

Hornsea 4

Ørsted



Hornsea Project Four: Outline Code of Construction Practice

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Glossary

Term	Definition
Connection Works	Work Nos. 6 to 10 and any related further associated development in connection with those works.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment (EIA) Report.
Export cable corridor (ECC)	The specific corridor of seabed (seaward of Mean High Water Springs (MHWS)) and land (landward of MHWS) from the Hornsea Project Four array area to the Creyke Beck National Grid substation, within which the export cables will be located.
Landfall	The generic term applied to the entire landfall area between Mean Low Water Spring (MLWS) tide and the Transition Joint Bay (TJB) inclusive of all construction works, including the offshore and onshore ECC, intertidal working area and landfall compound.
Local Authority	The Local Authority is a body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and the Broads Authority, as set out in Section 43 of the Planning Act 2008. East Riding of Yorkshire Council (ERYC) is the Local Authority for the entirety of the onshore project footprint.
National Grid Electricity Transmission (NGET) substation	The grid connection location for Hornsea Four.
Relevant Planning Authority	The Relevant Planning Authority is the Local Authority (ERYC for the entirety of onshore elements of Hornsea Four) in respect of an area within which a project is situated, as set out in Section 173 of the Planning Act 2008. The Relevant Planning Authority is the body empowered by law to exercise statutory town planning functions for a particular area of the United Kingdom. Relevant Planning Authorities may have responsibility for discharging requirements and some functions pursuant to the Development Consent Order, once made.

Acronyms

Acronym	Definition
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ECC	Export cable corridor
PEIR	Preliminary Environmental Information Report

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1 Introduction

1.1 General

1.1.1.1 Orsted Hornsea Project Four Ltd (the Applicant) is proposing to develop Hornsea Project Four Offshore Wind Farm (hereafter Hornsea Four). Hornsea Four will be located approximately 65 km offshore of the East Riding of Yorkshire in the Southern North Sea and will be the fourth project to be developed in the former Hornsea Zone.

1.1.1.2 This outline Code of Construction Practice CoCP has been developed to support all onshore construction activities associated with of Hornsea Four. The onshore elements of Hornsea Four will be constructed within the jurisdiction of East Riding of Yorkshire Council (ERYC) and comprise:

- Landfall;
- Onshore Export Cable Corridor (ECC), including associated joint bays, links boxes and crossings;
- Temporary construction accesses and logistics compounds;
- Onshore Substation (OnSS) and Energy Balancing Infrastructure (EBI); and
- 400kV ECC, connecting to the existing National Grid Electricity Transmission (NGET) substation at Creyke Beck.

1.1.1.3 The production of an outline (CoCP) fulfils Commitment 124 (see [Volume 4, Annex 5.2: Commitments Register](#)). This outline CoCP has been developed alongside the Environmental Impact Assessment (EIA) Process, preliminary results of which are reported in the Preliminary Environmental Information Report (PEIR), to illustrate to stakeholders how the Commitments shall be captured within the Outline CoCP and associated DCO related documents.

1.1.1.4 Upon receipt of stakeholder feedback to consultation on the draft PEIR and CoCP (including Section 42 and 47 consultation), this outline CoCP will be further development and updated for submission in line with the findings of the Environmental Statement (ES) at Development Consent Order (DCO) application.

1.1.1.5 This CoCP will be submitted to the relevant planning authority under Requirement 16 of the draft DCO ([Annex C1.1](#)), who will consult with the Environment Agency (EA), the relevant SNCBs and, if applicable, the MMO on the contents of the CoCP, where deemed necessary.

1.2 Structure

1.2.1.1 This outline CoCP follows the following structure:

- [Section 2](#) – Implementation of the outline CoCP;
- [Section 3](#) – General Principles;
- [Section 4](#) – Accompanying Plans to the CoCP;
- [Section 5](#) – General Site Operations;
- [Section 6](#) – Management of Onshore Environmental Issues; and
- [Section 7](#) – Management of Intertidal Environmental Issues.
- [Section 8](#) – Construction Traffic and Travel Management Plan

1.3 Purpose of the Outline CoCP

1.3.1.1 This outline CoCP sets out the management measures that the appointed principal contractor will be required to adopt and implement for all construction activities on Hornsea Four.

1.3.1.2 The term 'Construction' in this outline CoCP includes all physical works undertaken to implement Hornsea Four, including site preparation, demolition, HGV movements, waste disposal, and all related engineering and construction activities as authorised by Schedule 1 of The Hornsea Four Offshore Wind Farm Development Consent order (DCO).

1.3.1.3 'Management measures' comprise legislative requirements, current standards and best practice, in addition to primary, tertiary and secondary mitigation measures identified as part of the Hornsea Four EIA Process (see [Section 3.1.2](#)). They include strategies, control measures and monitoring procedures for managing the potential impacts of constructing Hornsea Four and limiting disturbance from construction activities as far as reasonably practicable.

1.3.1.4 Compliance with this CoCP will not absolve the contractor(s) or subcontractors from compliance with all legislation and byelaws relating to their construction activities.

1.3.1.5 The outline CoCP will form the basis for a detailed CoCP which will be prepared during the detailed design phase, post-consent / pre-commencement of the connection works. The relationship between the outline CoCP and the detailed CoCPs is set out in further detail in [Section 2.1.1](#).

2 Implementation of the CoCP

2.1.1 Outline and detailed CoCPs

2.1.1.1 The outline CoCP establishes the principles which will be implemented during the construction of the onshore and intertidal elements (up to MLWS) of Hornsea Four. Following the granting of consent for Hornsea Four, a detailed CoCP will be prepared during the detailed design stage (post consent) following the principles established in the outline CoCP. This is supported by inclusion of Requirement 16 of the draft DCO which states:

16. —(1) No part of the connection works may commence until a code of construction practice (which must accord with the outline code of construction practice) for the connection works has been submitted to and approved by the relevant planning authority, in consultation with the Environment Agency, the relevant SNCBs and, if applicable, the MMO.

(2) The term commence as used in requirement 16(1) shall include any onshore site preparation works.

(3) All construction works must be undertaken in accordance with the relevant approved code of construction practice.

2.1.1.2 Construction of the connection works will not commence until the detailed CoCP has been approved by ERYC in consultation with the Environment Agency, the relevant SNCBs and, if applicable, the MMO in accordance with requirement 16 of the draft DCO.

2.1.1.3 The outline CoCP as certified by the Secretary of State will be incorporated into the contracts for the principal contractors of all onshore and intertidal works authorised by the DCO. All principal contractors, subcontractors and their suppliers will be required to observe the relevant provisions of the CoCP and provide evidence on how they will ensure its requirements are implemented and monitored.

2.1.2 Training and competence

2.1.2.1 All onshore and intertidal construction staff employed on Hornsea Four will receive training on their responsibilities for minimising the risk to the environment and implementing the measures set out in this outline and any subsequently approved detailed CoCP(s).

2.1.2.2 The principal contractors will ensure that contractors employ an appropriately qualified and experienced workforce and will be responsible for identifying the training needs of their personnel. The training will include site briefings and toolbox talks to equip the workforce with the necessary knowledge on health, safety and environmental topics.

