

Viking CCS pipeline

Preliminary Environmental Information Report Volume IV

Technical Appendices



Appendix 3.1

Draft CEMP



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1 Preliminary Draft CEMP

1.1 Introduction

Background

- 1.1.1 Chrysaor Production (U.K) Limited, a Harbour Energy Company, (hereafter referred to as 'the Applicant') via the Viking CCS Project intends to transport compressed and conditioned dense phase carbon dioxide (CO₂) from the delivery point at Immingham to storage in depleted gas reservoirs in the Southern North Sea.
- 1.1.2 The overall Viking CCS Project will consist of five main components as described below:
- CO₂ source, conditioning and compression (e.g. by HumberZero, which is a ground-breaking green project aimed at decarbonising energy intensive industry);
 - The Viking CCS Pipeline (the Project to which this PEIR relates), which consists of the Immingham Facility; onshore pipeline from Immingham to the Theddlethorpe Facility and offshore pipeline tie-in and outlet up to Mean Low Water Spring (MLWS);
 - Transportation via the existing and repurposed Lincolnshire Offshore Gas Gathering System (LOGGS) pipeline system (the existing offshore pipeline) from the former TGT site to MLWS tide mark, to approximately 120 km offshore, along with the development of an additional 23 km subsea pipeline spur extension;
 - Not Permanently Attended Installation (NPAI): new offshore installation, containing injection facilities, including wellheads; and
 - The utilisation of depleted gas reservoirs in the Viking area of the North Sea for CO₂ injection and storage.
- 1.1.3 This Preliminary Draft Construction Environmental Management Plan (CEMP) relates to the **onshore** pipeline transportation system called the **Viking CCS Pipeline** (hereafter 'the Project'). The Project is located in Lincolnshire in the East Midlands of England.

Purpose of the CEMP

- 1.1.4 The Draft CEMP aims to set out the initial mitigation measures identified to help avoid or reduce adverse environmental impacts during the Project's construction, whilst also setting out applicable environmental legislation which needs to be complied with by the contractor. In addition, this Draft CEMP establishes an initial framework within which the appointed Contractor (including any sub-contractors or suppliers involved in the works) will plan, implement and deliver environmental management, mitigation and monitoring requirements during the construction phase of the Project. The controls and procedures contained within it are the practical means by which the mitigation commitments would be implemented. The objectives of these controls and procedures are to:
- Provide a mechanism for ensuring that measures to mitigate potentially adverse environmental impacts are implemented;
 - Ensure that environmental best practices are adopted throughout the construction phase of the Project;
 - Ensure a prompt response if any unacceptable adverse impacts are identified, with the provision of appropriate additional mitigation measures as required;

- Provide a means for mitigating impacts that may not be anticipated or become apparent until construction is underway;
- Provide assurance to consultees and other stakeholders that requirements with respect to environmental mitigation are being addressed;
- Provide a mechanism for compliance auditing to ensure mitigation measures are being effectively implemented and maintained through construction;
- Implement a policy of waste control and minimisation that is aligned to the waste management hierarchy; and
- Enable full compliance to be maintained with all relevant legislation.

1.1.5 This iteration has been produced to support the Preliminary Environmental Information Report (PEIR) and the preliminary assessment within. A summary of CEMP iterations is provided in **Table 1**. This document will be further updated to support the Environmental Statement (ES) which will be prepared and submitted as part of the Development Consent Order (DCO) application.

1.1.6 It is further intended that the iteration of the Draft CEMP submitted as part of the DCO application would be finalised by the appointed Contractor prior to the start of construction, based on a detailed project design and construction programme. The Final (or construction issue) CEMP would cover all construction activities, clearly set out roles and responsibilities and provide contact details for key personnel.

1.1.7 It is also intended that the Final CEMP will be a ‘live’ document and be updated as and when there are changes to the Project team or when additional information becomes available (for example through detailed civil design or additional data supply or surveys such as pre-construction ecological surveys).

1.1.8 Compliance with the contents of the Final CEMP is therefore intended to provide a systematic approach to environmental management so that environmental risks are identified, incorporated in all decision-making and managed appropriately. Detailed construction techniques and supporting Risk Assessment Method Statements (RAMS), which would outline further mitigation requirements based on the measures discussed in the CEMP and any supporting appendices, will be produced by the Contractor.

1.1.9 The Final CEMP will be agreed with the relevant host authority in advance of each phase of the work starting. As a minimum the Final CEMP should be formally reviewed every four months by the Contractor’s HSE team and within a week following a high potential environmental incident; and approved by the Applicant prior to reissue.

Table 1: CEMP Iterations Summary

CEMP Iteration	Stage of the Project
Preliminary Draft CEMP	Statutory Consultation (to support the PEIR and the preliminary assessment within)
Draft CEMP	Submission of the DCO application (to support the ES and the assessment within)
Final CEMP	Developed by the Contractor, once appointed.

Compliance with Project Environmental Management Systems (EMS) and Sustainability

- 1.1.10 The Applicant is committed to delivering sustainability and good environmental stewardship. In accordance with this proactive approach to sustainable design and construction, the Applicant and the appointed Contractor will seek to maximise resource efficiency through reducing the amount of waste generated, minimising water consumption and making the most efficient use of energy.
- 1.1.11 The carbon footprint of the Project will be reduced during construction by avoiding CO₂ emissions where possible through, for example, keeping construction vehicle movements to the minimum necessary.
- 1.1.12 The Applicant's HSES MS is founded on a process approach, involving the systematic definition and management of the Applicant's processes, and their interactions, to achieve the intended results in accordance with the documented HSES Policies and the strategic direction of the Applicant. It has been developed to align with the International Organization for Standardization (ISO) Standards for Occupational Health and Safety (ISO 45001), Environmental (ISO 14001) and Quality (ISO 9001) Management. The HSES MS follows the Plan-Do-Check-Act (PDCA) concept, common to all three ISO Standards.
- 1.1.13 The concept ensures an overall focus on risk-based thinking, delivery of continual improvement opportunities and the prevention of undesirable HSES results as follows:
- **Plan:** identify and assess HSES risks and opportunities, create objectives and the processes necessary to deliver results considering the established HSES Policies;
 - **Do:** consistently implement the HSES processes as planned;
 - **Check:** monitor, measure and evaluate HSES process deliverables and report the results; and
 - **Act:** take actions to continually improve HSES performance to achieve intended outcomes.
- 1.1.14 The appointed Contractor will prepare their own Project EMS in accordance with the Applicant's EMS prior to construction commencing. The Project EMS is expected to be integrated into the Contractor's own EMS arrangements and will address:
- Compliance with the Final CEMP and any other control and management documents;
 - Compliance with environmental consents and permits;
 - Overall compliance with environmental legislation, approved codes of practice, British Standards and industry best practice;
 - Detailed environmental management procedures to deliver the CEMP and other control and management plans including roles and responsibilities;
 - Monitoring and review arrangements;
 - Emergency procedures that are defined and adopted; and
 - Appropriate training and information for personnel.

Considerate Constructors Scheme (CCS)

- 1.1.15 The Project will be registered with the Considerate Constructors Scheme (CCS). CCS is a national initiative through which construction sites and companies (contractors, subcontractors and suppliers) are monitored against a Code of Considerate Practice. The

Code is designed to encourage environmental and social best-practice during the construction period beyond statutory requirements.

- 1.1.16 The main areas of focus are respecting the local community, valuing the workforce and caring for the environment.
- 1.1.17 In light of the size of the Project, it is envisaged that the Project will receive a minimum of two CCS audit visits.

Structure

- 1.1.18 The Draft CEMP will be split into 11 sections as detailed below:
- *Section 1: Introduction* – provides background information about this document and its content;
 - *Section 2: Project Description* – provides an overview of the Project including a description of construction methods;
 - *Section 3: Construction Programme* – provides a high-level programme for construction;
 - *Section 4: Environmental Organisation and Responsibilities* – sets out the roles and responsibilities of the parties involved in construction;
 - *Section 5: Environmental Control Plans* – provides a list of the required control and management plans required for the Project;
 - *Section 6: Consents and Licenses* – a schedule of the currently known consents and licences required for the Project;
 - *Section 7: Mitigation Register* – all environmental commitments, mitigation measures, and measures to ensure compliance;
 - *Section 8: Communications, Inductions and Training* - sets out the requirements for regular communications and reporting as well as staff training;
 - *Section 9: Environmental Monitoring and Reporting* - programme of audit and inspections to check that site operations are in compliance with the CEMP, current procedures and legislation; are using Best Practice; and that the mitigation measures are being effectively implemented;
 - *Section 10: Record Keeping* - sets out the records required to be kept and frequency of update; and
 - *Section 11: Design Changes* - procedures to follow in the event of the Contractor modifies the Project design.
- 1.1.19 This Preliminary Draft CEMP only includes Sections 1, 3-7. For Sections 2, 8-11, a brief overview has been provided. These sections will be provided on the next iteration (Draft CEMP).

