation to the overall Viking


CCS Project. TCE has confirmed that the Applicant has passed the TCE's application and eligibility assessment criteria and TCE will be providing arrangements for a fully termed lease.

- 1.5.4 The Applicant has a long history of operating in the Humber and Lincolnshire area, providing safe and environmentally sound operations. In particular, they have more than 40 years of operational experience relating to the Viking field area, helping to support their geological understanding of the field and the regionally extensive reservoirs that are capable of securely storing the CO₂. Additionally, they also operated the Theddlethorpe Gas Terminal (TGT) site over the same time period.

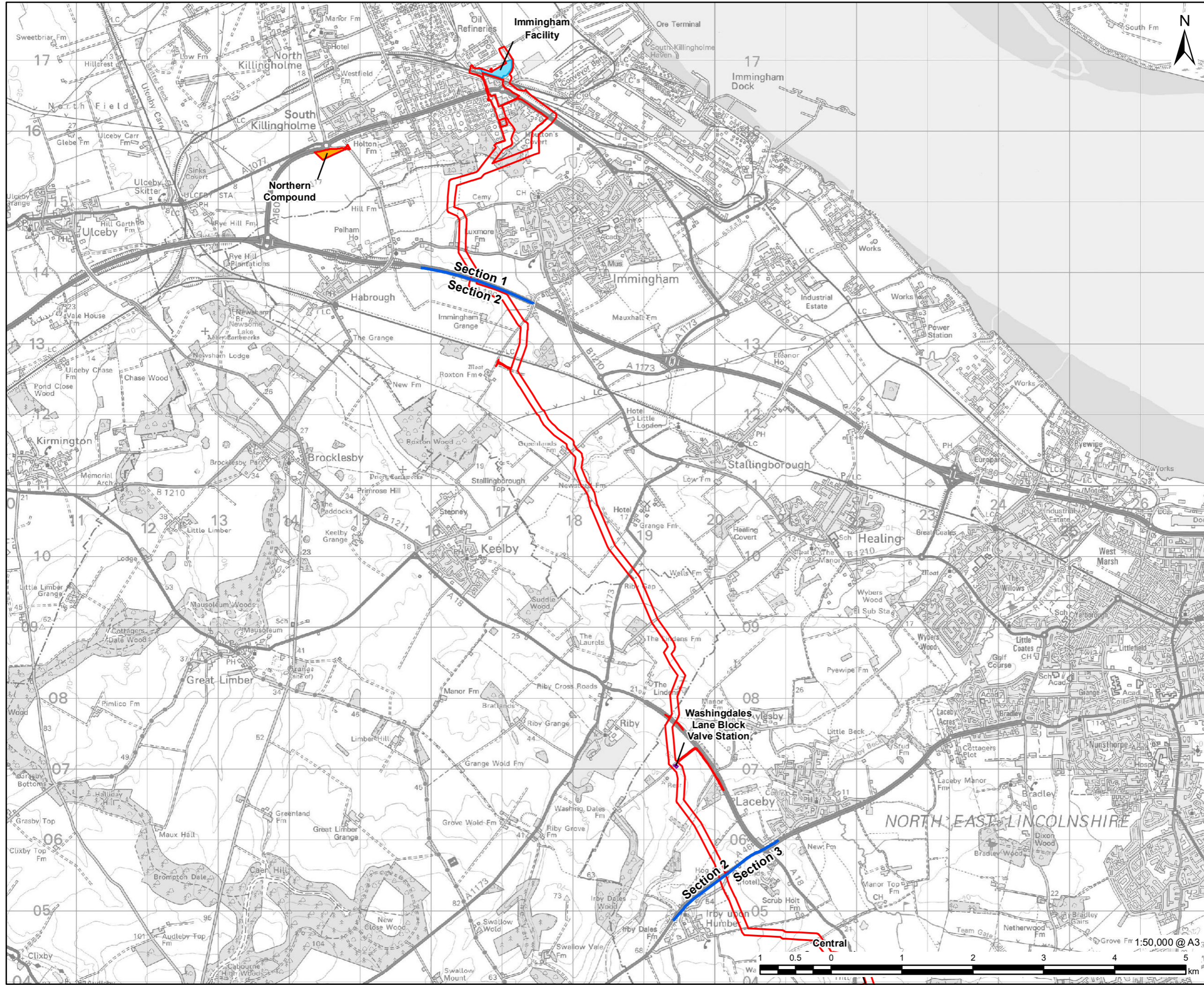
1.6 The Team

- 1.6.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) (Ref 1-2) require that the ES is prepared by 'competent experts' (Regulation 14(4)(a)). The EIA and production of the ES was undertaken by AECOM on behalf of the Applicant.
- 1.6.2 AECOM has been awarded the EIA Quality Mark from the Institute of Environmental Management and Assessment (IEMA), demonstrating competency in ES preparation. As per Regulation 14(4)(a) and section 21 of the EIA Regulations, this EIA was undertaken by competent experts with the relevant and appropriate experience in their respective topics. The EIA technical leads responsible for the individual chapters are identified within *ES Volume IV: Appendix 1.1 (Application Document 6.4.1.1)*.

1.7 Development Consents Process

- 1.7.1 Onshore pipelines over 16.093 km (10 miles) in length are classified as Nationally Significant Infrastructure Projects (NSIPs) under section 14(1)(g) of the Planning Act 2008 (as amended) (Ref 1-3) and require development consent to be granted under section 31 of the Planning Act 2008 for their development. In accordance with the Planning Act 2008, a DCO is required to allow the construction, operation and maintenance of the Proposed Development.
- 1.7.2 The Planning Inspectorate has published 18 advice notes to inform applicants, consultees, the public and others about a range of matters in relation to applications under the Planning Act 2008 (Ref 1-3). The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the APFP Regulations) (Ref 1-5) set out the documentation required to accompany a DCO application, and stipulate at regulation 5(2)(a) that an ES is to be provided where a project is an EIA development.
- 1.7.3 An application for a DCO will be submitted to Secretary of State (SoS) to the Department for Energy Security and Net Zero (DESNZ), via the Planning Inspectorate. DESNZ was formed when in February 2023 the Department for Business, Energy & Industrial Strategy (BEIS) was split into three, namely DESNZ, Department for Business and Trade (DBT) and Department for Science, Innovation and Technology (DSIT). The DCO application will be accompanied by this ES, prepared in accordance with the EIA Regulations