2.1.2.3 In addition to meeting the commitments in the outline CoCP, all principal contractors will be required to sign up to, and implement, the Considerate Contractors' Scheme (CCS). The scheme is a voluntary Code of Considerate Practice which seeks to minimise disturbance

caused by construction sites to the immediate neighbourhood and recognises the commitment to raise standards of site management.

2.1.2.4 The CCS Code of Considerate Practice is in five parts, each containing an aspirational supporting statement and four bullet points which represent the basic expectations of registration with the Scheme. These five parts will be applied during construction works and comprise:

- Care about Appearance;
- Respect the Community;
- Protect the Environment;
- Secure everyone's Safety; and
- Value their Workforce.

3 General Principals

3.1 Environmental Management Principles

3.1.1.1 Hornsea Four will be constructed in an environmentally sensitive manner and will meet the requirements of all relevant legislation, codes of practice and standards as identified in the DCO, ES and any updates to legislation or standards adopted at the time of construction to limit the adverse impacts on the local community and environment as far as reasonably practicable.

3.1.2 Commitments

3.1.2.1 Through the EIA process Hornsea Four have identified Commitments which seek to eliminate or reduce impacts or adopt best practice guidance as part of the project and are recorded within the Commitments Register (see [Volume 4, Annex 5.2](#)). Where relevant, such commitments are detailed within subsequent sections of this outline CoCP.

3.1.3 Environmental Management Systems

3.1.3.1 Each principal contractor is to be British Standard (BS) EN ISO 14001 (Environmental Management System (EMS)) certified. The EMS will provide the process for which environmental management is undertaken to ensure that the relevant findings of the ES are addressed during the construction phase. The EMS will set out:

- The procedures to be implemented to monitor compliance with environmental legislation and other relevant requirements;
- The key environmental aspects of the construction works and how they will be managed;
- Staff competence and training requirements;
- Record-keeping arrangements; and
- Monitoring compliance and the effectiveness of the measures included within the CoCP.

3.1.3.2 All principal contractors will be required to plan their works in advance to ensure that (without significant implication on health and safety procedures), measures to reduce environmental effects and ensure that any commitments documented in the DCO, the principles established in detailed CoCP(s), and commitments made in the ES are complied with.

3.2 Local Community Liaison

3.2.1.1 A Communication Plan will be developed post-consent as part of the CoCP to be approved under DCO Requirement 16 (see [Table 1](#)). The Communications Plan will ensure a proactive approach to communication with local stakeholders and will include a complaints procedure to be implemented during the construction process.

4 Accompanying plans to the CoCP

4.1.1.1 [Table 1](#) sets out the documents which have been, or will be, prepared and form appendices to the CoCP. Where outline versions of these documents have been provided within the outline CoCP, this is also noted. [Table 2](#) sets out other relevant documents which are stand alone to the outline CoCP.

Table 1: Documents to form appendices to the detailed CoCP

Document and Purpose	Status	Approval Body
<p>Communications Plan</p> <p>Framework for: engaging stakeholders (methods of contacting and engaging with affected groups, methods of providing advance notifications); roles and responsibilities for implementing the communication plan; and complaints procedure to be implemented.</p>	<p>A Communication Plan will be developed post-consent as part of the Code of Construction Practice approved under DCO Requirement 16.</p>	<p>ERYC</p>
<p>Bentonite Break Out Plan</p> <p>To describe the procedure and measures for dealing with a bentonite breakout from a HDD in a watercourse.</p>	<p>To be completed upon appointment of a Principal Contractor</p>	<p>ERYC, EA and NE</p>
<p>Onshore Biosecurity Protocol</p> <p>Set out management measures for biosecurity risks, including invasive species, diseases and pathogens during construction.</p>	<p>An Onshore Biosecurity Protocol will be developed post-consent as part of the Code of Construction Practice approved under DCO Requirement 16, upon appointment of a Principal Contractor and Ecological Clerk of Works (ECoW)</p>	<p>ERYC</p>
<p>Soil Management Strategy</p> <p>Set out measures to conserve soil resources; avoid damage to soil structure; maintain soil drainage during</p>	<p>An outline version will be included as an appendix to the outline CoCP at DCO.</p>	<p>ERYC</p>

Document and Purpose	Status	Approval Body
<p>construction; and identify principles for the reinstatement of the soil profile following the construction of Hornsea Four.</p>		
<p>Public Right of Way Management Plan</p> <p>Set out management measures for public rights of way including bridleways and footpaths and other routes for non-motorised users during construction.</p>	<p>An outline version will be included as an appendix to the outline CoCP at DCO.</p>	<p>ERYC</p>
<p>Emergency Response and Pollution Control Plan</p> <p>Set out details of the containment of fuels, oils, lubricants and chemicals; measures to protect surface and groundwater during construction; and emergency procedures in cases of spillages or leaks during construction.</p>	<p>An Emergency Response and Pollution Control Plan will be developed post-consent as part of the Code of Construction Practice approved under DCO Requirement 16.</p>	<p>ERYC in consultation with the Environment Agency, the relevant SNCBs and, if applicable the MMO.</p>
<p>Pollution Prevention Plan</p>	<p>An outline Pollution Prevention Plan will be included as an appendix to the outline CoCP at DCO.</p>	<p>ERYC</p>
<p>Outline Construction Traffic and Travel Management Plan (CTMP)</p>	<p>An outline version will be included as an appendix to the outline CoCP at DCO.</p> <p>A detailed CTMP is required under Requirement 17 of the DCO and will be completed upon appointment of a Principal Contractor.</p>	<p>ERYC in consultation with the highway authority.</p>
<p>Site Waste Management Plan (SWMP)</p>	<p>A SWMP will be included as an appendix to the outline CoCP upon appointment of a Principal Contractor.</p>	<p>ERYC</p>

Table 2: Documents to form stand-alone documents

Document and Purpose	Status	Relevant DCO Requirement	Approval Body
Outline Ecological Management Plan	An outline version is provided in Volume F2.3 .	9	ERYC in consultation with the relevant SNCBs and Environment Agency where appropriate.
Outline Onshore Written Scheme of Investigation (WSI)	An outline Onshore WSI will be provided at DCO submission as Volume F2.10	15	ERYC in consultation with the Historic Buildings and Monuments Commission for England.
Outline Onshore Infrastructure Drainage Strategy	An outline version is provided in Volume F2.6 .	14	ERYC in consultation with the Environment Agency.

5 General Site Operations

5.1 Working Hours

5.1.1.1 Core working hours for the construction of the onshore elements of Hornsea Four (see Co36 of [Volume A4, Annex 5.2](#)) are as follows:

- Monday to Friday: 07:00 – 18:00 hours;
- Saturday: 07:00 – 13:00 hours;
- Up to one hour before and after core working hours for mobilisations (“mobilisation period”), i.e. 06:00 to 19:00 weekdays and 06:00 to 14:00 Saturdays; and
- Maintenance period 13:00 to 17:00 Saturdays.

5.1.1.2 During the mobilisation period, the contractor may undertake the following activities:

- Arrival and departure of the workforce at the site and movement to and from areas across the project;
- Site inspections and safety checks; site meetings (briefings and quiet inspections/walkovers);
- Site clean-up (site housekeeping that does not require the use of plant); and
- Low-key maintenance, safety checking of plan and machinery (provided this does not require or cause hammering or banging).