1.2 Project Description

- 1.2.1 A full project description as currently understood is provided in *PEIR Volume II Chapter 3*. This has not been repeated here, but will be included in the next iteration, the Draft CEMP.

1.3 Construction Programme

- 1.3.1 A detailed construction schedule has yet to be developed however, subject to the grant of a DCO, it is anticipated that site preparation would commence in late 2025 with main

construction taking place in 2026 and the project becoming operational in early 2027. From the commencement of the construction activities to completion of commissioning, the construction programme is expected to last 12 months.

- 1.3.2 The construction process would be programmed as a series of concurrent work packages along the length of the pipeline, where possible, to ensure that the overall construction programme is minimised. A work package may focus on a specific area or location where a group of construction workers would carry out a particular aspect of the main pipeline construction activities, including topsoil stripping, trench excavation, pipe installation and backfilling of trenches.

1.4 Environmental Organisation and Responsibilities

- 1.4.1 This section of the Draft CEMP sets out the key Contractor roles and responsibilities of parties involved in the construction of the Project. The Final CEMP will include contact details for key members of staff.

Key roles

- 1.4.2 The exact roles and responsibilities will be confirmed prior to construction; however, the following section provides an indication of the roles which are envisaged. Clearly establishing roles and responsibilities is vital to ensure the successful construction of the Project, including the implementation of this CEMP.

Project Manager

- 1.4.3 The Project Manager is responsible for:

- Coordinating the delivery of all elements of the Project including ensuring conformance with the CEMP and other management plans, as well as any incident investigation required;
- Facilitating the dissemination of generic environmental requirements to the Project team;
- Oversee the implementation and review of environmental procedures throughout the Project;
- Monitoring the environmental performance of the Project through maintaining an overview of incidents, inspections and audits;
- Ensuring that environmental considerations form an integral part of design and implementation of the works and to include environmental reviews as part of regular project meetings;
- Review environmental matters with HSE Manager/ Advisor on a regular basis and as per project requirements;
- Liaise with Project HSE Manager on all environmental issues as appropriate;
- Ensure that all environmental incidents are reported to HSE Manager/ Advisor according to agreed procedures; and
- Nominate individual project team members to support the Applicant in public relations and community liaison activities, including local community meetings.

Site Manager/ Engineer

- 1.4.4 The Site Manager/ Engineer, working with the Project Manager is responsible for:

- Understanding and implementing all environmental procedures as identified in the CEMP, and ensuring that site operations function in compliance;
- Reviewing risk assessments and method statements (RAMS) and/ or environment method statements (EMS) submitted by the Contractor prior to beginning new works activities;
- Reviewing the Safety, Health and Environment (SHE) Plan, prepared and amended by the SHE Manager/ Advisor;
- Reviewing and monitoring the implementation, and accuracy of, the CEMP;
- Conducting incident investigation in the event of an incident or near miss being reported by any worker or member of site management staff during site walkovers or inspections;
- Monitoring of Contractor compliance with plans and procedures;
- Liaising with the emergency services;
- Conducting regular site inspections;
- Reviewing applications for environmental consents and permits in line with the Project Manager; and
- Notify HSE team (and/ or local authority) when a variation in working time may cause impact upon local residents or upon a local authority consent.

Safety, Health and Environment Manager/ Advisor

1.4.5 The SHE Manager/ Advisor is responsible for:

- Providing site inductions and toolbox talks on safety, health and environmental matters and sensitivities to the appropriate staff prior to works being undertaken;
- Preparing, reviewing and updating the SHE Plan;
- Assisting the Project Manager and Site Manager/ Engineer in reviewing and approving RAMS and/ or Environmental Method Statements (EMS);
- Ensuring the RAMS/ EMPs are implemented, ensuring compliance with procedures and legislation. Check all documents for Duty of Care requirements;
- Ensuring Duty of Care with respect to all waste generated on Site;
- Preparing site specific mitigation plans in consultation with statutory consultees to ensure works can proceed in accordance with all environmental commitments and legislation;
- Providing technical advice on the implementation of the CEMP including changes to legislative requirements and best practice;
- Undertaking regular site inspections/ walkovers to ensure construction practice is compliant with best working practices and approved RAMS/ EMS. Between the SHE Manager/ Advisor and Environmental or Ecological Clerk of Works (ECoW) environmental inspections will be undertaken daily. The SHE Manager/ Advisor will have the authority to stop work where non-compliant working is observed;
- Reporting any health and/ or safety incidents to Site Management as per a defined reporting procedure (to be defined in the next iteration of the Draft CEMP and Project SHE Plan);
- Providing health and safety advice to construction managers;

- Attending all construction progress meetings and providing updates on safety, health and environment performance of construction works. Also ensuring regular discourse with project site staff and subcontracted companies on environmental issues;
- Investigating environmental complaints (in line with the Stakeholder Communications Plan);
- In conjunction with the Applicant, liaise with government departments, local authorities and other statutory authorities on environmental matters. Obtaining consents and permits, as per project needs; and
- Ensuring that spill kits are checked at least weekly and kept fully stocked and in good repair.

Environmental Clerk of Works

- 1.4.6 An Environmental or Ecological Clerk of Works (ECoW) will be appointed for the duration of the construction. The purpose of this appointment is to ensure that the environmental interests of areas that may be affected by the works are safeguarded. The ECoW will have the appropriate authority to review RAMS, oversee works and recommend action as appropriate, including temporarily stopping works where non-compliant working is observed, for example to safeguard protected species and their habitats, or where any other breaches of environmental legislation are likely to occur.
- 1.4.7 The ECoW will ensure the implementation of, and compliance with, the provisions of the CEMP and the mitigation contained within the ES as well as licensing or other conditions imposed on the construction.
- 1.4.8 The ECoW may be from a company who provide a general Clerk of Works who can liaise with a team of internal specialists (Technical Specialist Advisors) on specific environmental subjects, for example, ecology, soils, noise, air quality, or pollution where required throughout construction, or a suitably qualified individual.
- 1.4.9 In summary, the ECoW is responsible for:
- Inspections of the Contractor's work site to ensure compliance with environmental standards and requirements;
 - Weekly routine audits of the Contractor's compliance with the CEMP – site activities and record keeping;
 - Monitoring or inspection of site activities in response to incidents, breaches of the CEMP or complaints received from a third party;
 - Inspections of works to ensure that environmental mitigation measures incorporated into the design have been implemented;
 - Implementation of corrective mitigation measures where proposed mitigation results in effects over and above those within any EAR, licenses or planning conditions; and
 - Delivering toolbox talks on environmental matters and sensitivities to the appropriate staff prior to works being undertaken.

The Land Officer

- 1.4.10 The Contractor's Land Officer is responsible for:
- Discussing/ agreeing with landowners and tenants all conditions relating to access, including fencing, gates, access to severed land, stock relocation, reinstatement, drainage, security and the complaints handling procedure with local land owners;

- Liaison between the Contractor, landowners / tenant farmers, other stakeholders and appointed land officer supplier;
- Being the first point of contact for any individuals, or agents of people, with interest in land and for all land related matters;
- Dealing with all matters relating to compensation claims or losses, and complaints, from those with land interests arising as a result of the Project; and
- Attending all construction progress meetings.

1.4.11 This role may be supported by an Agricultural Liaison Officer (ALO, or similar), employed by the Contractor to provide local landowners and those with land-related interests information regarding daily construction activities. The ALO will assist on activities listed above, as well as providing the Land Officer information regarding the Contractors use of appropriate access points and relaying information on any inadvertent damage to fences, gates, drains, trees or buildings from construction activities.

Traffic Safety and Control Officer

1.4.12 If not undertaken by a named member of the Contractor's SHE team, a Traffic Safety and Control Officer (TSCO) may be appointed for the duration of the construction of the Project to act as the main point of contact and undertake the following duties in relation to traffic management:

- Ensure that works are being carried out in accordance with the TMP;
- Check all Traffic Management drawings for compliance prior to issue;
- Manage applications for any required temporary Traffic Regulation Orders in relation to any required road closures, one-way restrictions or partial blocking of the highway, or implementation of temporary speed limits; applications for the introduction of temporary traffic lights; or other notification to the Local Highways Authority;
- Ensure sufficient resource is available to maintain Traffic Management on site;
- Investigating and managing traffic related complaints (in line with the Stakeholder Communications Plan); and
- Monitor the Traffic Management schemes and layouts to ensure their effectiveness and safety to workers and public.