- 
- 1.7.4 The development covered by the DCO comprises:
- A pipeline for the conveyance of CO₂, and apparatus and works associated therewith, including offshore pipeline tie-in;
 - Facilities located at Immingham and Theddlethorpe;
 - Block Valve Stations;

- Dune Isolation Valve;
 - Ancillary works integral to the construction of the pipeline, including; construction compounds, temporary access tracks, and laydown areas;
 - Land required for the construction, operation and maintenance of the pipeline; and
 - The use of the existing LOGGS offshore pipeline to MLWS.
- 1.7.5 The key components of the Proposed Development and their locations are shown on **Figure 1-4**.
- 1.7.6 The Department for Energy and Climate Change (formerly BEIS) published several National Policy Statements (NPS) in relation to nationally significant energy infrastructure, which were designated by the SoS for Energy and Climate Change in July 2011.
- 1.7.7 There are no existing energy NPSs directly applicable to CO₂ transportation projects, but the following NPSs will still be important and relevant considerations in assessing the Proposed Development:
- Overarching National Policy Statement for Energy (EN-1) (Ref 1-6); and
 - National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 1-7).
- 1.7.8 NPS EN-4 applies to nationally significant infrastructure pipeline projects which transport natural gas or oil. However, NPS EN-4 notes that the information provided within may also be useful in identifying impacts to be considered in applications for pipelines intended to transport other substances.
- 1.7.9 Updated drafts of both EN-1 (Ref 1-11) and EN-4 (Ref 1-12) were issued in 2021 and 2023 and re-emphasised the government's plans to help decarbonise the UK's economy. These new emerging documents and any subsequent formal adoption of new NPSs for energy infrastructure have been considered where relevant during the production of this ES.
- 1.7.10 Section 105 of the Planning Act 2008 confirms that where no NPS has effect in deciding the application for the DCO the Secretary of State must have regard to any matters which they consider are both '*important and relevant*' to their decision. That will include the NPSs, the draft NPSs, local adopted planning policies and the National Planning Policy Framework (NPPF) (Ref 1-8). The NPPF is supported by the Planning Practice Guidance (PPG) (Ref 1-10), which explains the requirements of the Government's policies on different aspects of planning.
- 1.7.11 The Localism Act 2011 (Ref 1-9) provided the Secretary of State with the authority and responsibility for processing DCO applications for NSIPs, with the power to appoint the Planning Inspectorate. In its role, the Planning Inspectorate will appoint an Examining Authority to examine the DCO application for the Scheme who will then make a recommendation to the Secretary of State. The Secretary of State will then decide whether to grant a DCO.