5.1.1.3 Mobilisation does not include heavy good vehicle (HGV) movements into and out of the construction areas (i.e. HGV movements should only occur at the construction areas during the core working hours unless otherwise agreed) but suppliers can make use of the wider highway network outside these hours to travel. The use of the mobilisation period will be

agreed with the relevant local authority EHO officer in consultation with the relevant planning authority on a case by case basis.

5.1.1.4 In certain circumstances, specific works may have to be undertaken on a continuous working basis (00:00 to 00:00 Monday to Sunday). Under such circumstance the relevant local authority will be notified in writing.

5.2 General site layout and good housekeeping

5.2.1.1 A good housekeeping policy will be applied to the construction areas at all time. As far as reasonably practicable the following principles will be applied:

- All working areas will be kept in a clean and tidy condition;
- Adequate welfare facilities will be provided for all construction staff;
- All necessary measure will be taken to minimise the risk of fire and the contractor will comply with all the requirements of the local fire authority;
- Waste from construction areas will be stored securely to prevent wind blow;
- Smoking areas at site logistics compounds will e equipped with container for smoking wastes – these will not be located at the boundary of working areas or adjacent to neighbouring land;
- Open fires will be prohibited at all times; and
- Waste (particularly food waste) will be removed from the welfare facilities at frequent intervals.

5.3 Site security, screening and fencing

5.3.1.1 Commitments made by Hornsea Four that are relevant to site security and fencing are detailed in [Table 3](#).

Table 3: Commitments relevant to Site Security, Screening and fencing.

Commitment ID	Measure Proposed	How the measure will be secured
Co43	All temporary and permanent working areas of the onshore Export Cable Corridor (ECC), logistics compounds and the onshore substation site will be clearly marked and secured with appropriate fencing.	<i>DCO Requirement 16 (Code of construction practice) (relevant to temporary fencing)</i> <i>DCO Requirement 11 (Fencing and other means of enclosure) (relevant to permeant fencing)</i>
Co157	Fences, walls, ditches and drainage outfalls will be retained along the onshore export cable corridor and landfall, where possible. Where it is not possible to retain them, any unavoidable damage will be repaired and reinstated as soon as reasonably practical.	DCO Requirement 16 (Code of construction practice)

5.3.1.2 Logistics compounds will be secured with fencing with lockable gates to minimise the opportunity for unauthorised entry. Temporary fencing will be installed along the onshore export cable corridor to define the Hornsea Four works areas. The type of fencing to be used will be dependent on the land use where the easement crosses it. Appropriate fencing will be selected to suit the location and purpose. Fencing may consist of:

- Post and rope for arable land;
- Post and rail for horse fields; and
- Post mesh and wire/barb for cattle and sheep.

5.3.1.3 All boundaries, fencing and screens will be maintained in a tidy condition and will be fit for purpose.

5.3.1.4 All temporary screening and fencing will be removed as soon as reasonably practicable following completion of the works.

5.4 Lighting

5.4.1.1 Site lighting will be provided to ensure the safety of work and to maintain security on the construction sites. The lighting will be positioned and directed so as not to unnecessarily intrude on adjacent buildings and land uses, and to prevent unnecessary interference with residents or passing transport users. The design will ensure that any artificial light emitted from premises will not be prejudicial to health or be a nuisance as required by the Environmental Protection Act 1990. Commitments relevant to lighting are shown in [Table 4](#).

Table 4: Commitments relevant to lighting.

Commitment ID	Measure Proposed	How the measure will be secured
Co69	Site lighting will only operate when required and will be directional to avoid unnecessary illumination.	DCO Requirement 16 (Code of construction practice)

5.5 Emergency planning and procedures

5.5.1.1 Emergency procedures will be developed for the onshore elements of Hornsea Four which will take into account the anticipated hazards and conditions at each work site. Such procedures will be documented in an Emergency Response Plan (see [Table 1](#)) which will include appropriate procedures such as fire and site evacuation and emergency pollution control measures. The Emergency Response Plan will also contain emergency phone numbers and the method of notifying the relevant local and statutory authorities. The procedures will be displayed at the work sites all staff will be required to follow them.

5.6 Pollution incident control

5.6.1.1 A Pollution Prevention Plan will be developed, which recognises the risk of pollution from the onshore construction activities and presents pro-active management measures to ensure that any pollution that may occur is minimised, controlled, remediated and reported to the relevant parties as soon as reasonably practical.

5.6.1.2 The Pollution Prevention Plan will follow Relevant good practice guidance as detailed within the Environment Agency’s Pollution Prevention Guidance (PPG) (including PPG01, PPG05, PPG08 and PPG21) and may include the following measures where appropriate:

- In accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001, refuelling of machinery would be undertaken within designated areas where spillages can be easily contained.
- Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering the drainage system or the local watercourses. Bunds used will store fuel, oil etc. to have a 110% capacity. Additionally, the bunded areas will have impermeable bases to limit the potential for migration of contaminants into groundwater following any leakage/spillage.
- All plant machinery and vehicles will be maintained in a good condition to reduce the risk of fuel leaks.

5.6.1.3 Further management measures relevant to the control of pollution will be developed prior to DCO Application and included within an outline Pollution Prevention Plan as part of the Outline CoCP. Commitments relevant to pollution incident control are shown in [Table 5](#).

Table 5: Commitments relevant to pollution incident control.

Commitment ID	Measure Proposed	How the measure will be secured
Co4	A Pollution Prevention Plan (PPP) will be developed in accordance with the outline PPP and will include details of emergency spill procedures. Good practice guidance detailed in the Environment Agency’s Pollution Prevention Guidance (PPG) notes (including PPG01, PPG05, PPG08 and PPG21) will be followed where appropriate, or the latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)

5.7 Pest control

5.7.1.1 The risk of pest/vermin infestation will be minimised by ensuring any putrescible waste is stored appropriately and regularly collected from the construction areas, and effective prevention pest control measures are implemented. Any pest infestation will be dealt with promptly and notified to the relevant local authority as soon as reasonably practical.

5.8 Clearance of site on completion

5.8.1.1 Following completion of construction, all logistics compounds will be removed and land within the working area will be restored to its original condition. Commitments relevance are shown in [Table 6](#).

Table 6: Commitments relevant to site clearance.

Commitment ID	Measure Proposed	How the measure will be secured
Co10	Post-construction, the working area will be reinstated to pre-existing condition as far as reasonably practical in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co28	Joint Bays will be completely buried, with the land above reinstated except where access will be required from ground level, e.g. via link box chambers and manholes.	DCO Requirement 19 (Restoration of land used temporarily for construction)
Co68	All logistics compounds will be removed and sites restored to their original condition when construction has been completed.	

5.9 Roles and Responsibilities

5.9.1.1 Whilst the key roles for the construction project team will not be assigned until post-consent, the environmental roles required to implement the outline CoCP would comprise:

- Site manager;
- Environmental co-ordinator;
- Clerk of works;
- Ecological clerk of works; and
- Agricultural liaison officer.