Site Security

1.4.13 Site Security is responsible for mobilising site emergency contacts in the event of an out of hours incident occurring.

All Other Project Staff

1.4.14 All other project staff will be expected to:

- Understand and implement procedures relevant to their role as laid out in the CEMP;
- Conduct their work with a view to reducing the environmental impact of the Project and to raise any environmental concerns with Site Engineer/ Manager or HSE Team; and
- Report all environmental incidents to Site Manager or HSE Team as soon as possible.

1.4.15 An environmental incident response team is to be identified. They will be trained and competent to attend environmental incidents and provided with appropriate equipment to deal with any reported incident.

1.5 Environmental Control Plans

1.5.1 **Table 2** lists the provisional list of environmental control plans that are expected to be developed prior to construction which set out in detail the management systems and approach that will be implemented during construction to comply with the CEMP. Outline versions of some of these control plans will be provided with the ES on submission of the DCO application.

Table 2: Environmental Control Plans

Control Plan	Description	Outline version to be prepared for DCO application
Stakeholder Communications Plan (SCP)	To be developed by the Contractor at detailed design. This plan will include measures for community engagement before and during construction phase; as well as detailing a complaints procedure.	x
Safety Health and Environment (SHE) Plan	To be developed by the Contractor at detailed design. The plan will detail the relevant safety, health and environmental information relating to construction activities.	x
Site Waste Management Plan (SWMP)	To be developed by the Contractor at detailed design. This will set out and identify site-specific measures for the collection, segregation, treatment and disposal of waste.	✓
Materials Management Plan (MMP)	To be developed by the Contractor at detailed design. This will set out how excavated materials are to be managed to ensure that the quality of site-won materials is maintained so that they remain suitable for re-use, do not become contaminated and ultimately do not become waste, targeting 100% re-use or recycling (noting the potential for contaminated or non-suitable materials).	✓
Traffic Management Plan (TMP)	To be developed by the Contractor at detailed design. This will set out the requirements for the safe movement of project related traffic both within the site and <i>en route</i> to and from the construction sites.	✓
Travel Plan	Prior to the commencement of construction phase, the Contractor will prepare a Travel Plan that supports and encourages sustainable travel by workers (public transport, cycling, walking and car-sharing).	✓

Control Plan	Description	Outline version to be prepared for DCO application
Construction Logistics Plan	Prior to the commencement of works, the Contractor will prepare a Construction Logistics Plan to manage the sustainable delivery of goods and materials. This will be a live document and will be regularly reviewed and updated throughout the lifetime of the construction works as required.	x
Soil Management Plan (SMP)	To be developed by the Contractor at the detailed design phase. This plan will set out the measures to ensure the protection, sustainable management and reuse of soil resources.	✓
Emergency Response Plan	To be developed by the Contractor at detailed design. This will set out emergency response measures in the event of accidental spillage or leakage and response to incidents including pollution events, and how these are to be reported (both internally to the Project and externally).	✓
Flood Warning and Evacuation Plan	To be developed by the Contractor once appointed during the detailed design stage. This will set out the principles of a response to a significant flood during construction to ensure a coordinated response in the event of an emergency situation.	✓
Energy Reduction Plan	To be developed by the Contractor once appointed during the detailed design stage This includes measures to identify and implement all cost-effective energy efficiency measures.	x
Sustainable Procurement Plan	To be developed by the Contractor. This plan will identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues.	x
Drainage Management Plan (Also commonly referred to as a Drainage Strategy)	To be developed by the Contractor during detailed design. The DMP identifies all known risks to the water environment and identifies appropriate measures to prevent pollution during construction; and to manage runoff rates. The DMP will define the installation of pre-construction drainage measures to intercept run-off and ensure that discharge and runoff rates are controlled in quality and volume, in turn causing no degradation to water quality. This may include specific measures to be used in high-risk areas (for example construction along or across steep gradients and water course crossings). A phased approach may be taken to the development of the DMP to reflect the phasing of the construction programme. The DMP will include a Site Drainage Plan.	✓

Control Plan	Description	Outline version to be prepared for DCO application
Construction Ecological Management Plan (CEcMP)	Prior to the commencement of works, the Contractor will prepare a Construction Ecological Management Plan (CEcMP) to prescribe the required site-specific mitigation in relation to habitats and protected species to ensure compliance with relevant legislation and best practice. It is anticipated that this will be an appendix to the Final CEMP.	✓
Species Protection Plans (SPP) (or similar such as Precautionary Working Method Statement)	Prior to the commencement of works, the Contractor will prepare Species Protection Plans (SPP) (or similar) for the sensitive/protected species that may be encountered by the Project, to ensure compliance with relevant legislation and best practice. These will form part of the CEcMP.	x
Invasive Non-Native Species Method Statement (INNSMS)	Prior to the commencement of works, the Contractor will prepare an Invasive Non-Native Species Method Statement (INNSMS). This plan will set out the measures which will be implemented to avoid the spread of invasive non-native species (INNS) during construction and ensure legal compliance.	x
Tree and Hedgerow Protection Strategy	Prior to construction the Contractor will prepare a Tree and Hedgerow Protection Strategy. This will include a schedule of all trees and hedgerows to be removed, a schedule of all trees which require pruning coppicing or pollarding, a schedule of all trees and hedgerows to be retained including specification for temporary physical protection, including root protection areas and details of an auditable system of compliance. It will also include details of any hedgerows where a remove/store/replant methodology has been identified as appropriate through landowner consultation.	✓
Dust Management Plan (DMP)	To be developed by the Contractor during detailed design, if required. This plan will include measures to control dust during construction, this includes minimising dust emissions on site and measures to minimise the travel of dust emissions beyond the site boundary.	x

Control Plan	Description	Outline version to be prepared for DCO application
Water Efficiency Management Plan	To be developed by the Contractor post-consent. The Plan will include measures to reduce water consumption by all water-using processes, activities and equipment on site. It will also include details of staff engagement and training for relevant staff as well as setting out monitoring and reporting requirements (as per CEMP) and how these will be implemented.	x
Written Scheme of Investigation (WSI) for archaeological mitigation	To be developed by the Contractor post-consent based on the Outline WSI (to be provided in the ES) to fully describe the additional mitigation measures to be implemented to preserve in situ and protect, or archaeologically excavate and record heritage assets, including upstanding earthworks and buried archaeological remains. This will be informed by the by the results of the archaeological evaluation surveys.	✓
Landscape and Ecology Management Plan (LEMP)	Prior to the commencement of works, the Contractor will prepare a Landscape and Ecology Management Plan (LEMP) based upon the Outline LEMP to ensure that habitats created/ enhanced for biodiversity net gain offsetting will meet the required habitat conditions; and that long-term management requirements are clearly defined.	✓
Landscape Mitigation Plan	To be developed by the Contractor post-consent based upon the Outline Landscape Mitigation Plan. The plan describes the proposed landscape planting and habitat creation/enhancement and is also used to inform BNG.	✓
Public Right of Way (PRoW) Management Plan	To be developed by the Contractor post-consent based upon the indicative PRoW Management Plan. Safety of the public is a top priority and the PRoW Management Plan sets out appropriate measures that will be implemented to ensure that safe accessibility to recreational routes and PRoW, is maintained throughout construction, with temporary crossings and minor managed diversions to routes provided where required where routes cross the proposed cable corridor to ensure PRoW routes remain accessible and operational throughout.	✓

Control Plan	Description	Outline version to be prepared for DCO application
Unexploded Ordnance (UXO) assessment	In order to reduce risk from unexploded ordnance, prior to works commencing the Contractor will undertake proportionate UXO assessment. This will include, but may not be limited to, areas with a 'moderate' identified risk from UXO.	×
Outline Habitat management Plan	A BNG assessment will be included within the ES with an outline Habitat Management Plan.	✓

1.6 Consents and Licences

- 1.6.1 A schedule of the currently known consents and licences required for the Project will be prepared for the Draft CEMP. The Contractor will be responsible for identifying any further statutory consents required for the construction, pre-commissioning and re-instatement of the Project. Where the Contractor applies for consents or licences, the Applicant will be provided with copies of them as soon as possible after receipt. The relevant commitments and conditions on consents and licenses will be transferred to the Mitigation Register to ensure they are delivered, and their implementation is monitored.
- 1.6.2 A record will be kept of all the consultations with statutory and non-statutory organisations and all correspondence (sent and received) and meeting notes copied to the Applicant. An index of the correspondence is required to be kept for ease of access on a consultation schedule. This schedule may also make a record of all communications with third parties, including telephone conversations and site visits.