LEGEND

- DCO Site Boundary
- Route Section Break
- Temporary Construction Compound
- Block Valve Station
- Immingham Facility

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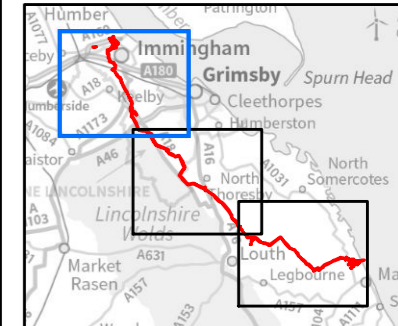
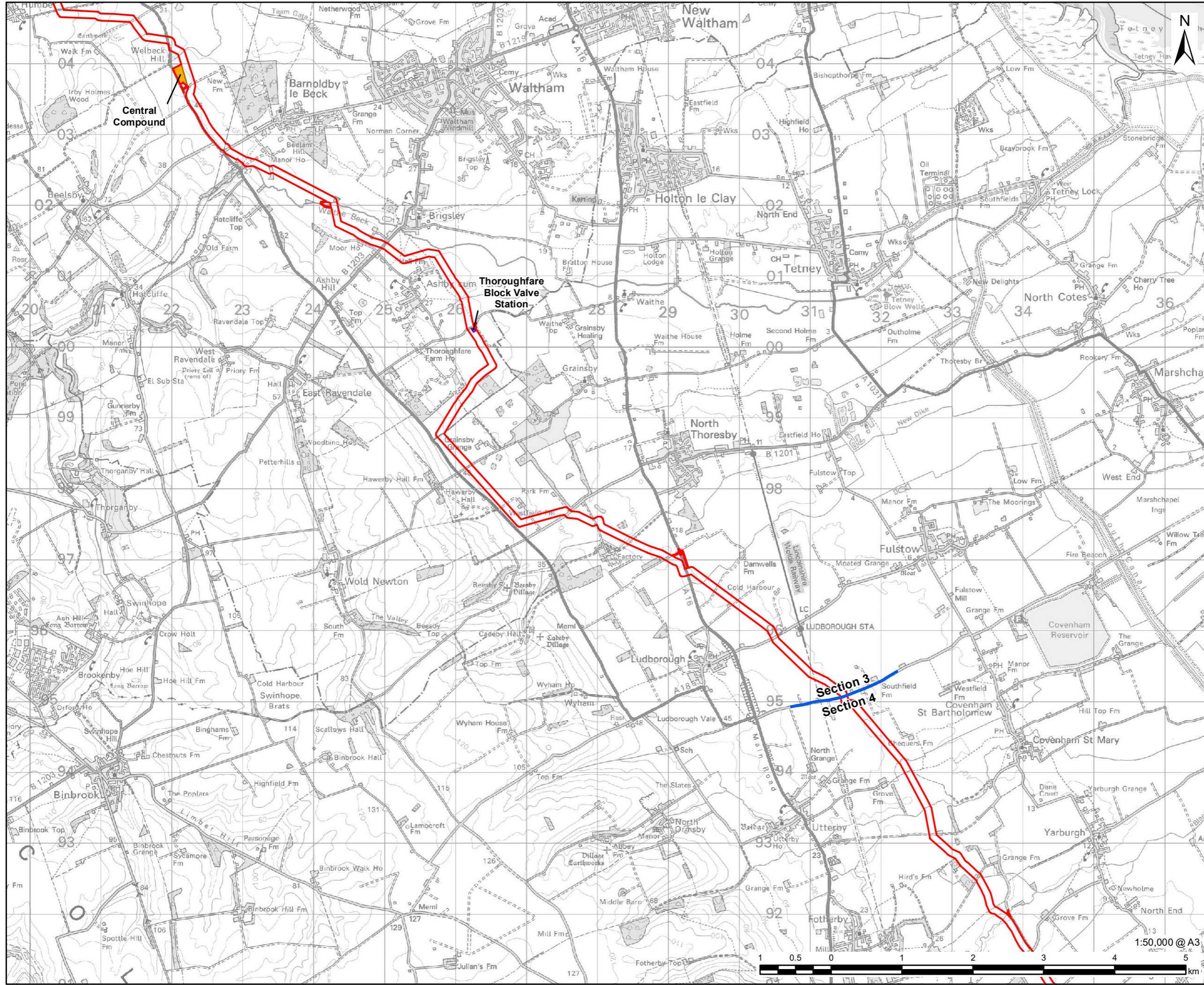