6 Management of Onshore Environmental Issues

6.1.1.1 The following sections provide outline measures in relation to the management of onshore environmental issues during construction. At this stage, these measures largely relate to the relevant commitments Hornsea Four have identified through the EIA process which are fully detailed within the Commitments Register (see [Volume A4, Annex 5.2](#)). These measures will be further developed prior to submission of the DCO Application and within the detailed CoCP required under Requirement 16 of the DCO. The topic areas detailed below align with the chapters of [Volume A3](#) of the PEIR.

6.2 Geology and Ground Conditions

6.2.1 Objective

6.2.1.1 To protect the underlying secondary and principal aquifers in terms of groundwater quality and flow.

6.2.2 Commitments

6.2.2.1 [Table 7](#) details the commitments relevant to Geology and Ground Conditions that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed management measures is also provided in [Section 6.2.3](#).

Table 7: Geology and Ground Conditions Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co1	All main rivers, Internal Drainage Board (IDB) maintained drains, main roads and railways will be crossed by HDD or other trenchless technology as set out in the Onshore Crossing Schedule. Where HDD technologies are not practical, the crossing of ordinary watercourses may be undertaken by open cut methods. In such cases, temporary measures will be employed to maintain flow of water along the watercourse.	DCO Requirement 16 (Code of construction practice)
Co6	During construction of piled foundations, the following guidance will be used: Piling and Penetrative Ground Improvement Methods on land Affected by Contamination: Guidance on Pollution Prevention (Environment Agency, 2001), or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co8	Stockpiles will be a maximum of 2m high to avoid compaction from the weight, in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co41	All HDD crossings will be undertaken by non-impact methods in order to minimise construction vibration beyond the immediate location of works.	DCO Requirement 16 (Code of construction practice)

Co61	Prior to the commencement of works, the contractor (or project appointed Agricultural Liaison Officer) will document information on existing agricultural management and soil/land conditions. This will include soil condition surveys and intrusive soil survey trial pits to identify and describe the physical and nutrient characteristics of the existing soil profiles.	DCO Requirement 16 (Code of construction practice)
Co64	Topsoil and subsoil will be stored in separate stockpiles in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance. Any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required).	DCO Requirement 16 (Code of construction practice) DCO Requirement 13 (Contaminated land and groundwater scheme)
Co76	Appropriate Personal Protective Equipment (PPE) will be used and relevant good working practices applied to avoid potential risk to human health from any potential ground contamination, in line with relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co77	A contaminated land and groundwater scheme will be prepared to identify any contamination and any remedial measures which may be required.	DCO requirement 13 (Contaminated land and groundwater scheme)

General Commitments relevant to Geology and Ground Conditions: Co4, Co10, Co28, Co68

For full details on these Commitments see [Section 5](#).

6.2.3 Management Measures

- 6.2.3.1 A Pollution Prevention Plan will be developed, which will minimise and manage the risk of pollution from the onshore construction activities to the ground. For further details on the Pollution Prevention Plan and the outline measures currently proposed see [Section 5.6](#).
- 6.2.3.2 Topsoil will be stripped and stored in such a way that it is not mixed with sub soil or trafficked on by vehicles. Soil from different fields and hedgerow areas will be separated. Subsoil will be excavated from the trench line and stored separately. The soil storage period will be kept to a minimum so that no significant deterioration in soil fertility due to anaerobiosis (absence of oxygen) can occur. The underground cable will be buried to a depth of approximately 1.2 m (to the top of the tile covering) in agricultural land. Best practices for soils handling will be adopted and detailed in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance.
- 6.2.3.3 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.3 Hydrology and Flood Risk

6.3.1 Objective

6.3.1.1 To minimise the risk of surface water flooding during the construction phase, to prevent pollution of surface watercourses and to minimise the impact on local surface water features.

6.3.2 Commitments

6.3.2.1 **Table 8** details the commitments relevant to Hydrology and Flood Risk that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 8: Hydrology and Flood Risk Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co1	All main rivers, Internal Drainage Board (IDB) maintained drains, main roads and railways will be crossed by HDD or other trenchless technology as set out in the Onshore Crossing Schedule. Where HDD technologies are not practical, the crossing of ordinary watercourses may be undertaken by open cut methods. In such cases, temporary measures will be employed to maintain flow of water along the watercourse.	DCO Requirement 16 (Code of construction practice)
Co6	During construction of piled foundations, the following guidance will be used: Piling and Penetrative Ground Improvement Methods on land Affected by Contamination: Guidance on Pollution Prevention (Environment Agency, 2001), or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co13	Where cable trenching or road widening of the construction accesses is required across perched or near-surface secondary A or B aquifers, measures will be implemented to ensure that groundwater quality is not affected and detailed within the Pollution Prevention Plan (PPP) (Co4) to prevent changes to chemical quality, and the use of thermally insulated Direct Current cables to prevent effects on groundwater temperature). Furthermore, measures to ensure that the cable trench does not become a conduit for groundwater flow will also be implemented (e.g. ensuring that backfill is sufficiently compacted and has the same transmissivity as adjacent undisturbed material). Appropriate measures will be identified following consultation with the Environment Agency and will be reported within the CoCP (Co124). This will be in line with the requirements of Section 23-25 of the Land Drainage Act 1991, or the latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)

Co18	HDD entry and exit points will be located at least 9 m away from surface watercourses and the onshore export cable will be installed at least 1.2 m beneath the bed of any watercourses. The optimal clearance depth beneath watercourses will be agreed with the relevant authorities prior to construction. Where Hornsea Four crosses sites of particular sensitivity (e.g. SSSIs or groundwater Inner Source Protection Zones (SPZs)) a hydrogeological risk assessment will be undertaken to inform a site specific crossing method statement which will also be agreed with the relevant authorities prior to construction.	DCO Requirement 16 (Code of construction practice)
Co64	Topsoil and subsoil will be stored in separate stockpiles in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance. Any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required).	DCO Requirement 16 (Code of construction practice) DCO Requirement 13 (Contaminated land and groundwater scheme)
Co147	Appropriate liaison will take place with the Internal Drainage Board during construction.	DCO Requirement 16 (Code of construction practice)
Co172	The bed and banks of watercourses will be reinstated to their pre-construction condition following the removal of any temporary structures.	DCO Requirement 16 (Code of construction practice)
Co175	A pre and post construction condition survey will be undertaken at each of the crossing location on primary and secondary watercourses where infrastructure (e.g. A Bailey bridge) is emplaced upon banks.	DCO Requirement 16 (Code of construction practice)
Co183	Where possible to design of all temporary access tracks will replicate or be as consistent with existing ground levels as possible, to limit effects on future flood risk.	DCO Requirement 16 (Code of construction practice)
Co184	Where the permanent access track to the OnSS may be required to pass over an existing watercourse, the crossing will be appropriately designed to maintain existing ground elevations to ensure continued floodplain capacity and/or flow conveyance, where possible.	DCO Requirement 16 (Code of construction practice)

General Commitments relevant to Hydrology and Flood Risk: Co4, Co10

For full details on these Commitments see [Section 5](#).