1.7 Preliminary Mitigation Register

- 1.7.1 As part of the PEIR development, a Preliminary Mitigation Register has been developed which outlines all of the currently identified environmental commitments, mitigation measures, and measures to ensure compliance with legislation and requirements of Statutory Environmental Bodies and monitoring programmes are identified. This Preliminary Mitigation Register will be further updated as part of the EIA process and an updated version will be included in the ES.
- 1.7.2 The Preliminary Mitigation Register identifies the Project-specific commitments with reference to any relevant documentation and provides a framework within which all parties are aware of their responsibilities. It also provides a means of establishing a checklist of measures and the requirement for Method Statements and environmental risk assessments to be produced. The Preliminary Mitigation Register will detail the responsible party for each commitment and mitigation measure to be undertaken. As the Project develops, the Register will be continually reviewed.
- 1.7.3 The updated Mitigation Register presented in the ES will be used to inform the environmental procedures and provide a tool for construction teams when preparing construction Method Statements or field briefings. It will be regularly updated throughout the construction phase, with actions outstanding and completed to be noted as evidence is collated.

- 1.7.4 The updated Mitigation Register will identify whether or not a Method Statement or Risk Assessment is required for each environmental commitment. Where one is required, work will not proceed on that element, or on other work that will affect that element, until it has been signed off at the appropriate level.
- 1.7.5 The Contractor is responsible for advising the Project Manager on any changes to Method Statements or the planned construction work as these may result in changes to the Final CEMP and Mitigation Register or require additional consultation with Statutory Environmental Bodies.
- 1.7.6 In addition to the Mitigation Register below, the Contractor is also responsible for implementing good environmental practice on site, in line with their own Environmental Management Systems, including but not limited to typical issues such as:
- Any working hour restrictions;
 - Dust suppression measures;
 - Environmental Aspects and Impacts Register;
 - Traffic management (further details contained within the Final TMP);
 - Site waste management;
 - Materials management;
 - Site Water Management;
 - Vehicle maintenance and management;
 - Pollution prevention and control (including storage, refuelling and incident response);
 - Response procedures (e.g. services strike, contaminated land);
 - Hazardous materials handling and storage;
 - Noise management;
 - Securing and delineation of working areas including signage;
 - Energy reduction; and
 - Soil management
- 1.7.7 The Preliminary Mitigation Register is split into the pre-construction, construction and post construction stages and identifies responsible personnel for each action. The Preliminary Mitigation Register will continue to be refined throughout the EIA and later reformatted to enable the Environmental Manager to report on the progress of each item and record completion dates once achieved.

Table 3: Preliminary Mitigation Register (Construction Phase)

Ref Number	Commitment	Responsible Person	Project Stage
A – General Environmental Management			
A1	Finalise Draft CEMP into Final CEMP prior to construction commencing.	Contractor	Pre-construction
A2	Appoint Contractor Environmental Manager to manage all environmental issues during construction.	Contractor	Pre-construction
A3	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	The Applicant's Communications Advisor	Pre-construction
A4	If appropriate, bio-security measures will be implemented through liaison with Defra's Animal Health and Veterinary Laboratories Agency.	Contractor	Pre-construction
A5	All statutory consents, permits or licenses required for the construction (those that do not form part of the DCO) should be obtained. Any conditions included should be documented in the updated CEMP and considered as part of the planning, design and construction process.	Contractor	Pre-construction
A6	A separate project specific Safety Health and Environment (SHE) Plan would be produced in accordance with relevant legislation.	Contractor	Pre-construction
A7	Maintain an Environmental Incident Response Team for immediate response and attendance at environmental incidents or aspects. Out of hours contact names and telephone numbers for the Environment Incident Response Team should be made available.	Contractor	Construction
A8	Provide all employees, site operatives and personnel with pollution awareness induction training and regular tool-box talks covering environmental issues.	Contractor	Construction
A9	Review Final CEMP on a regular basis and update and reissue as required.	Contractor	Construction
A10	Identify good practices on a regular basis and submit to the Applicant for consideration and wider circulation.	Contractor	Construction
A11	For each method statement prepare an Environmental Risk Assessment.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
A12	Adequately protect the Project area from vandalism, theft and fly-tipping by fencing and locking access gates to discourage unauthorised access. Any occurrence of tipping on the site will be reported to the site management who will then inform the local environmental authority and the police if necessary.	Contractor	Construction
A13	Consult with local police on security proposals and review arrangements throughout the period of the contract.	Contractor	Construction
A14	Ensure that construction compounds including offices are adequately secured to protect the public and prevent unauthorised entry to or exit from the site; and will ensure that plant, equipment and materials are stored in such a manner so as to not attract opportunist thieves.	Contractor	Construction
A15	Undertake site-specific assessments of the security and trespass risk and ensure that suitable security arrangements are implemented to prevent unauthorised access to the sites. Access to the construction compounds will be limited to specified entry points only and personnel entries/ exits will be recorded and monitored for both security and health and safety purposes, the gates will be kept secure unless they are being used.	Contractor	Construction
A16	Topsoil and subsoil from excavation / working areas will be stripped and stored separately within designated storage areas. Working areas will also be cleared of scrub/vegetation prior to works commencing as appropriate.	Contractor	Construction
A17	Ensure high levels of housekeeping are maintained to control nuisance through windblown litter and potential health effects through the attraction of vermin. Housekeeping will be included at induction and as part of scheduled Toolbox Talks. Levels of housekeeping will be monitored daily by the HSE Team. Litter picking will be undertaken when necessary, both within and outside of the site should this become necessary.	Contractor	Construction
A18	The Environment and Sustainability File (or equivalent) must be prepared and finalised for submission to the Applicant's Project Manager	Contractor	Post-Construction
A19	The Final CEMP Mitigation Register must be completed (achievement criteria and dates achieved) and issued to the Applicant's Project Manager.	Contractor	Post-Construction

B – Ecology and Biodiversity

Ref Number	Commitment	Responsible Person	Project Stage
B1	An Invasive Species Management Plan should be developed (this will form part of the Final CEMP), identifying relevant invasive non-native species within the area to ensure that all necessary precautions are taken to prevent their spread.	The Applicant's Project Manager	Pre-construction
B2	Undertake pre-construction ecology surveys (species specific surveys will be determined for the next iteration of this Draft CEMP).	The Applicant's Project Manager	Pre-construction
B3	Establish a Construction Exclusion Zone (CEZ) to define working areas and protect habitats outside of the Project boundary and retained habitats within, throughout development. The CEZ may need to be extended beyond 10m for certain Important Ecological Features, such as woodlands and trees, for example to protect root protection zones. The location of CEZ's will be defined within the Final CEMP and informed by a pre-construction ecological walkover (to identify any changes to the baseline and a tree survey (to BS 5837:2012).	Contractor	Pre-construction
B4	Undertake any small-scale hedgerow removal for access purposes within the construction site outside of the breeding bird season (March – September). This will prevent birds nesting within the proposed construction works prior to construction. If scrub or hedgerow clearance is undertaken during the bird breeding season, then a breeding bird check should be undertaken by an experienced ecologist prior to any removal. If a nest is found, a suitable buffer will be erected and works will be required to stop within the vicinity until the young fledge.	Contractor	Pre-construction
B5	Develop a method statement to ensure that site clearance is undertaken in a sensitive manner to allow the temporary displacement of reptiles, hedgehogs and brown hare.	The Applicant's Project Manager	Pre-construction
B6	Develop a method statement to ensure works within watercourse crossings include suitable measures to allow the passage of otters, water vole and fish throughout construction (i.e. during fluctuating water levels).	The Applicant's Project Manager	Pre-construction
B7	Ensure accordance with details within Important Ecological Features (IEF) specific method statements which may include monitoring of some of the IEF's before the construction phase.	Contractor	Pre-construction
B8	Where temporary habitat is removed, these are to be reinstated. For habitats identified as IEF's, reinstatement will be to a condition of ecological value equal to or above the baseline conditions.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
B9	Hedgerows temporarily lost during construction are to be reinstated and, where appropriate, improved from their baseline condition: defunct or species-poor hedges will be replanted so as to achieve species-rich and continuous hedgerows, once re-established.	Contractor	Construction
B10	Where possible, hedgerow removal is to be kept to 20m to minimise habitat loss.	Contractor	Construction
B11	A minimum buffer of 10m (where practicable) will be retained around retained IEF's to reduce any potential direct or indirect impacts on the species and habitats associated with them.	Contractor	Construction
B12	Where there is the loss of any tree with bat roost suitability, this is to be replaced on a 2:1 ratio; for each bat box installed, an equivalent number of bird boxes are to also be installed at the same location, where feasible.	Contractor	Construction
B13	A suitably qualified ecologist is to be available for the duration of the construction period to resolve any uncertainties regarding ecological issues and to monitor compliance with good practice mitigation measures (as defined in the Final CEMP). The ecologist will undertake all necessary surveys (e.g. for breeding birds) during the construction period to ensure up-to-date information is available.	The Applicant	Construction
B14	Standard good practice and pollution control measures will be implemented during vegetation clearance.	Contractor	Construction
B15	Topsoil stripping should be undertaken outside of the winter period (October to March inclusive) where possible. If there is more than 15mm of rain over 24hr period then top soil stripping should cease until the soil is dry or 24 hours has passed, whichever is the sooner.	Contractor	Construction
B16	Habitat loss should be compensated with the creation of replacement habitats and habitat management on site.	Contractor	Construction
B17	Implementation of European Protected Species Mitigation licences where necessary, including (for example) district level licensing for great crested newt, licences to permit the disturbance of bats or creation of alternative habitat features (e.g., bat roosts), if required;	Contractor	Construction
B18	Monitoring of some of the IEF's may also be necessary during the construction phase, which will be detailed within IEF specific method statements.	Contractor	Construction

