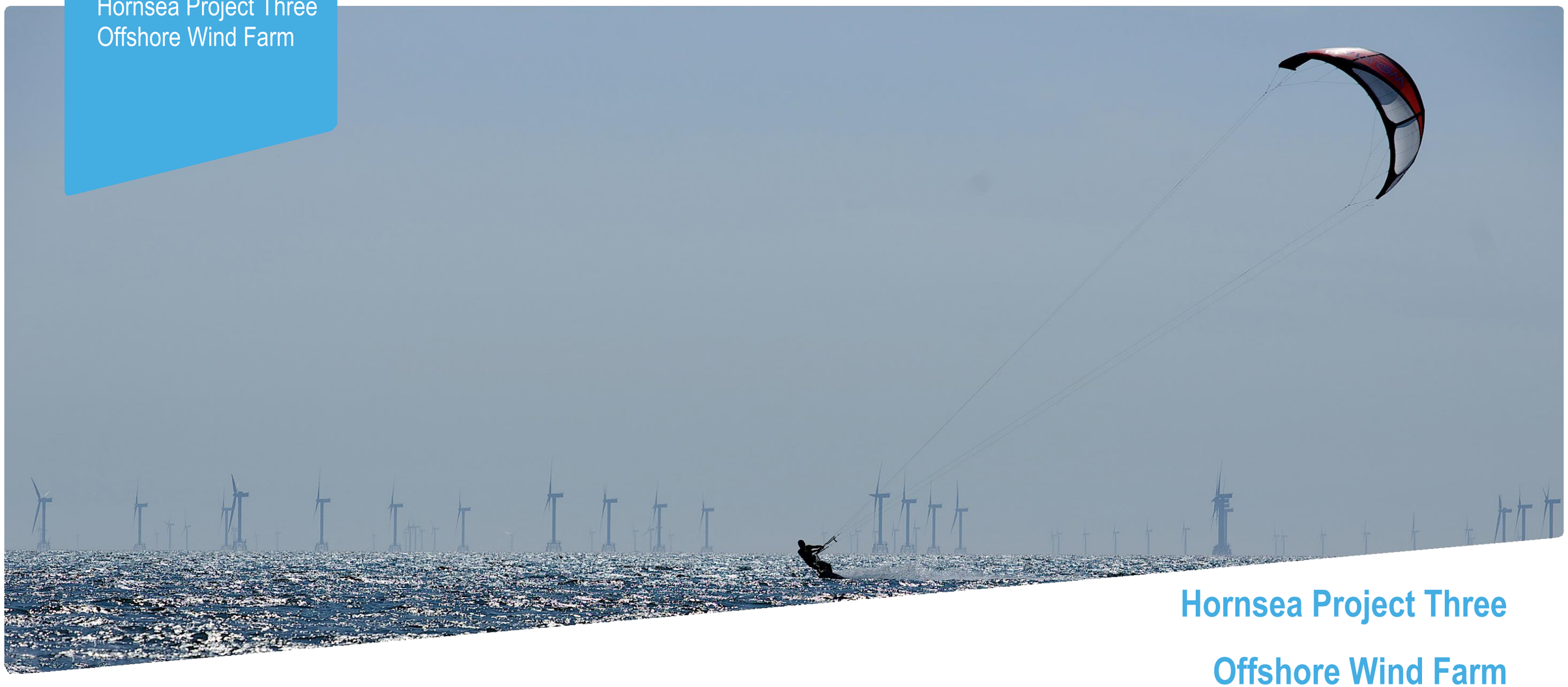
Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three

Offshore Wind Farm

Environmental Statement (Addendum): Volume 7 - Land at Booton

PINS Document Reference: A6.7
APFP Regulation 5(2)(a)

Date: May 2018

Hornsea 3
Offshore Wind Farm

Ørsted

Environmental Impact Assessment

Environmental Statement (Addendum)

Volume 7

Land at Booton

Liability

This report has been prepared by RPS, with all reasonable skill, care and diligence within the terms of their contracts with Orsted Power (UK) Ltd.

Report Number: A6.7

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Date: May 2018

This report is also downloadable from the Hornsea Project Three offshore wind farm website at:

www.hornseaproject3.co.uk

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Front cover picture: Kite surfer near a UK offshore wind farm © Orsted Hornsea Project Three (UK) Ltd., 2018.