6.3.3 Management Measures

6.3.3.1 Further to the Commitments identified in [Table 8](#), appropriate environmental best practice will be followed to minimise impacts on watercourses and local surface water features. This will include but is not limited to: CIRIA C532 Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (Masters-Williams, 2001); and CIRIA C648 Control of Water Pollution from Linear Construction Projects (Murnane, Heap, and Swain, 2006).

6.3.3.2 It will be ensured that any culverts are adequately sized to avoid impounding flows and are installed below the active bed of the watercourse so that sediment continuity and the

movement of fish and aquatic invertebrates can be maintained as in CIRIA's Culvert design and operation guide (CIRIA 2010).

6.3.3.3 All construction work will be undertaken in accordance with Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors CIRIA (C650); and CIRIA – SuDS Manual (CIRIA, 2015). The following measures will be implemented:

- No discharge to surface watercourses will occur without permission from the Environment Agency;
- Wheel washers and dust suppression measures to be used as appropriate, where necessary, to prevent the migration of pollutants;
- Regular cleaning of access roads of any construction waste and dirt to be carried out;
- A construction method statement will be submitted for approval by the responsible authority;
- Measures will be employed to intercept and treat run-off from the working corridor, for example by using sandbags, settlement tanks and lagoons. After treatment, discharge of any waters will be carried out so as to minimise physical impacts on channel morphology;
- Surface water flowing into the trenches during the construction period will be pumped via settling tanks or ponds to remove sediment and potential contaminants, before being discharged into local ditches or drains via temporary interceptor drains. Where gradients on site are significant, cable trenches will include a hydraulic brake (bentonite or natural clay seals) to reduce flow along trenches and hence reduce local erosion;
- Deep trenchless excavations and deep excavations for pile foundations to be mitigated by casing off perched groundwater units during construction works and sealing off once the casing is removed; and
- Inert bentonite or natural clay seals may be used as a drilling fluid and to seal deep excavations where there is a risk that groundwater could be compromised, thereby reducing or eliminating the pathway whereby new contaminants can enter groundwater as a result of subsurface activities.

Outline Onshore Infrastructure Drainage Strategy

6.3.3.4 An Outline Onshore Infrastructure Drainage Strategy has been developed and is provided (see document [F2.6](#)). The Strategy will ensure that existing run-off rates to the surrounding water environment are maintained at pre-development rates.

6.3.3.5 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.4 Ecology and Nature Conservation

6.4.1 Objective

6.4.1.1 To minimise the impact of construction works on protected species and designated sites and to minimise the loss of nature conservation features such as hedgerows and mature trees.

6.4.2 Commitments

6.4.2.1 **Table 9** details the commitments relevant to Ecology and Nature Conservation that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 9: Ecology and Nature Conservation Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co26	Where hedgerows require removal, this will be undertaken prior to topsoil removal and the width of hedge removed will be limited where practical. Removed hedges and trees will be replaced with locally appropriate native species.	DCO Requirement 16 (Code of construction practice);
Co27	Trees identified to be retained as per the Onshore Crossing Schedule will be fenced off and worked around. Where works close to trees that will remain in situ are required, techniques will be used to safeguard the root protection zone.	and;
Co35	Provision will be made for badger access in relevant construction areas, when work is not taking place in order to ensure normal movements as far as reasonably possible. Provision will be made to ensure avoiding the entrapment of any animals within relevant construction areas. Checks will be made prior to the start of any works to ensure no animals are trapped. Appropriate checks will be made as required by the ECoW.	DCO Requirement 9 (Ecological Management Plan)
Co114	Good practice air quality management measures will be applied where it is relevant, as described in Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction 2014, version 1.1, or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co123	Based on noise modelling results, where noise has the potential to cause significant adverse effects, mufflers and acoustic barriers will be used where HDD is being undertaken.	DCO Requirement 16 (Code of construction practice)

General Commitments relevant to Ecology and Nature Conservation: Co4

For full details on these Commitments see [Section 5](#).

6.4.3 Management Measures

General

- 6.4.3.1 An ECoW will be appointed by the principal contractor to oversee the onshore enabling works and construction where necessary. The ECoW will be a suitably experienced professional ecologist. The ECoW will review results of protected species surveys prior to commencement of the relevant works.
- 6.4.3.2 It will be the responsibility of the Principal Contractor to implement these measures:
- All works will be carried out taking full account of legislative requirements and Environment Agency (EA) guidance;
 - Heavy machinery will not be tracked or over stored soils; and
 - Vehicle speeds will be restricted within the working corridor to reduce the likelihood of injury to species on site.
- 6.4.3.3 Night working is not scheduled as part of the normal construction programme and will only be undertaken in exceptional circumstances. Where night working is unavoidable, light fixtures will be directed away from habitat of value or otherwise notable species.
- 6.4.3.4 If the pre-construction surveys identify the presence of a bat roost, the ECoW will notify the Hornsea Four Onshore Environmental Manager and Site Manager of the requirement to obtain an NE licence prior to the commencement of works on the tree or feature in question, or within 15 m of the tree or feature. If construction is being undertaken in the nearby surrounding area, construction lighting will be designed in accordance with the Institute of Lighting Engineers (ILE) Guidance Note 8 Bats and Artificial Lighting (ILE, 2018).

Biosecurity and Invasive Species

- 6.4.3.5 An Onshore Biosecurity Protocol will be implemented to minimise the risk of spreading invasive species. The main risks are associated with the transfer of aquatic plants or animals between watercourses or waterbodies. Ponds will be avoided where practicable and where possible watercourses will be crossed using HDD, however, where working in or near water, appropriate control measures will be implemented. These may include but are not limited to:
- Ensuring vehicle tyres and wheel arches are cleared of mud, plants and other organic material before moving from one watercourse to another;
 - Leaving removed material on site; and
 - Cleaning boots and disinfecting (away from waterbodies to prevent pollutant incidents) all equipment that might come into contact with water.
- 6.4.3.6 Appropriate measures will be adopted when working in the vicinity of invasive terrestrial plants and injurious weeds. Where necessary, works will be supervised by the ECoW. Known

locations of invasive species will be marked on site and vehicle movements restricted in the vicinity of these locations where possible. Any spoil that is likely to contain invasive plant material will be stored separately from non-contaminated spoil and tread appropriately.

6.4.3.7 Where appropriate, measures will also be taken against invasive, non-native animal species and the relevant bodies will be notified of their location.

6.4.3.8 An Outline Environmental Management Plan (OEMP) has been developed and is provided (see document [Volume F2, Chapter 3](#)). The OEMP include outline measures to minimise impacts to ecological receptors and will be updated prior to DCO Application to include further detailed management measures where appropriate.

6.4.3.9 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.5 Landscape and Visual

6.5.1 Objective

6.5.1.1 To ensure construction works are carried out in such a way to minimise disturbance to relevant landscapes and visual receptors.