FIGURE TITLE

Figure 1-4 (1 of 3)

Key Components of the Proposed Development

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LEGEND

- DCO Site Boundary
- Route Section Break
- Temporary Construction Compound
- Block Valve Station

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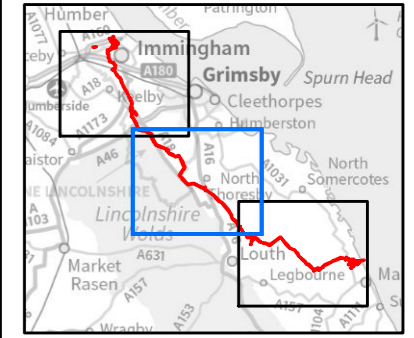
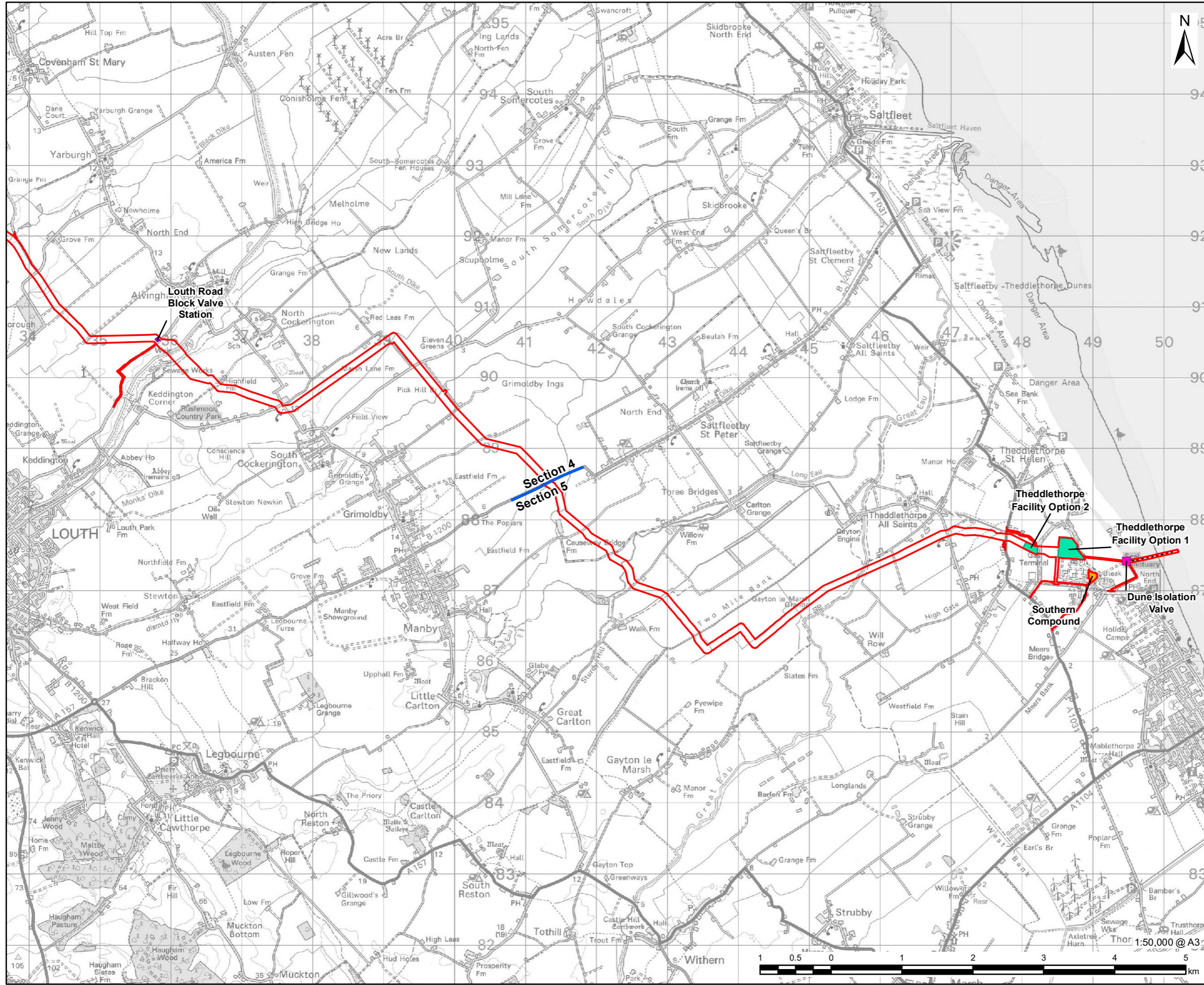