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Glossary

Term	Definition
Cumulative effects	The combined effect of Hornsea Project Three in combination with the effects from a number of different projects, on the same single receptor/resource.
Cumulative impact	Impacts that result from changes caused by other past, present or reasonably foreseeable actions together with Hornsea Project Three.
Design Envelope	A description of the range of possible elements that make up the Hornsea Project Three design options under consideration, as set out in detail in the project description. This envelope is used to define Hornsea Project Three for Environmental Impact Assessment (EIA) purposes when the exact engineering parameters are not yet known. This is also often referred to as the "Rochdale Envelope" approach.
Development Consent Order as made	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects.
Draft Development Consent Order as submitted with the application	A draft order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects as submitted with the application.
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.
EIA Directive	European Union Directive 85/337/EEC, as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC and then codified by Directive 2011/92/EU of 13 December 2011 (as amended in 2014 by Directive 2014/52/EU.
EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended).
Environmental Impact Assessment	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 Statement.
Hornsea Three onshore cable corridor	The corridor in which the onshore export cables will be located.
Hornsea Project Three offshore wind farm	The third offshore wind farm project within the former Hornsea Zone. It includes offshore and onshore infrastructure to connect to the existing National Grid substation located at Norwich Main, Norfolk. Referred to as Hornsea Three throughout the Environmental Statement.
Impact	Change that is caused by an action; for example, land clearing (action) during construction which results in habitat loss (impact).
Inter-related effects	Multiple effects on the same receptor arising from Hornsea Project Three. These occur either where a series of the same effect acts on a receptor over time to produce a potential additive effect or where a number of separate effects, such as noise and habitat loss, affect a single receptor, for example marine mammals.
Magnitude	A combination of the extent, duration, frequency and reversibility of an impact.
Measures adopted as part of the project	Enhancement, mitigation or monitoring commitment (which may include process or design measures) intended to avoid, reduce and where possible, remedy significant adverse impacts of a development.
National Policy Statement	A document setting out national policy against which proposals for NSIPs will be assessed and decided upon.
Nationally Significant Infrastructure Project	Large scale development including power generating stations which requires development consent under the Planning Act 2008. An offshore wind farm project with a capacity of more than 100 MW constitutes an NSIP.
Onshore elements of Hornsea Three	Hornsea Three landfall area, onshore cable corridor, the onshore HVAC booster station, the onshore HVDC converter/HVAC substation and the interconnection with the Norwich Main National Grid substation.
Orsted Hornsea Project Three (UK) Ltd	The company promoting the development of the Hornsea Project Three offshore wind farm and submitting the application for Development Consent. Orsted Hornsea Project Three (UK) Ltd is owned by Orsted Power (UK) Limited, which is owned by Ørsted Vind A/S, which is owned by Ørsted VE A/S, which is owned by Ørsted Wind Power A/S, which is owned by Ørsted Wind Power Holding A/S, and which is owned by Ørsted A/S.
Planning Act 2008	The key legislation providing a framework for obtaining development consent for Nationally Significant Infrastructure Projects. The 2008 Act led to the development of National Policy Statements to guide the decision-making processes for NSIPs.
Planning Inspectorate	The executive agency of the Ministry of Housing, Communities & Local Government responsible for operating the planning process for NSIPs.
Project Description	A summary of the engineering design elements of Hornsea Three.
Receptor	A component of the natural or man-made environment that is affected by an impact, including people.
Sensitivity	The extent to which a receptor can accept a change, of a particular type and scale.
Significance	The significance of an effect combines the evaluation of the magnitude of an impact and the sensitivity of the receptor.
Transboundary	Crossing into other European Economic Association States.

Acronyms

Acronym	Description
DCO	Development Consent Order
EIA	Environmental Impact Assessment
HDD	Horizontal Directional Drilling
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
NPS	National Policy Statements
NPS EN-1	Overarching National Policy Statement for Energy
NPS EN-3	National Policy Statement for Renewable Energy Infrastructure
NPS EN-5	National Policy Statement for Electricity Networks Infrastructure
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PRoW	Public Right of Way

Units

Unit	Description
Ha	Hectare (area)
Km	Kilometre (distance)
M	Metre (distance)

1. Land at Booton

1.1 Introduction to Hornsea Three

1.1.1.1 Orsted Hornsea Project Three (UK) Ltd., on behalf of Orsted Power (UK) Ltd., is promoting the development of the Hornsea Project Three Offshore Wind Farm (hereafter referred to as 'Hornsea Three'). Hornsea Three is a proposed offshore wind farm located in the southern North Sea.