6.5.2 Commitments

6.5.2.1 [Table 10](#) details the commitments relevant to Landscape and Visual that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 10: Landscape and Visual Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co26	Where hedgerows require removal, this will be undertaken prior to topsoil removal and the width of hedge removed will be limited where practical. Removed hedges and trees will be replaced with locally appropriate native species.	DCO Requirement 16 (Code of construction practice); and; DCO Requirement 9 (Ecological Management Plan)
Co27	Trees identified to be retained as per the Onshore Crossing Schedule will be fenced off and worked around. Where works close to trees that will remain in situ are required, techniques will be used to safeguard the root protection zone.	DCO Requirement 16 (Code of construction practice); and;

		DCO Requirement 9 (Ecological Management Plan)
Co64	Topsoil and subsoil will be stored in separate stockpiles in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance. Any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required).	DCO Requirement 16 (Code of construction practice) DCO Requirement 13 (Contaminated land and groundwater scheme)

Further general Commitments relevant to Landscape and Visual are: Co10, Co28, Co43, Co68, Co69.

For full details on these Commitments see [Section 5](#).

6.5.3 Management Measures

6.5.3.1 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.6 Historic Environment

6.6.1 Objective

6.6.1.1 To minimise the impact of construction works on buried archaeology, heritage assets and their setting.

6.6.2 Commitments

6.6.2.1 [Table 11](#) details the commitments relevant to Historic Environment that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 11: Historic Environment Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co26	Where hedgerows require removal, this will be undertaken prior to topsoil removal and the width of hedge removed will be limited where practical. Removed hedges and trees will be replaced with locally appropriate native species.	DCO Requirement 16 (Code of construction practice); and; DCO Requirement 9 (Ecological Management Plan)

Further general Commitments relevant to Historic Environment are: Co10, Co28, Co69

For full details on these Commitments see [Section 5](#).

6.6.3 Management Measures

6.6.3.1 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.7 Land Use and Agriculture

6.7.1 Objective

6.7.1.1 To protect the quality and integrity of the soil resources, and to maintain farm accesses and PRoW where possible.

6.7.2 Commitments

6.7.2.1 **Table 12** details the commitments relevant to Land Use and Agriculture that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 12: Land Use and Agriculture Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co63	The haul road will be installed within the works area of the onshore Export Cable Corridor (ECC) to minimise impacts during construction on agricultural land.	DCO Requirement 16 (Code of construction practice)
Co79	Severance to PRoW will be temporary where possible, and appropriate temporary diversions, gated crossings and signage will be provided during construction. PRoW will be reinstated as soon as reasonably practical. Where permanent severance to PRoW is necessary, permanent diversions of such routes will be applied.	DCO Requirement 16 (Code of construction practice)
Co158	Impacts on the English Coast Path national route will be minimised by avoiding impacts through site design and phasing within working constraints for the landfall construction. In addition, Co79 will be applied to the English Coast Path national route.	DCO Requirement 16 (Code of construction practice)
Co165	Where PRoWs are required to be closed during the construction of the onshore connection works, they will not be closed for any longer than three months at any one time, or for six months in total over the whole construction period. Where closures are required for longer period, East Riding of Yorkshire Council will be informed in writing.	DCO Requirement 16 (Code of construction practice)

Further general Commitments relevant to Land Use and Agriculture are: Co8, Co10, Co28, Co43, Co68

For full details on these Commitments see [Section 5](#) and [6.2](#).

6.7.3 Management Measures

6.7.3.1 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.8 Traffic and Transport

6.8.1 Objective

6.8.1.1 To carry out construction works in such a way that maintains highway safety and avoids or minimises adverse effects on local communities and highway users.

6.8.2 Commitments

6.8.2.1 **Table 13** details the commitments relevant to Traffic and Transport that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 13: Traffic and Transport Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co62	Temporary access points off the highway will be installed to facilitate vehicular access from the road, and into the onshore cable corridor during construction. The access points will be constructed in line with the local authorities' requirements, relevant appropriate standards and in accordance with the principles established in the Outline Construction Traffic and Travel Management Plan.	DCO Requirement 17 (Construction traffic management plan)
Co144	A Construction Traffic Management Plan (CTMP) will be developed in accordance with the outline CTMP to be submitted with the DCO application. The CTMP will set standards and procedures for: <ol style="list-style-type: none"> 1. Managing the numbers and routeing of HGVs during the construction phase; 2. Managing the movement of employee traffic during the construction phase; 3. Details of localised road improvements necessary to facilitate safe use of the existing road network; and 4. Details of measures to manage the safe passage of HGV traffic via the local highway network 	DCO Requirement 17 (Construction traffic management plan)
Co171	HGVs will avoid travel through Foston on the Wolds	DCO Requirement 17 (Construction traffic management plan)

Further general Commitments relevant to Traffic and Transport are: Co36

For full details on these Commitments see [Section 5](#).

6.8.3 Management Measures

6.8.3.1 An outline Construction Traffic and Travel Management Plan (CTMP) will be developed and included within the outline CoCP for DCO Application. The outline CTMP will include details of:

- Relevant highway management measures;
- HGV routeing;
- Outline details of site access design;
- Abnormal loads;
- Road crossings;
- Public Rights of Way and pedestrian access; and
- Coordination with other developments.

6.8.3.2 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.9 Noise and Vibration

6.9.1 Objective

6.9.1.1 To control and limit noise and vibration levels, so far as is reasonably practicable, to minimise disturbance to sensitive receptors.

6.9.2 Commitments

6.9.2.1 [Table 14](#) details the commitments relevant to Noise and Vibration that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 14: Noise and Vibration Commitments relevant to the CoCP

Commitment ID	Measure Proposed	How the measure will be secured
Co41	All HDD crossings will be undertaken by non-impact methods in order to minimise construction vibration beyond the immediate location of works.	DCO Requirement 16 (Code of construction practice)
Co123	Based on noise modelling results, where noise has the potential to cause significant adverse effects, mufflers and acoustic barriers will be used where HDD is being undertaken.	DCO Requirement 16 (Code of construction practice)
Co137	HGV movements associated with operation and planned maintenance of the onshore infrastructure will operate only between the hours of 0700 – 2300. HGV movements may however be subject to unscheduled maintenance activities outside these hours. In this event the council will be informed via writing.	DCO Requirement 17 (Construction traffic management plan)

Further general Commitments relevant to Noise and Vibration are: Co36, Co135, Co144

For full details on these Commitments see [Section 5](#) and [6.8](#)

6.9.3 Management Measures

6.9.3.1 Relevant good construction practice and appropriate management measures will be applied at locations where there is potential for a significant impact in relation to noise. This includes:

- Informing local residents about the construction works, including the timing and duration of any particularly noisy elements, and providing a contact telephone number to them;
- Avoiding operating particularly noisy equipment at the beginning and end of the day;
- Keeping potentially noisy deliveries, such as skips and concrete, to the middle or less sensitive times of the day where reasonable practicable;
- Locating noisy static plant, such as diesel generators, away from residential properties where reasonable practicable;
- Using the most modern equipment available and ensuring equipment is properly maintained; and
- Where possible, using silencers/mufflers on equipment.

6.9.3.2 In addition to the measures listed above, screening and appropriate temporary noise barriers will be used where necessary.

6.9.3.3 The following best practice measures will be applied where appropriate to minimise impacts in relation to vibration:

- choosing alternative, lower impact equipment or methods wherever possible;

- scheduling the use of vibration-causing equipment, at the least sensitive time of day;
- routing, operating or locating high vibration sources as far away from sensitive areas as possible;
- sequencing operations so that vibration-causing activities do not occur simultaneously;
- isolating the equipment causing the vibration on resilient mounts; and,
- keeping equipment well maintained.