Ecology and Biodiversity mitigation specifically to avoid disturbance of SSSI and SPA birds (if required)

Ref Number	Commitment	Responsible Person	Project Stage
B19	Visual screening of works within sensitive areas that regularly support qualifying features of the SSSI and SPAs;	Contractor	Construction
B20	The use of noise abatement/reduction measures (such as acoustic fencing or other barriers) in such areas;	Contractor	Construction
B21	Careful lighting design to minimise light spill onto adjacent habitats from working areas at above ground installations;	Contractor	Construction
B22	Employing an Ecological Clerk of Works (ECoW) to supervise works, with an agreed threshold of disturbance response beyond which working practices/locations can be amended as required, or if necessary works can be temporarily halted, under advisement of the ECoW and where safe to do so.	Contractor	Construction
C – Landscape and Visual			
C1	Undertake a topographic and photographic survey prior to construction to record current condition and to inform reinstatement.	Contractor	Pre-construction
C2	Prior to the commencement of works, the Contractor will prepare a Landscape and Ecology Management Plan (LEMP) based upon the Outline LEMP to ensure that habitats created/enhanced for biodiversity net gain offsetting will meet the required habitat conditions; and that long-term management requirements are clearly defined.	Contractor	Pre-construction
C3	Weed control should be undertaken as appropriate.	Contractor	Construction
C4	Signage would be kept to a minimum and only positioned at site entrances. This would allow for project information boards only.	Contractor	Construction
C5	There would be static lighting points fixed to temporary structures such as the masts, cabins, workshops, gantry cranes and silos. These would be used to illuminate regularly used work areas, the car park and access areas. Baffles would be installed on all lighting columns and light is to be angled to face works.	Contractor	Construction
C6	Opportunities to reduce impacts of nearby highly sensitive visual receptors should be sought through sensitive design of construction compounds e.g. organising compound features and using earthworks / fencing to screen internal activities during the construction phase.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
C7	Standard temporary boundary fences for construction compounds would be used instead of Heras fencing. These reduce visual intrusion, assist in noise attenuation and ensure public safety (including uninvited intruder entrance to the site). Any damage or graffiti would be rectified as soon as reasonably practicable. The boundary fence would be maintained to an acceptable standard.	Contractor	Construction
C8	Reinstatement of any sections of hedgerow and/or other vegetation required to be removed to facilitate the Project.	Contractor	Post-Construction
C9	Landscape maintenance will be put in place to maintain any new planting for a period of 5 years.	The Applicant	Post-Construction
C10	Post construction, hedgerows will be re-planted and breaks in existing retained hedgerows within the Project boundary will be gapped up (using locally sourced plants), as appropriate and in agreement with the landowner.	Contractor	Post-Construction
D – Historic Environment			
D1	Ongoing discussion and engagement with the County Archaeologist (or equivalent) relating to the archaeological mitigation strategy.	The Applicant's Project Manager	Pre-construction
D2	<p>Develop and implement a mitigation strategy in consultation with the County Archaeologist (or equivalent), likely to include archaeological mitigation measures such as preservation in situ, protection measures, surface artefact collection, metal-detection, archaeological excavation and recording, geo-archaeological investigation, archaeological monitoring, archaeological trenching / test pitting and archaeological topographic survey.</p> <p>Mitigation will be carried out in accordance with a Written Scheme of Investigation which will be produced in consultation with the County Archaeologist (or equivalent).</p> <p>All assets identified through this assessment and mitigation will then be preserved in record form.</p>	The Applicant's Project Manager	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
D3	Areas where archaeological investigation and recording in advance of construction are not feasible due to safety or logistical considerations, or undesirable due to environmental or engineering constraints would be subject to archaeological monitoring. The contractors preferred method of working would be controlled as necessary to allow archaeological recording to take place to the required standard.	Contractor	Construction
D4	In the event of human remains being found during the course of archaeological monitoring of construction works, works should stop, the local coroner, Project Manager and Country Archaeologist (or equivalent) should be notified immediately. The local area around the remains should be immediately isolated and protected by the Contractor. Work in this area should not recommence without the prior acceptance of the Project Manager and a Ministry of Justice (exhumation) licence being in place prior to their removal.	Contractor	Construction
D5	If archaeological finds are discovered during archaeological monitoring of construction works, the The Applicant 'sProject Manager will be informed, and appropriate steps undertaken, in consultation with the County Archaeologist (or equivalent), to excavate and record the finds prior to construction works continuing	Contractor	Construction
D6	Ensure all written records of the archaeological investigations undertaken are completed and submitted in a timely manner. A copy of any analysis, reporting or publication required as part of the Mitigation Strategy should be deposited with the relevant local authority repositories as part of the Project archives within 1 year of completion of the Project or such other period as may be agreed in writing by the relevant planning authority. Archive should be deposited with an appropriate museum as listed below: West Lindsey and East Lindsey District Councils: Lincolnshire County Council Heritage Service; North Lincolnshire Council: North Lincolnshire Museums; North East Lincolnshire Council: The name of the North East Lincolnshire Council heritage service will be confirmed in the ES.	Contractor	Post-Construction
D7	Upstanding earthworks, including ridge and furrow earthworks, that are impacted by the Project would be reinstated post-construction to restore their form and character.	Contractor	Post-Construction