FIGURE TITLE
 Figure 1-4 (2 of 3)
 Key Components of the Proposed Development

ISSUE PURPOSE
 ENVIRONMENTAL STATEMENT
 PROJECT NUMBER / REFERENCE
 60668955 / VCCS_231004_ES_1-4

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LEGEND

- DCO Site Boundary
- Route Section Break
- Dune Isolation Valve
- Existing LOGGS Pipeline
- Temporary Construction Compound
- Block Valve Station
- Theddlethorpe Facility

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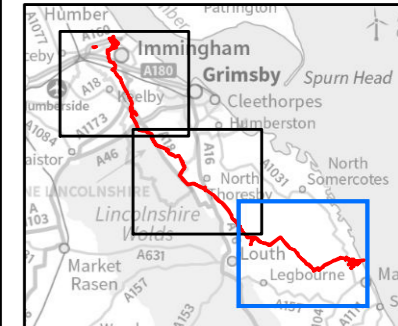
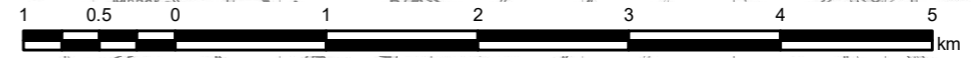


FIGURE TITLE
Figure 1-4 (3 of 3)
Key Components of the Proposed Development



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- 1.7.12 Relevant national and local planning policies have been detailed within the individual technical chapters (Chapters 6 -19) in the ES. The purpose of considering relevant planning policy during the EIA is twofold:
- To identify policy that could influence the sensitivity of receptors (and therefore the significance of environmental effects) and any requirements for mitigation; and
 - To identify planning policy that could influence the methodology of the EIA. For example, a planning policy may require the assessment of a particular effect or the use of a particular methodology.

1.8 Requirement for an EIA

- 1.8.1 Under the EIA Regulations (Ref 1-2), where an application is made for a DCO for “*EIA development*” then an EIA must be carried out and an ES submitted with the application. Under regulation 3 of the EIA Regulations, “*EIA development*” means any development which is either (a) listed within schedule 1 of the regulations, or (b) listed within schedule 2 of the regulations and where the development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.
- 1.8.2 The Proposed Development does not fall within the list of development in schedule 1 of the EIA Regulations (Ref 1-2). However, it falls within paragraph 3(j) of Schedule 2: “*installations for the capture of CO₂ streams for the purposes of geological storage pursuant to Directive 2009/31/EC from installations not included in Schedule 1 to these Regulations.*” It is considered that the Proposed Development is likely to have significant effects on the environment and is therefore an EIA development for which an EIA must be undertaken.
- 1.8.3 In accordance with Regulation 8(1)(b) of the EIA Regulations, the Applicant has notified the Secretary of State in a letter to the Planning Inspectorate dated 14 November 2022 that an ES presenting the findings of the EIA will be submitted with the DCO application. Further information is included within *ES Volume II: Chapter 5: EIA Methodology (Application Document 6.2.5)*.