1.1.1.2 Hornsea Three is a project that will consist of an offshore generating station(s) with a capacity of greater than 100 MW and therefore is a Nationally Significant Infrastructure Project (NSIP), as defined by Section 15(3) of the Planning Act 2008, as amended. As such, there is a requirement to submit an application for a Development Consent Order (DCO) to the Planning Inspectorate (PINS) to be decided by the Secretary of State for Business, Energy and Industrial Strategy. The application for a DCO contains full details of the development proposal and is accompanied by an Environmental Statement. This document comprises the Environmental Statement and is submitted with the application for a DCO under Section 37(3) of the 2008 Act and Regulation 14 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009, as amended (the EIA Regulations).

1.1.1.3 Hornsea Three will include all associated offshore (including up to 300 turbines) and onshore infrastructure.

1.1.1.4 The key components of Hornsea Three include:

- Turbines;
- Turbine foundations;
- Array cables;
- Offshore substation(s), and platform(s), including offshore HVAC booster stations (if required);
- Offshore accommodation platform/s;
- Offshore export cable/s;
- Onshore High Voltage (HV) Direct Current (DC) or Alternating Current(AC) cabling;
- Onshore HVAC booster station (if required); and
- Onshore HVDC converter station/HVAC substation.

1.1.1.5 Of most relevance to this Addendum is the onshore cables. From the Norfolk coast, underground onshore cables will connect the offshore wind farm to an onshore HVDC converter station/HVAC substation, which will in turn, connect to an existing National Grid substation. Hornsea Three will connect to the Norwich Main National Grid substation, located to the south of Norwich. The onshore cable corridor is approximately 55 km in length at its fullest extent.

1.2 Introduction to this addendum

1.2.1.1 The DCO application presents two options for the Hornsea Three onshore cable corridor route as it passes land at Booton (see Figure 1.1 for location of Booton), hereafter described as an 'east onshore cable corridor' and 'west onshore cable corridor' (see Figure 1.2). Although two options are presented within the DCO application, it is the Applicant's expectation that the Secretary of State only grants consent for one option (i.e. either the 'east onshore cable corridor' or 'west onshore cable corridor').

1.2.1.2 The east onshore cable corridor at Booton comprises the route presented within Environmental Statement volume 1 chapter 3: Project Description and assessed in the Environmental Impact Assessment (EIA) submitted as part of the application (Environmental Statement volume 3: Onshore Chapters). This assessment of the east onshore cable corridor remains valid and is not reconsidered within or superseded by this addendum; however, reference is made to the east onshore cable corridor where it is pertinent to the assessment of the west onshore cable corridor route at Booton.

1.2.1.3 The west onshore cable corridor was only identified in its final form after substantial commencement of the Environmental Impact Assessment (EIA) submitted as part of the application (Environmental Statement volume 3: Onshore Chapters) (refer to Section 1.2). For this reason, the west onshore cable corridor was not considered in the Environmental Statement. Accordingly, this addendum to the Environmental Statement presents the results of the EIA relating to the west onshore cable corridor route at Booton during its construction, operation and maintenance, and decommissioning phases. The extent of the west onshore cable corridor route at Booton, as it applies to this Environmental Statement addendum is shown on Figure 1.2.

1.2.1.4 The addendum is structured as follows:

- Section 1.2 provides the background to the inclusion of both the east onshore cable corridor and west onshore cable corridor within the DCO application and outlines the differences between the options. Section 1.2 also makes reference to a "west option with extension further south" which has not been carried forward through to inclusion in the application;
- Section 1.3 sets out the purpose of this Environmental Statement addendum;
- Section 1.4 sets out the differences between the west and east onshore cable corridor routes;
- Section 1.5 sets out the planning policy context within which the Environmental Statement addendum has been produced and section 1.6 sets out the assessment methodology which has been applied;
- Section 1.7 provides an assessment of the potentially likely significant effects associated with the west onshore cable corridor; and
- Section 1.8 provides a summary of the Environmental Statement addendum.