Ref Number	Commitment	Responsible Person	Project Stage
E – Geology and Hydrogeology			
E1	<p>An appropriate intrusive ground investigation of selected areas of the Draft Order Limits will be undertaken in accordance with all relevant guidance and legislation including BS 10175:2011, Environment Agency/DEFRA LCRM series of reports.</p> <p>The ground investigation will be undertaken to achieve the following objectives:</p> <ul style="list-style-type: none"> Determine the ground conditions to allow design of foundations and structures; Assess the nature, extent and magnitude of soil and groundwater contamination present; Assessment of artesian groundwater conditions and identification of where unique groundwater features could occur within the Draft Order Limits; Assess the risks (if any) from potential contaminants to human health and Controlled Waters; and Assess the ground gas regime. <p>If areas of the Draft Order Limits are shown to pose a risk, if feasible, infrastructure would be moved to a different location. However, if it is not possible to move the infrastructure in contact with the ground, remedial measures would be implemented.</p>	The Applicant's Project Manager	Pre-construction
E2	<p>A remediation strategy will be devised and discussed with the regulatory authorities (including relevant local authorities and the Environment Agency) prior to any remedial works. Contaminated material that is considered to pose a risk would be remediated in line with the remediation strategy or disposed of appropriately.</p>	The Applicant's Project Manager	Pre-construction
E3	<p>A more detailed hydrogeological assessment will be undertaken at detailed design stage, where trenchless techniques or dewatering is required in high sensitivity groundwater environments. Where dewatering is required, a dewatering scheme will be developed prior to construction (in consultation with the Environment Agency and appropriate public water abstraction companies) to demonstrate that there is an effective strategy to manage water arising from the operations and, where required, sufficient proposals to treat the water prior to controlled discharge. Any such assessment will consider the effects of any draw down or impacts on nearby abstractions or resources.</p>	The Applicant's Project Manager	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
E4	Produce an environmental emergency response plan which will detail such measures as making appropriate equipment (e.g. spill kits, absorption mats) easily accessible on-site and training personnel in using them. The plan should include clear protocols and communication channels to ensure that any spillages are dealt with immediately and adequately. This will prevent large areas of soil / geology potentially becoming contaminated and in turn protect surface water quality.	Contractor	Pre-construction
E5	Prepare a SWMP following the protocols within the Contaminated Land Application in the Real Environment (CL:AIRE) Definition of Waste: Development Industry Code of Practice to ensure that excavated materials are re-used appropriately, sustainably and remain outside the waste hierarchy.	Contractor	Pre-construction
E6	Pre-entry meetings will be held with landowners / occupiers during which any requirements for temporary fencing, accesses, monitoring of water supplies and reinstatement will be discussed.	The Applicant's Project Manager	Pre-construction
E7	A watching brief will be maintained during construction works to confirm the absence of potential sources of contamination such as Made Ground, visual or olfactory evidence of hydrocarbons etc. If identified, these areas of potentially contaminated ground and/ or water will be sampled and undergo appropriate sampling and laboratory analysis.	Contractor	Pre-construction
E8	Subsequently a dynamic risk assessment will be undertaken in accordance with the Environment Agency report Land Contamination Risk Management (LCRM) to identify if these areas of potential contaminants pose a risk to construction workers or site operators and Controlled Waters. If areas of the site are shown to pose a risk, remedial measures required will be implemented. A discovery and disposal strategy will be devised and agreed with the regulatory authorities prior to construction works to outline this process to allow the dealing of risks in a timely manner.	Contractor	Pre-construction
E9	Should contaminated material that poses a risk be identified, it will be treated and/ or disposed of appropriately.	Contractor	Pre-construction
E10	Undertake proportionate UXO assessment including, but not limited to, areas with a 'moderate' identified risk from UXO.	Contractor	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
E11	Within the construction compounds specific areas will be designated for the storage of chemicals, waste oils and fuel and refuelling activities and will be placed on secondary containment e.g double walled tanks or bunded areas with a capacity of 110% of the maximum stored volume. Refuelling on the pipeline spread will be undertaken using plant nappies and be at least 30m away from watercourses and vehicles and plant will not be left unattended during refuelling.	Contractor	Construction
E12	Designated fuel transfer areas are to be established and used for the transfer of fuel or other potentially contaminating liquids. Drip trays are to be provided.	Contractor	Construction
E13	All persons engaged in site construction works will be made aware of any potential contaminated material. To prevent risks from exposure to any contaminants the appropriate Personal Protective Equipment and Respiratory Protective Equipment will be made available.	Contractor	Construction
E14	A repeat baseline survey to be undertaken once the construction is complete and the temporary construction compounds reinstated to demonstrate the area has been returned to its previous state	Contractor	Post-Construction
E15	On completion of the works there will be reinstatement of all land in agreement with landowners.	Contractor and Lands Team	Post-Construction
F – Agriculture and Soils			
F1	Prepare a Soil Management Plan following the guidance in the Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites and other relevant documents such as The Institute of Quarrying’s Good Practice Guide for Handling Soils in Mineral Workings.	Contractor	Pre-construction
F2	Soil handling operations will be undertaken in line with the Soil Management Plan and appropriately supervised to ensure that they are suitable for re-use within the Project. Stockpiles will be placed away from watercourse to avoid runoff. The appropriate management of soil resources will maintain soil volumes and quality to prevent loss/lowering of Agricultural Land Classification (ALC) grade between pre- and post-construction and thus potential loss of BMV status.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
F3	Access to agricultural lands will be maintained throughout the construction process, as far as is practicable.	Contractor	Construction
F4	Damage to the agricultural capability of soils will be avoided by the use of best practice in soil stripping, handling and storage of soil materials.	Contractor	Construction
F5	Existing field drainage systems will be re-instated to ensure that land capability is maintained and drainage related to flooding issues will not be worsened.	Contractor	Construction
F6	Access to water supplies for all fields will be maintained where possible.	Contractor	Construction
F7	Where a pre-existing problem with eelworm or other pests or diseases is identified tests will be taken before entry and the analysis results sent to The Applicant's / landowner prior to entry.	Contractor	Construction
F8	Where required pests and diseases tests will be carried out on any imported topsoil before it comes on Site and the analysis results sent to The Applicant's / landowner.	Contractor	Construction
F9	Soil testing of any imported soils to the relevant British Standard for topsoil (BS3882:2007) or subsoil (BS8601:2013) will be undertaken to ensure similarity to the in situ soils and its suitability for reuse.	Contractor	Construction
F10	Following completion of construction operations all agricultural land taken temporarily would be fully reinstated as near as practically possible to its former condition. Topsoil would be prepared and, where required (for example for the reestablishment of permanent pasture), sown using an appropriate seed mix as agreed by the landowner.	Contractor	Construction
F11	To ensure that the maximum area of productive land remains in agricultural use during the construction period pipeline routeing and access tracks will be directed to the edge of fields, in field boundaries, or through less productive areas of individual fields wherever practicable, taking into account other environmental, socio-economic and engineering constraints.	Contractor	Pre-construction
F12	Targeted pre-commencement soil and ALC surveys on land that will be subject to direct disturbance to aid in the production of and implementation of the Soil Management Plan, as well as providing baseline land quality data for the success of reinstatement within the pipeline working corridor to be measured against.	Contractor	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
F13	Temporary land-take areas will be reinstated to agricultural use, unless otherwise identified for habitat enhancement - any agreed controls over the exact post-reinstatement land use (either set out in the ES or through landowner consultation) will be clearly identified.	Contractor	Pre-construction and Construction
G – Water Environment			
G1	Prepare a Flood Warning and Evacuation Plan which contains information on flood emergency response actions.	Contractor	Pre-construction
G2	Establish the location and condition of existing land drainage and compile a record. Subject to landowner/occupier agreement, existing drains should be restored, or new drains established to help prevent damage to soil structure, maintain work areas in a dry condition and to enable current drainage systems to continue to operate through the construction period.	Contractor	Pre-construction
G3	The design of these drainage schemes will be agreed by The Applicant's, the Contractor(s), and the landowners / occupiers. A specialist drainage contractor in most instances will carry out the work. Permanent records of the land drainage locations will be produced.	The Applicant's Project Manager	Pre-construction
G4	Seek the relevant permits / consents where required from the Environment Agency and Lead Local Flood Authority where necessary.	Contractor	Pre-construction
G5	Prepare a Pollution Prevention Plan with measures necessary for the effective prevention of pollution.	Contractor	Pre-construction
G6	Produce an Environmental Emergency Response Plan documenting measures to prevent pollutants infiltrating into the soils beneath the site and reaching surface and groundwater receptors.	Contractor	Pre-construction
G7	Temporary access and pipeline crossings of watercourses will be undertaken in accordance with good practice guidance: Environment Agency and Construction Industry Research and Information Association (CIRIA) Pollution Prevention Guidelines (although revoked represent good practice), including CIRIA Report C750 'Groundwater Control: Design and Practice' and C648 'Control of Water Pollution from Linear Construction Projects'.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
G8	Crossing locations will be selected to make the crossing as close to perpendicular to the watercourse as reasonably practicable, ensuring the crossing is as short as possible and for open cut / temporary access crossings reducing the risk of localised scour at the structures.	Contractor	Construction
G9	The watercourse crossings will be designed to maintain downstream flows and to allow continued and unobstructed passage for aquatic organisms and mammals (otter and water vole) using river corridors.	Contractor	Construction
G10	Flumes will be sized to maintain the current land drainage regime and the existing flow, following a study to understand the hydrology of the watercourse being crossed in order to assess the range of flows likely during the temporary works.	Contractor	Construction
G11	Following installation of the pipeline, topsoil and excavated material will be reinstated and a post-construction drainage system installed to ensure no detriment to the existing land drainage regime.	Contractor	Construction
G12	At the temporary construction compounds, materials will be stored in accordance with good practice and the compounds will have suitable surface water and foul water drainage provision. This will prevent pollution of the water environment.	Contractor	Construction
G13	Appropriate equipment (e.g. spill kits) will be made available for all items of plant on site to deal with accidental spillages and Pollution Prevention Plan will provide a full list of protocols and communication channels with the Environment Agency in the event of an accidental pollution incident.	Contractor	Construction
G14	Surface water runoff from the pipeline spread will be managed to prevent discharge of silted water into any surface watercourse or drain. Details to be included in the Drainage Management Plan.	Contractor	Construction
G15	Where practicable, plant to be filled with biodegradable oil, in line with the plant manufacturer's instruction, to reduce the potential for pollution to watercourses in the event of a hydraulic oil pipe failure.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
G16	Watercourses near work sites would be inspected daily when work activity is being carried out. Inspections will look for signs of siltation or other forms of pollution for the duration of the period of ground disturbance and work site drainage would be inspected and maintained as required, so that it continues to operate to their design standard.	Contractor	Construction
G17	If a wheel washing system is required, the wash down of construction vehicles and equipment should take place in designated washdown areas within construction compounds. Waste wash water should be prevented from passing untreated into watercourses or groundwater. Appropriate measures will include use of sediment traps.	Contractor	Construction
G18	Consider battery powered plant when working close to watercourses.	Contractor	Construction
G19	Implement working methods that reduce water consumption and measures that improve water-use efficiency on site.	Contractor	Construction
G20	Undertake water audits that identify all water-using processes, activities and equipment on Site (these will be updated periodically to reflect any significant changes in site activities through the Project life cycle).	Contractor	Construction
G21	Develop an action plan, including staff engagement and training for relevant staff, to reduce water consumption by all water-using processes, activities and equipment on site.	Contractor	Construction
G22	Undertake monitoring regime to assess the effectiveness of water conservation measures in the action plan (G21).	Contractor	Construction
G23	Establish a reporting regime to advise on the effectiveness of the action plan (G21) (which will be completed at a minimum of annually).	Contractor	Construction
G24	Where necessary and subject to agreement with the landowner/occupier, new field drains will be installed to aid recovery from the construction activities and ensure site work areas are appropriately drained.	Contractor	Post-Construction
H – Traffic and Transport			