Scoping Report

- 1.8.4 A request for a Scoping Opinion, together with an EIA Scoping Report was submitted to the Planning Inspectorate on 29 March 2022. This is included as *ES Volume IV: Appendix 5.1 (Application Document 6.4.5.1)*.
- 1.8.5 On behalf of the Secretary of State, the Planning Inspectorate reviewed and consulted on the EIA Scoping Report and published an EIA Scoping Opinion on 5 May 2022 which included the formal responses received by the Planning Inspectorate from consultees. This ES is based on that Scoping Opinion, as required by Regulation 14 of the EIA Regulations.
- 1.8.6 The formal responses received by the Planning Inspectorate from consultees have been considered within the environmental assessments presented within this ES and addressed where appropriate. *ES Volume IV: Appendix (Application Document 6.4.5.3)* of this ES includes tabulated responses to comments provided in the EIA Scoping Opinion. Where appropriate, key issues raised in the EIA Scoping Opinion are also summarised and responded to in each technical chapter (Chapters 6-19) of the ES.

Preliminary Environmental Information Report

- 1.8.7 The Preliminary Environmental Information Report (PEIR¹) (Ref 1-13) was published as part of the Statutory Consultation process which ran for nine weeks from 22 November 2022 until 24 January 2023. This was in compliance with Regulation 12 (2) of the EIA Regulations, which states that it should include “...*information referred to in regulation 14(2) which (a)*

¹ <https://consultation.vikingccs.co.uk/consultation-documents>

has been compiled by the applicant; and (b) is reasonably required for the consultation bodies to develop an informed view of the likely significant effects of the development (and of any associated development)”.

1.8.8 The PEIR therefore included:

- a statement of the main environmental information gathered to date as part of the EIA process;
- an indication of the likely significant effects on the environment resulting from the construction, operation and maintenance and decommissioning of the Proposed Development; and
- a summary of the potential measures likely to be required to mitigate the environmental effects of the Proposed Development.

1.8.9 The PEIR was freely available for consultees to review and was one of a number of documents available to help consultees understand the proposals and give informed feedback during the Statutory Consultation. Further information is included within the *Consultation Report (Application Document 5.1.)*

Environmental Statement

1.8.10 The results of the EIA are reported in this ES, which identifies and sets out any likely significant environmental effects, as well as any measures needed to mitigate likely significant adverse environmental effects. This is discussed further in the following section.

1.9 Structure, Scope and Context of the ES

1.9.1 The structure of this ES is comprised of four volumes as presented in **Table 1-1**.

Table 1-1: Structure of the Environmental Statement

Structure of the ES	
ES Volume I: ES Non-Technical Summary (NTS)	
The ES NTS is presented in a separate document and provides a concise description of the Proposed Development, the considered alternatives, baseline, assessment methodology, likely significant environmental effects and proposed mitigation measures. The ES NTS is designed to provide information on the Proposed Development in an accessible format which can be understood by a wide audience and to assist interested parties with their familiarisation of the Proposed Development.	
ES Volume II: Main Report	
This volume forms the main body of the ES including a description of the Proposed Development and alternatives considered, and detailing the baseline conditions, the assessment of likely significant environmental effects resulting from the Proposed Development and the proposed mitigation measures. The ES is divided into a number of background and technical chapters, each supported with figures and tabular information. The table of contents is presented below:	
Chapter 1	Introduction
Chapter 2	Design Evolution and Alternatives
Chapter 3	Description of the Proposed Development
Chapter 4	Consultation
Chapter 5	EIA Methodology

Structure of the ES	
Chapter 6	Ecology and Biodiversity
Chapter 7	Landscape and Visual
Chapter 8	Historic Environment
Chapter 9	Geology and Hydrogeology
Chapter 10	Agriculture and Soils
Chapter 11	Water Environment
Chapter 12	Traffic and Transport
Chapter 13	Noise and Vibration
Chapter 14	Air Quality
Chapter 15	Climate Change
Chapter 16	Socio-Economics
Chapter 17	Health and Wellbeing
Chapter 18	Materials and Waste
Chapter 19	Major Accidents and Disasters
Chapter 20	Cumulative Effects Assessment
Chapter 21	Summary of Likely Significant Effects
ES Volume III: Supporting Figures	
A complete set of figures will be provided for reference which support the assessments in ES Volume II.	
ES Volume IV: Technical Appendices	
A complete set of appendices will be provided for reference. These comprise background data and information, baseline survey reporting, technical reports, tables, figures and raw survey data which support the assessments presented within ES Volume II.	