6.9.3.4 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

6.10 Air Quality and Health

6.10.1 Objective

6.10.1.1 To minimise the generation of dusts near sensitive receptors during construction and to facilitate community engagement and a proactive approach to complaints regarding nuisance dusts.

6.10.2 Commitments

6.10.2.1 [Table 15](#) details the commitments relevant to Air Quality and Health that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 15: Air Quality and Health Commitments relevant to the CoCP.

Commitment ID	Measure Proposed	How the measure will be secured
Co64	Topsoil and subsoil will be stored in separate stockpiles in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance. Any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required).	DCO Requirement 16 (Code of construction practice) DCO Requirement 13 (Contaminated land and groundwater scheme)
Co114	Good practice air quality management measures will be applied where it is relevant, as described in Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction 2014, version 1.1, or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice)
Co123	Based on noise modelling results, where noise has the potential to cause significant adverse effects, mufflers and acoustic barriers will be used where HDD is being undertaken.	DCO Requirement 16 (Code of construction practice)

6.10.3 Management Measures

6.10.3.1 Dust mitigation management measures as detailed within IAQM guidance (IAQM, 2014) will be adopted near sensitive receptors:

- Record all complaints and make the log available to the local authority when asked;
- Undertake daily on and off-site inspections and record in a log;
- Cover or fence stockpiles of dusty materials;
- Remove any dusty materials from site as soon as possible;
- Ensure vehicles turn off engines when not in use;
- Ensure plant is fitted with appropriate dust suppression methods, or use these techniques in conjunction, where practicable;
- Take measures to prevent material being tracked off-site by vehicles (e.g. road sweeper, wet sweeping methods);
- Regularly inspect haul routes and make any repairs as necessary. Record in a log; and
- A construction method statement relevant to management of dust will be submitted for approval to the relevant authority.

6.10.3.2 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

7 Management of Intertidal Environmental Issues.

7.1.1.1 The following sections provide outline measures in relation to the management of intertidal environmental issues during construction. For the purpose of this outline CoCP the 'intertidal' relates to the area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS). Elements above MHWS are considered within [Section 6](#).

7.1.1.2 At this stage, these measures largely relate to the relevant commitments Hornsea Four have identified through the EIA process which are fully detailed within the Commitments Register (see [Volume A4, Annex 5.2](#)). These measures will be further developed prior to submission of the DCO Application and within the detailed CoCP required under Requirement 16 of the DCO. The topic areas detailed below follow the chapters within [Volume A3](#) of the PEIR.

7.2 Hydrology and Flood Risk

7.2.1 Objective

7.2.1.1 To minimise the risk of surface water flooding during the construction phase, to prevent pollution of surface watercourses and to minimise the impact on local surface water features.

7.2.2 Commitments

7.2.2.1 **Table 16** details the commitments relevant to Hydrology and Flood Risk that are to be secured through the CoCP. Where information is available at this stage, further detail on the proposed measures is also provided below.

Table 16: Hydrology and Flood Risk Commitments relevant to the CoCP (Intertidal Environment).

Commitment ID	Measure Proposed	How the measure will be secured
Co1	All main rivers, Intertidal Drainage Board (IDB) maintained drains, main roads and railways will be crossed by HDD or other trenchless technology as set out in the Onshore Crossing Schedule. Where HDD technologies are not practical, the crossing of ordinary watercourses may be undertaken by open cut methods. In such cases, temporary measures will be employed to maintain flow of water along the watercourse.	DCO Requirement 16 (Code of construction practice)
Co10	Post-construction, the working area will be reinstated to pre-existing condition as far as reasonably practical in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	DCO Requirement 16 (Code of construction practice) DCO Requirement 19 (Restoration of land used temporarily for construction)
Co64	Topsoil and subsoil will be stored in separate stockpiles in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or the latest relevant available guidance. Any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required).	DCO Requirement 16 (Code of construction practice) DCO Requirement 13 (Contaminated land and groundwater scheme)
Co147	Appropriate liaison will take place with the Internal Drainage Board during construction.	DCO Requirement 16 (Code of construction practice)

Further general Commitments relevant to Hydrology and Flood Risk in the intertidal are: Co4

For full details on these Commitments see [Section 5](#).

7.2.3 Management Measures

7.2.3.1 At the Hornsea Four intertidal area, construction measures would be adopted to maintain the existing level of flood protection during construction. These measures would be discussed with the Environment Agency prior to construction.

7.2.3.2 Further management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

7.3 Intertidal Ecology

7.3.1 Objective

7.3.1.1 To minimise the impact of construction works on intertidal species and habitats.

7.3.2 Commitments

7.3.2.1 There are currently no commitments adopted or proposed in relation to intertidal ecology.

7.3.3 Management Measures

7.3.3.1 Measures will be adopted to ensure the potential release of pollutants from construction activities is minimised, which will include planning for accidental spills, responding to all potential contaminant releases and including emergency contact details (e.g. Environment Agency, Natural England, JNCC, Maritime and Coastguard Agency and Marine Management Organisation).

7.3.3.2 For further details on pollution prevention methods see [Section 5.6](#). In addition to the measures detailed in Section 5.6, the following will be adopted when working in the intertidal area:

- Only using chemicals included on the approved Centre for Environment, Fisheries and Aquaculture Science (Cefas) list under the Offshore Chemical Regulations 2002;

7.3.3.3 Further management measures relevant to the control of pollution will be developed prior to DCO Application and included within an outline Pollution Prevention Plan as part of the Outline CoCP.

7.4 Historic Environment

7.4.1 Objective

7.4.1.1 To minimise the impact of construction works on sediments of geoarchaeological/paleoenvironmental importance and on sites of identified archaeological significance between MHWS and MLWS.

7.4.2 Commitments

7.4.2.1 There are currently no commitments adopted or proposed in relation to the historic environment.

7.4.3 Management Measures

7.4.3.1 Management measures will be developed as appropriate prior to DCO Application and included within an updated outline CoCP.

8 Construction Traffic Management Plan

8.1 Introduction

8.1.1.1 This Draft Construction Traffic and Travel Management Plan (CTMP) has been prepared by Hornsea Project Four offshore wind farm Ltd (the Applicant) in accordance with Schedule 1, Part 3 – Requirement 17 (Construction traffic and travel management plan) of the Development Consent Order (DCO) for the Hornsea Project Four Offshore Wind Farm (hereafter Hornsea Four) for approval by East Riding of Yorkshire Council (ERYC).

8.1.1.2 The CTMP together with the Transport Assessment ([Volume A3, Chapter 7](#)) sets out the framework within which the project related traffic will be controlled and the basis to produce further site-specific level information.

8.1.1.3 The CTMP will identify any site-specific requirements and constraints, such as access/egress points for the worksites, and temporary and permanent closures and diversions of highways.

8.1.1.4 Traffic management schemes to control, divert or amend traffic flows during the works shall be submitted for approval to the relevant local highway authority (ERYC). The submission shall include:

- scheme details and layouts including drawings and any traffic amendments;
- programming of scheme including control measures;
- traffic management and control measures where necessary; and,
- details of mitigation measures to reduce impacts on traffic.