Ref Number	Commitment	Responsible Person	Project Stage
H1	<p>Produce a Traffic Management Plan to establish construction vehicle routeing, safe access and egress to construction compounds and pipe storage areas in consultation with the Highways Authorities. This will include such items as:</p> <p>The necessary agreements and timing restrictions for construction traffic for example Monday – Saturday working, prohibition during school drop-off and pick-up times (this will be managed by appropriate measures in the Construction Traffic Management Plan (CTMP) which will likely prohibit movements during busy network periods), and prohibition during loading times at commercial premises;</p> <p>Proposals for monitoring and agreeing maintenance costs;</p> <p>Escort arrangements for abnormal loads;</p> <p>Route signing;</p> <p>Details of the advanced notification to the general public, warning of any construction transport movements, specifically AILs;</p> <p>Details of information and road signage warning road users of forthcoming AIL transport and construction traffic movements;</p> <p>Arrangements for regular road maintenance and cleaning, e.g., road sweeping in the vicinity of the site access point as necessary, drain clearing, wheel cleaning / dirt control arrangements;</p> <p>Arrangements for winter road maintenance e.g., de-icing and snow clearing;</p> <p>Construction Contractor speed limits; and</p> <p>Community and emergency services liaison details.</p>	Contractor	Pre-construction
H2	Produce a Construction Logistics Plan to manage sustainable delivery of goods and materials.	Contractor	Pre-construction
H3	Implement a Travel Plan that supports and encourages sustainable travel by workers (public transport, cycling, walking and car-sharing).	Contractor	Pre-construction

I – Noise and Vibration

Ref Number	Commitment	Responsible Person	Project Stage
I1	Undertake pre-construction noise monitoring surveys as agreed with the relevant local authorities to establish a pre-construction baseline for the derivation of construction noise limits.	Contractor	Pre-construction
I2	Following any changes to the design, the Contractor would ensure that an updated noise assessment has been carried out to ensure there would be no additional or increase in negative effects on nearby receptors.	Contractor	Pre-construction
I3	The majority of works activities would be completed under normal working hours/ restrictions as follows: Monday to Friday: 07.00 to 19.00; Saturday: 07.00 to 13:30; and No working on Sundays, or Bank Holidays unless otherwise agreed with the relevant local authority. The agreed working hours will be set out in the Final CEMP.	Contractor	Construction
I4	The Contractor would be responsible for notifying the local residents of particularly noisy work prior to commencement of those works. Effective communication should be established, keeping residents informed of the type and timing of works involved. Notifications should follow the protocol set out in the Stakeholder Management Plan.	Contractor	Construction
I5	A set of generic best practice working methods referred to as Best Practicable Means (BPM) would be employed during the construction phase. Typical BPM are outlined in the following commitments.	Contractor	Construction
I6	Closed board fencing would be installed around the construction compounds.	Contractor	Construction
I7	Provision of contact details for a site representative in the event that disturbance due to noise or vibration from the construction works occurs; ensuring that any complaints are dealt with pro-actively and that subsequent resolutions are communicated to the complainant.	Contractor	Construction
I8	Site access routes would be in good condition and well maintained with no potholes or other significant surface irregularities.	Contractor	Construction
I9	Plant machinery would be turned off when not in use.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
I10	All vehicles and mobile plant would be well maintained such that loose body fittings or exhausts do not rattle or vibrate.	Contractor	Construction
I11	Silenced equipment would be used where possible, in particular silenced power generators and pumps.	Contractor	Construction
I12	All equipment used would be properly maintained and operated by trained staff.	Contractor	Construction
I13	Plant and equipment covers/hatches would be properly secured and there would be no loose fixings causing rattling.	Contractor	Construction
I14	Static noisy plant, including generators, would be located as far away from noise sensitive receptors as is feasible for the particular activity.	Contractor	Construction
I15	On site speed limits would be in place to reduce the effect of construction traffic noise. Speed limits would be enforceable within the main works sites, with all nonsurfaced roads restricted to 10mph and any surfaced roads restricted to 15mph.	Contractor	Construction
I16	To minimise vibration from HGV movements, there would be monthly condition assessments to inspect for defects such as pot holes which could cause an increase in noise levels. Existing potholes would need to be considered by a condition assessment prior to the commencement of works.	Contractor	Construction
I17	As part of the plant selection process the contractor should adopt a procedure to ensure the quietest plant and equipment, techniques and working practices available would be selected and used.	Contractor	Construction
I18	No music or radios would be played on site.	Contractor	Construction
J – Air Quality			
J1	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	Contractor	Pre-construction
J2	Develop a Dust Management Plan (DMP), which includes measures to control other emissions. This will form part of the Final CEMP.	Contractor	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
J3	Display the name and contact details of person(s) accountable for air quality and dust issues on the construction compound fence. This may be the environment manager/engineer or the site manager.	Contractor	Construction
J4	Display the head or regional office contact information of the main contractor on site.	Contractor	Construction
J5	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Contractor	Construction
J6	Make the complaints log available to the local authorities when asked.	Contractor	Construction
J7	Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.	Contractor	Construction
J8	Undertake daily on-site and off-site inspection (including roads), where receptors are nearby, to monitor dust, record inspection results, and make the log available to the Local Authority when asked.	Contractor	Construction
J9	Carry out regular site inspections to monitor compliance with the DMP commitments, record inspection results, and make an inspection log available to the Local Authorities when asked.	Contractor	Construction
J10	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Contractor	Construction
J11	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site, cover.	Contractor	Construction
J12	Ensure all vehicles switch off engines when stationary - no idling vehicles.	Contractor	Construction
J13	Sustainable power sources (solar panels etc) to be used where practicable. Generators are to be low emission with hybrid battery systems (or to current best practice).	Contractor	Construction
J14	Impose and signpost a maximum-speed-limit on surfaced roads and in work areas.	Contractor	Construction
J15	Use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
J16	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	Contractor	Construction
J17	Use enclosed chutes and conveyors (if used) and covered skips.	Contractor	Construction
J18	Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	Contractor	Construction
J19	No bonfires and burning of waste materials.	Contractor	Construction
J20	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.	Contractor	Construction
J21	Avoid dry sweeping of large areas.	Contractor	Construction
J22	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Contractor	Construction
J23	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable	Contractor	Construction
J24	Record all inspections of haul routes and any subsequent action in a site logbook.	Contractor	Construction
J25	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);	Contractor	Construction
J26	Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences.	Contractor	Construction
J27	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site	Contractor	Construction
J28	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period	Contractor	Construction
J29	Avoid site runoff of water or mud	Contractor	Construction
J30	Keep site fencing, barriers and scaffolding clean using wet methods	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
J31	Cover, seed or fence stockpiles to prevent wind whipping	Contractor	Construction
J32	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable	Contractor	Construction
J33	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate	Contractor	Construction
J34	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable	Contractor	Construction
J35	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable	Contractor	Construction
J36	Only remove the cover in small areas during work and not all at once	Contractor	Construction
J37	Avoid scabbling (roughening of concrete surfaces) if possible	Contractor	Construction
J38	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place	Contractor	Construction
J39	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery	Contractor	Construction
J40	For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust	Contractor	Construction
J41	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned	Contractor	Construction
J42	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits	Contractor	Construction
J43	Access gates to be located at least 10 m from receptors where possible	Contractor	Construction
J44	Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
K – Climate Change			
K1	Develop an Energy Reduction Plan which includes measures to identify and implement all cost-effective energy efficiency measures. This will form part of the Final CEMP.	Contractor	Pre-construction
K2	A cost benefit analysis should be undertaken to better understand whether it is more efficient to hire one or two generators (one larger for daytime use, and a second smaller generator for night-time use) for all construction activities where grid connections are not possible, including hydrotesting. This can be considered as part of the Energy Reduction Management Plan.	Contractor	Pre-construction
K3	Develop a Sustainable Procurement Plan to identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues. This will form part of the Final CEMP.	Contractor	Pre-construction
K4	Develop a Materials Management Plan which includes best practice measures on suitability for use, certainty of use and quantities required.	Contractor	Pre-construction
K5	Develop the outline Site Waste Management Plan attached to the Draft CEMP. This will be required to include measures to ensure waste produced or held on a site is disposed of safely, efficiently and lawfully, and meets 90% total waste diverted from landfill.	Contractor	Pre-construction
K6	When designing the Project in detail, ensure sufficient shading is provided where equipment/machinery is stored.	Contractor	Pre-construction
K7	Key access roads should be designed with materials that can withstand future temperature increases.	Contractor	Pre-construction
L - Socioeconomics			
L1	All practicable measures will be taken to avoid land take which adversely effects socio-economic receptors.	Contractor	Pre-construction
L2	The Applicant's will inform local businesses / residents of proposed works as set out in the stakeholder engagement plan.	The Applicant's Project Manager	Pre-construction