- 1.9.2 The ES has been produced in accordance with Regulation 14(2) of the EIA Regulations (Ref 1-2) and also includes the information specified within Schedule 4 of the EIA Regulations.
- 1.9.3 Regulation 14(3)(b) of the EIA Regulations (Ref 1-2) requires that an ES must *'include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment'*. A summary of the information required to be included within the EIA and the location where the information can be found within this ES is provided in **Table 1-2**.

1.10 Consultation

- 1.10.1 Consultation is integral to the preparation of DCO applications and to the EIA process. The views of consultation bodies and the local community serve to focus the environmental studies and to identify specific issues that require further investigation, as well as to inform aspects of the design of the Proposed Development.

- 1.10.2 A Non-statutory Consultation was held and ran for an initial six week period from Tuesday 26 April to Tuesday 7 June 2022. A second phase was held from Thursday 8 September to Thursday 6 October 2022. This Non-statutory Consultation introduced the Proposed Development, and sought early feedback from members of the public, impacted landowners and key project stakeholders on the initial pipeline corridor.
- 1.10.3 In line with Regulation 12 of the EIA Regulations, the Applicant set out its plan for Statutory Consultation in its Statement of Community Consultation (SoCC) (*Appendix A of the Consultation Report (Application Document 5.2.1)*). This included information on how it intended to publicise the event and consult on preliminary environmental information (including details provided in the PEIR, as discussed in Section 1.8) relating to the Proposed Development.
- 1.10.4 The Statutory Consultation process ran for nine weeks from Tuesday 22 November 2022 until Tuesday 24 January 2023, at which the preliminary findings of the assessment of potential significant environmental effects of the Proposed Development, as available at that time, were presented. This enabled consultees to review the proposals and provide feedback. In total, 223 responses were received. The main Statutory Consultation was followed by an additional targeted consultation which ran for four weeks from Friday 14 April 2023 until Sunday 14 May 2023, presenting changes to the Proposed Development as a result of Statutory Consultation.
- 1.10.5 The feedback received from consultees during the consultation period has been used to inform the EIA and the Proposed Development design. Further details regarding the consultation process and its outcomes are summarised in *ES Volume II Chapter 4: Consultation (Application Document 6.2.4)*, with a more detailed overview reported in the Consultation Report (*Application Document 5.1*).

Table 1-2: Location of key information included within the ES

EIA Regulations	Requirement	Location in ES
Schedule 4, paragraph 1	<p>A description of the development, including in particular:</p> <ul style="list-style-type: none"> • A description of the location of the development. • A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases. • A description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used. • An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases. 	<i>Chapter 3: Description of the Proposed Development</i>
Schedule 4, paragraph 2	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option.	<i>Chapter 2: Design Evolution and Alternatives</i>
Schedule 4, paragraph 3	A description of the relevant aspects of the current state of the environment (baseline scenario) and 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.	<i>Chapters 6 - 19</i>
Schedule 4, paragraph 4	A description of the factors specified in reg. 5(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	<i>Chapters 6 - 19</i>

EIA Regulations	Requirement	Location in ES
Schedule 4, paragraph 5	<p>A description of the likely significant effects of the development on the environment resulting from, inter alia:</p> <ul style="list-style-type: none"> • The construction and existence of the development, including, where relevant, demolition works. • The use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources. • The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste. • The risks to human health, cultural heritage or the environment (for example due to accidents or disasters). • The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources. • The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. • The technologies and the substances used. The description of the likely significant effects on the factors specified in reg. 5 (2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at European Union level (as they had effect immediately before exit day) or United Kingdom level which are relevant to the project, including in particular those established under the law of any part of the United Kingdom that implemented Council Directive 92/43/EEC and Directive 2009/147/EC. 	<i>Chapters 6 - 20</i>
Schedule 4, paragraph 6	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	<i>Chapter 5: EIA Methodology; Chapters 6 - 20</i>
Schedule 4, paragraph 7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project	<i>Chapters 6 – 20; Draft Construction Environmental</i>