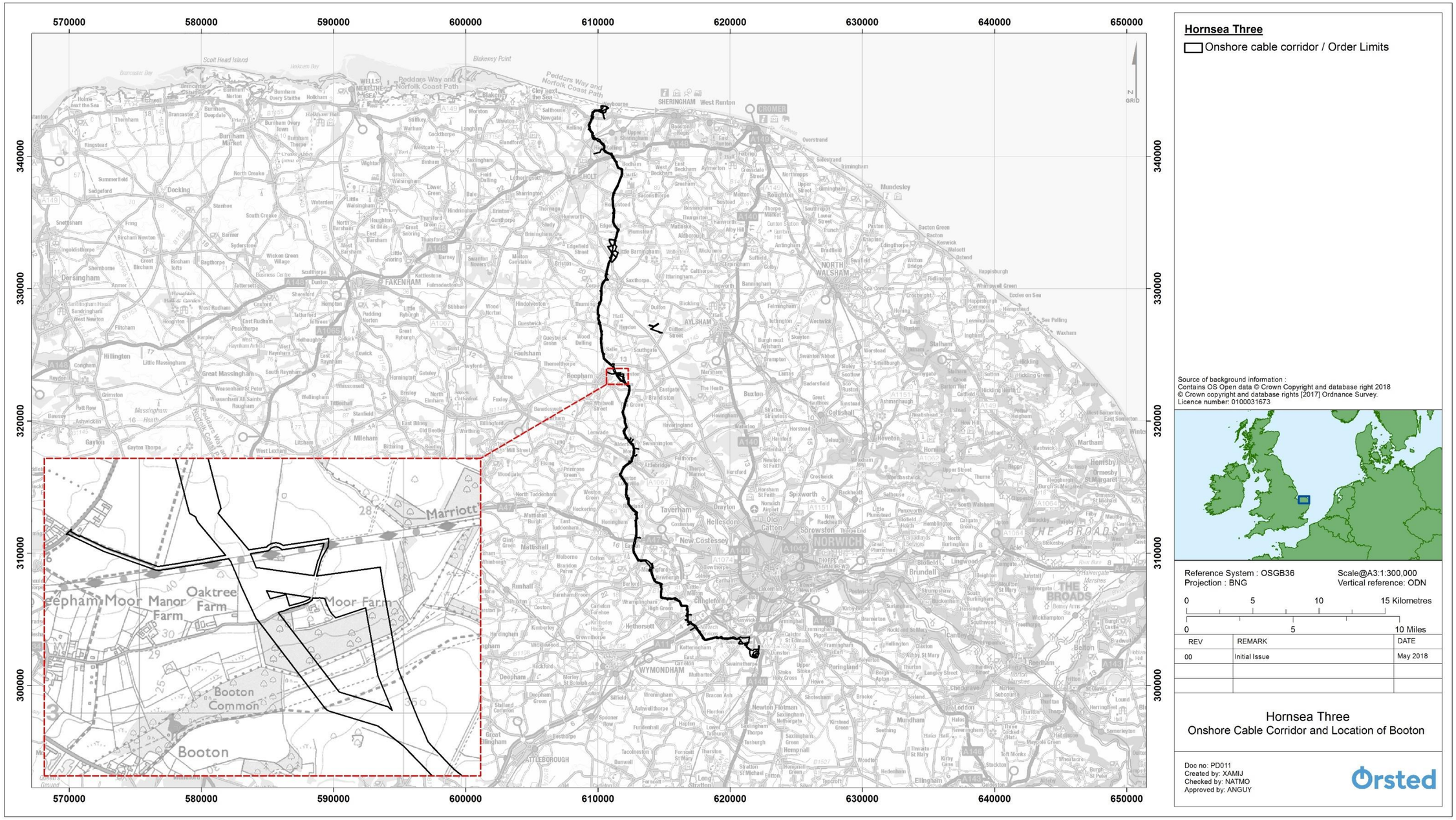

Figure 1.1: Location of Land at Booton along the onshore cable corridor.