8.1.1.5 For clarity, this CTMP covers traffic related to the construction of the onshore substation (OnSS) (including electrical balancing infrastructure (EBI)) and onshore export cable corridor (ECC) (including logistics compounds and accesses), which are dealt with separately below.

8.1.1.6 Subsequent updates will be provided as required.

8.2 Background

8.2.1.1 The vehicle types and numbers given in the document have been derived from the Project Description ([Volume A1, Chapter 4](#)). It is the responsibility of the Principal Contractor, once appointed, to ensure that this CTMP is updated and maintained throughout construction and that ERYC and Highways England are kept informed of any changes. Subsequent versions of the CTMP will be submitted to ERYC for approval as required.

8.2.1.2 The main transport impacts during the construction are expected to arise from additional traffic (especially Heavy Goods Vehicles (HGV) movements) on roads leading to / from the proposed onshore substation site, landfall area and access to and from the onshore ECC.

8.2.1.3 Due to activities associated with the construction of the OnSS and EBI, there will be an increase in traffic movements around the surrounding areas. Therefore, this CTMP has been produced to demonstrate how the traffic will be managed to ensure public safety and efficient traffic movement along the consented traffic and transport routes.

8.2.2 Roles and responsibilities

8.2.2.1 The responsibility for ensuring that measures set out in this CTMP are delivered rests with the Principal Contractor appointed to carry out the works; with ERYC and Highways England as the enforcing agencies as appropriate.

8.3 Construction access

8.3.1 Access strategy

8.3.1.1 The construction period is expected to last up to 36 months and traffic volumes are expected to vary during this period with the most intensive period lasting up to 6 months associated with the earth works and installation of foundations at the OnSS and EBI.

8.3.2 Onshore Substation and Electrical Balancing Infrastructure

8.3.2.1 Access to the OnSS site during construction will be from a purpose-built internal access road off a spur from the existing A1079. This internal access road will be the main access to the OnSS and EBI site and used by HGVs and daily work traffic.

8.3.3 Onshore Export Cable Corridor

8.3.3.1 This onshore ECC section covers the export cable corridor works from landfall, near Fraisthorpe, to the OnSS and all associated logistic compounds and access roads.

8.3.3.2 Where necessary, approval of local routes, holding areas and backup routes to be used by construction lorries will be identified in the applicable traffic management plan.

8.3.3.3 There will be no parking of lorries on the highway in the vicinity of any worksite for lorries waiting to deliver or remove materials from the site, except in specified areas identified in the applicable traffic management plan.

8.4 Crossings

8.4.1 Public highway crossings

8.4.1.1 The proposed access route for the onshore substation does not intersect with any public highways.

8.4.1.2 The proposed accesses to the ECC and landfall and logistics compounds intersect a number of public highways. Further work is required to develop the interaction between Hornsea Four construction and the affected highways.

8.4.2 Public rights of way crossings

8.4.2.1 The proposed accesses to the ECC and landfall and logistics compounds intersect several public rights of way. Further work is required to develop the interaction between Hornsea Four construction and the affected PRowS.

8.5 Freight movements

8.5.1.1 Construction traffic volumes for the proposed construction have been presented in [Volume A3, Chapter 7: Traffic and Transport](#). The numbers for will be reviewed and revised, if required, by the Principal Contractor and issued to all stakeholders as required.

8.5.1.2 Wherever possible, load consolidation and vehicle usage will be managed to minimise the overall number of HGV movements associated with the construction activities.

8.5.2 Abnormal indivisible loads

8.5.2.1 Abnormal Indivisible Loads (AIL) will be required to deliver certain components (transformers) of the substation. The number and frequency of these trips will be determined post-consent, with the timings of the deliveries to be agreed with ERYC.

8.6 Control processes

8.6.1.1 This section outlines the control processes requires of the Principal Contractor and their supply chain to adhere to and contribute towards.

8.6.2 Delivery route compliance

8.6.2.1 The delivery routes will be communicated by the Principal Contractor to all individuals and companies involved in the transport of materials and plant to and from site.

8.6.3 On-street waiting

8.6.3.1 It will be communicated to the Principal Contractor and supply chain that they are not permitted to wait on or load / unload from the public highway. The Principal Contractor and

supply chain will be advised of the times when deliveries can be received and required to meet those delivery windows.

8.6.4 Dust and Dirt

8.6.4.1 All HGVs transporting fine and loose materials will be sheeted to avoid dust and the spillage of materials onto the highway.

8.6.4.2 In dry weather, areas within the construction compound where the passage or manoeuvring of vehicles may cause dust, measures will be put in place to dampen surfaces.

8.6.5 Booking system

8.6.5.1 The Principal Contractor will be responsible for managing the demand for deliveries and exports for their own fleet and that of their supply chain partners.

8.6.5.2 The Principal Contractor will be required to keep an up to date record of deliveries and exports from the works, this will take the form of delivery receipts.

8.6.6 Communication strategy

8.6.6.1 An information pack will be distributed to all individuals involved in the transport of materials and plant to and from the site. The pack will be a convenient size so it can be stored in a truck cab.

8.6.7 Working hours

8.6.7.1 Core working hours for the construction of the onshore components of Hornsea Four will be as follows:

- Monday to Friday: 07:00 - 18:00 hours;
- Saturday: 07:00 - 13:00 hours;
- Up to one hour before and after core working hours for mobilisation ("mobilisation period"), i.e. 06:00 to 19:00 weekdays and 06:00 to 14:00 Saturdays; and
- Maintenance period 13:00 to 17:00 Saturdays.

8.6.7.2 Activities carried out during mobilisation and maintenance will not generate significant noise levels (such as piling, or other such noisy activities).

8.6.7.3 In circumstances outside of core working practices, specific works may have to be undertaken outside the core working hours. ERYC will be informed in writing.

8.7 Monitoring and reporting

8.7.1 Monitoring strategy

8.7.1.1 The HGV movements associated with the works will be continuously monitored through the use of the Booking System. The Principal Contractor will keep an up to date record of deliveries and exports from the works.

8.7.1.2 The information will be made available to ERYC upon request.

8.7.2 Highway wear and tear

8.7.2.1 The requirement for preconstruction surveys will be determined in consultation with ERYC.

8.7.3 Stakeholder input

8.7.3.1 This section will set out a strategy to enable stakeholders to contact the developer with any queries regarding the construction works.

8.8 Corrective measures

8.8.1 Introduction

8.8.1.1 This section provides a summary of the mechanisms that will ensure that the proposed control measures are effectively implemented.

8.8.2 Correction process

8.8.2.1 A three-stage correction process is proposed:

- Stage one – ERYC highlights a potential breach and requests a review of the data and concerns. Then agree the extent of the breach of controls, if it is material and agree action. This is likely to be a Principal Contractor warning at this stage.
- Stage two – If a further material breach is identified the Principal Contractor will be given a further warning and required to produce an action plan to outline how the issue will be rectified and any additional mitigation measures proposed.
- Stage three – Should further breaches still occur the Principal Contractor will be required either to remove the offender from site or to stop using an offending supplier.