EIA Regulations	Requirement	Location in ES
	analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	<i>Management Plan (CEMP) in ES Volume IV: Appendix 3.1 (Application Document 6.4.3.1)</i>
Schedule 4, paragraph 8	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to retained EU law such as any law that implemented Directive 2012/18/EU (3) of the European Parliament and of the Council or Council Directive 2009/71/Euratom (4) or UK environmental assessments may be used for this purpose provided that the requirements of any law that implemented this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	<i>Chapter 19: Major Accidents and Disasters</i>
Schedule 4, paragraph 9	A non-technical summary of the information provided under paragraphs 1 to 8.	<i>ES Volume I: Non-technical Summary (NTS)</i>
Schedule 4, paragraph 10	A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.	<i>Chapters 1 – 20</i>

1.11 Next Steps

- 1.11.1 This ES forms part of the DCO application, submitted to the Planning Inspectorate in accordance with the Planning Act 2008. The Planning Inspectorate will consider, on behalf of the Secretary of State, whether the application should be accepted for examination. The Planning Inspectorate has a period of up to 28 days to consider acceptance of the DCO application.
- 1.11.2 If the application is accepted, a pre-examination period will commence. The documents accompanying the DCO application, including this ES and the ES NTS, will be publicly available on the Planning Inspectorate's website from the commencement of the pre-examination period. The general public (including consultees) will then be able to make relevant representations about the Proposed Development and its potential effects. If they do so, they will become "interested parties" in respect of the Proposed Development. This stage of the process usually lasts for approximately three months.
- 1.11.3 The Planning Inspectorate then has up to six months to carry out an examination of the DCO application. Interested parties are invited to provide further details of their views in writing. The Examining Authority appointed by the Planning Inspectorate will consider all relevant and important matters, including the representations of all interested parties, during this stage.
- 1.11.4 The Planning Inspectorate will then make a recommendation to the Secretary of State in respect of the DCO application within three months of the close of the examination. Subsequently, the Secretary of State has a further three months to decide whether to grant the DCO for the Proposed Development.
- 1.11.5 If the DCO is granted, the Proposed Development mobilisation/ enabling works are planned to start in late 2025, with the main construction works planned for 2026 and completion due by 2027.

1.12 References

Ref 1-1 *London School of Economics and Political Science, Grantham Research Institute of Climate Change and the Environment*, “What is carbon capture, usage and storage (CCUS) and what role can it play in tackling climate change? (March 2023):

<https://www.lse.ac.uk/granthaminstitute/explainers/what-is-carbon-capture-and-storage-and-what-role-can-it-play-in-tackling-climate-change/> Accessed May 2023

Ref 1-2 *HM Government (2017)*. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at:

<https://www.legislation.gov.uk/ukxi/2017/572/contents/made> Accessed July 2023.

Ref 1-3 *HM Government (2008)*. *Planning Act 2008*. Available at:

<https://www.legislation.gov.uk/ukpga/2008/29/contents> Accessed July 2023.

Ref 1-4 *National Infrastructure Planning (2022)*. Advice Notes. Available at:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/> Accessed Aug 2023.

Ref 1-5 *The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009*. HMSO (2009). Available at:

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Ref 1-6 *Department of Energy and Climate Change, 2011*. Overarching National Policy Statement for Energy (EN-1). Available at:

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Ref 1-7 *Department of Energy and Climate Change, 2011*. National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4). Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37049/1941-nps-gas-supply-oil-en4.pdf Accessed Aug 2023.

Ref 1-8 *Ministry of Housing, Communities & Local Government (2023)*. National Planning Policy Framework. Available at: [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/1147380/NPS_EN-1.pdf) Accessed August 2023.

Ref 1-9 *HM Government (2011)*. Localism Act. Available at:

<https://www.legislation.gov.uk/ukpga/2011/20/contents/enacted> Accessed Aug 2023.

Ref 1-10 *HM Government (2021)*. National Planning Practice Guidance. Available at:

<https://www.gov.uk/government/collections/planning-practice-guidance> Accessed August 2023.

Ref 1-11 *Department of Energy and Climate Change, 2023*. Draft Overarching National Policy Statement for Energy (EN-1). Available at:

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Ref 1-13 *Chrysaor Production (U.K.) Limited*, November 2022. Viking CCS Pipeline Preliminary Environmental Information Report Available at:

<https://consultation.vikingccs.co.uk/consultation-documents>

Ref 1-14 *Department for Business, Energy & Industrial Strategy, May 2021. Cluster Sequencing for Carbon Capture Usage and Storage Deployment: Phase-1. Background and guidance for submissions. Available at:*
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