Ref Number	Commitment	Responsible Person	Project Stage
L3	The Applicant's would seek to develop links with education and employment establishments in the locality (for example, schools, colleges, local authorities, employment agencies, business groups) to investigate how the Project could contribute directly or indirectly to maximising the economic and educational benefits of the Project for local people.	The Applicant's Project Manager	Pre-construction / construction
M – Materials and Waste			
M1	Register with the Considerate Constructors Scheme.	Contractor	Pre-construction
M2	Appoint a Waste Manager or Champion who would oversee the implementation of the waste control strategy and the handling of any waste material.	Contractor	Pre-construction
M3	Ensure the procurement process orders material resources so that the timing of the delivery (e.g. 'just in time' deliveries), the quantities delivered, and the storage are optimised to reduce the potential for oversupply and damage onsite.	Contractor	Pre-construction
M4	Develop sustainability targets and monitor during construction.	Contractor	Pre-construction / construction
M5	Sort and segregate waste into different waste streams (where technically and economically feasible).	Contractor	Pre-construction
M6	Wherever possible and where specification allows, construction materials would include a measurable recycled content in their manufacture.	Contractor	Pre-construction
M7	Wherever possible, standardisation of materials and elements would be incorporated in order to minimise required material resources and the production of waste. For example, the use of prefabricated components.	Contractor	Pre-construction
M8	Consider using local sources for aggregate supplies and explore agreements with suppliers to reduce the amount of packaging used to protect materials or to participate in a packaging take back scheme.	Contractor	Pre-construction
M9	Promote opportunities for the potential reusing and recycling of all material resources and waste.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
M10	Manage material use to maximise the environmental and Project benefits from the use of surplus materials.	Contractor	Construction
M11	Excavated material would be targeted for fill and landscaping where this is feasible, and the material is suitable. Excavated materials, such as soils, would be carefully stored in segregated piles for subsequent reuse on the site, where possible. If the material is contaminated then it would be kept separate from clean material and sent for either treatment, recycling or recovery, where appropriate, or disposal at appropriately permitted facilities.	Contractor	Construction
M12	Surplus inert excavated materials (e.g. soils, stone, bricks, clay, rubble, rock) may be suitable for use in land reclamation projects. This would require compliance with the criteria and thresholds for an exemption or a permit under the Environmental Permitting Regulations 2010 (as amended). The CL:AIRE DoWCoP1 may also be applicable for the reuse of this material.	Contractor	Construction
M13	The waste management area would be established within the main construction compound to handle incoming waste from construction activities. This would be designed to facilitate the segregation of key waste streams to maximise the opportunity to reuse, recycle and return wastes generated onsite.	Contractor	Construction
M14	Construction work would be carried out closely with the waste management contractors, in order to determine the best techniques for managing waste and ensure a high level of recovery of materials for recycling. An area would be established for spoil classification at the Draft Order Limits.	Contractor	Construction
M15	Shelter would be provided to prevent materials such as cardboard and paper from deteriorating while being sorted or awaiting collection. Space would be provided to accommodate skips and the storage of reusable materials.	Contractor	Construction

Ref Number	Commitment	Responsible Person	Project Stage
M16	<p>A Materials Management Plan (MMP) will developed under the CL:AIRE Definition of Waste: Development Industry Code of Practice (Ref 18.27) by the construction contractor to support the re-use of excavated materials, minimise off-site disposal; and to demonstrate the necessary lines of evidence to support the proper reuse/offsite disposal of materials and ensure compliance with regulatory guidance. The Principal Contractor would be responsible for preparing the MMP prior to the commencement of construction and for obtaining all necessary approvals.</p>	Contractor	Construction

1.7.8 Although this document relates to environmental management during the construction phase, there are some mitigation measures which relate specifically to the operational and decommissioning phases. These are presented below in **Table 4** and **Table 5**.

Table 4: Preliminary Mitigation Register (Operational Phase)

Ref Number	Commitment	Responsible Person
OP1	Establish an aftercare period to monitor all habitat reinstatement/creation/mitigation measures/net gain assessment by a suitably qualified ecologist to assess success. Where necessary, identify and implement remedial measures such as replacement of failed trees within newly planted hedgerows.	The Applicant

Table 5: Preliminary Mitigation Register (Decommissioning Phase)

Ref Number	Commitment	Responsible Person
Decom1	A check for INNS should be completed at least one year prior to decommissioning to inform the decommissioning plan.	The Applicant

1.8 Communications, Inductions and Training

1.8.1 In the Draft CEMP, this section will cover the communication protocols for the following:

- the CEMP;
- environmental issues;
- weekly SHE meetings;
- public communication and liaison;
- communication with other construction sites; and
- inductions and training.

1.9 Environmental Monitoring and Reporting

1.9.1 In the Draft CEMP, this section will detail the Contractor’s programme of audit and inspections to check that site operations are in compliance with the CEMP, current procedures and legislation, are using best practice; and that the mitigation measures are being effectively implemented. The audit and inspections will comprise:

- Pre-Construction Audit;
- Daily Site Checks;
- Weekly Site Inspections; and
- Monthly Site Audits

1.9.2 The procedure for records and document control will also be detailed in this section.

1.10 Record Keeping

1.10.1 This section will detail the required environmental documents and files for the project including:

- Handover documents (produced all stages of design completion) which would be continually updated that collates together all the relevant information on environmental issues and effects that must be forwarded on to the construction phase of the Project;
- a Project Environmental System complying with Harbour Energy procedures (to be established at the main construction compound);
- A comprehensive photographic archive of the Project (to be maintained prior to, and during the construction phase); and
- A Project Environmental and Sustainability File or equivalent (a record of information for Harbour Energy which focuses on environmental aspects and effects that will need to be dealt with during maintenance, repair or further construction works/operations or decommissioning and abandonment of equipment). The contents of the Project Environmental and Sustainability File form the main part of the environmental handover documents).

1.11 Design Changes

1.11.1 This section will outline the procedure to be taken in the event of the Contractor modifies the Project design.