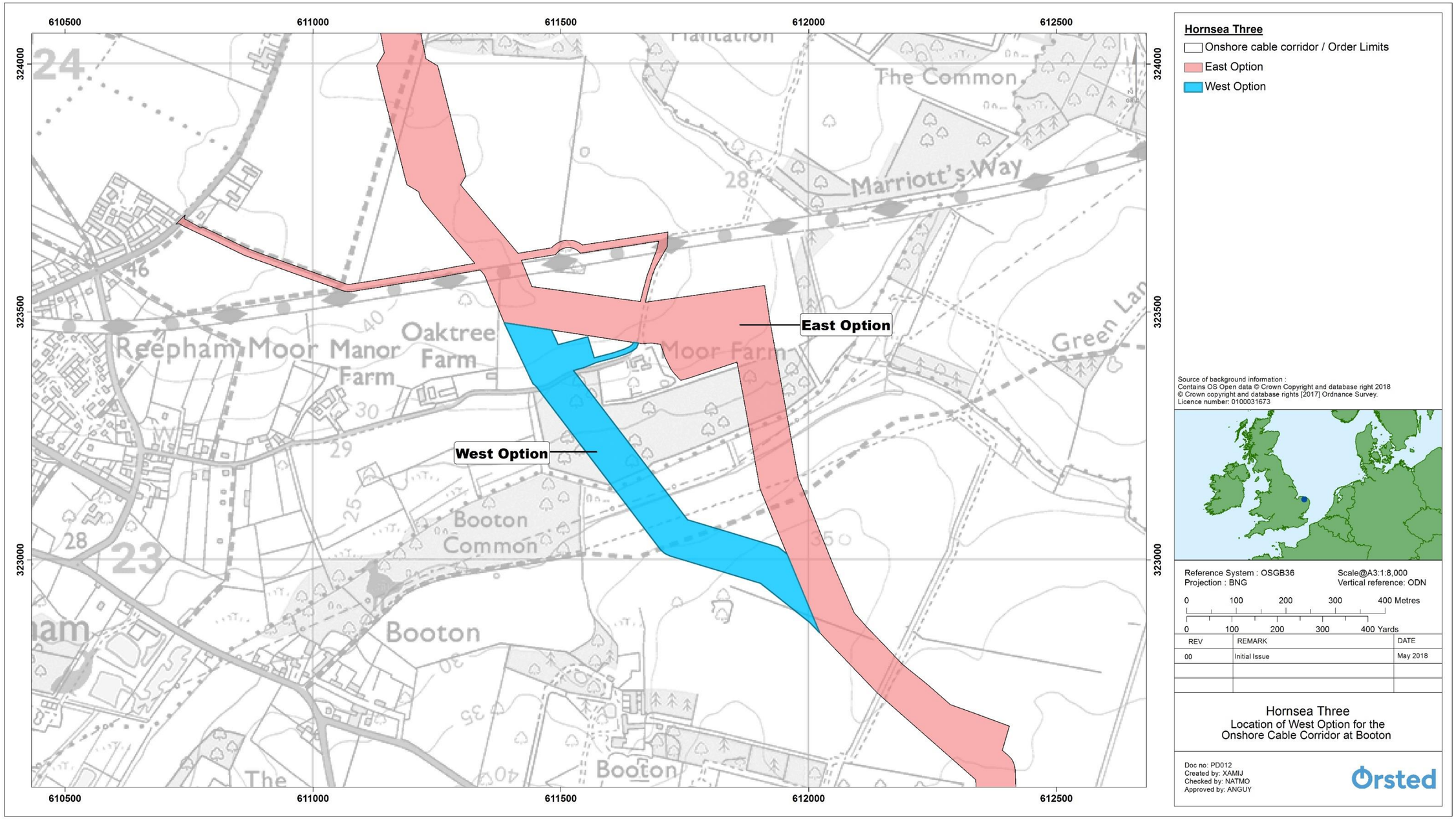

Figure 1.2: Location of west option for the onshore cable corridor at Booton (and that which is subject to this Addendum).

1.3 Background

Statutory Consultation

1.3.1.1 Between 27 July and 20 September 2017, Hornsea Three undertook 'Statutory Consultation' under Section 42, 47 and 48 of the Planning Act 2008. The project boundary presented under the 'Statutory Consultation' (PEIR, also referred to as Phase 2.A consultation) comprised an approximately 200 m wide corridor (shown in Figure 1.3). It is noted that the 200 m PEIR onshore cable corridor search area extended over the land that is now referred to, in this Addendum, as the west onshore cable corridor (comprising the 80m corridor).

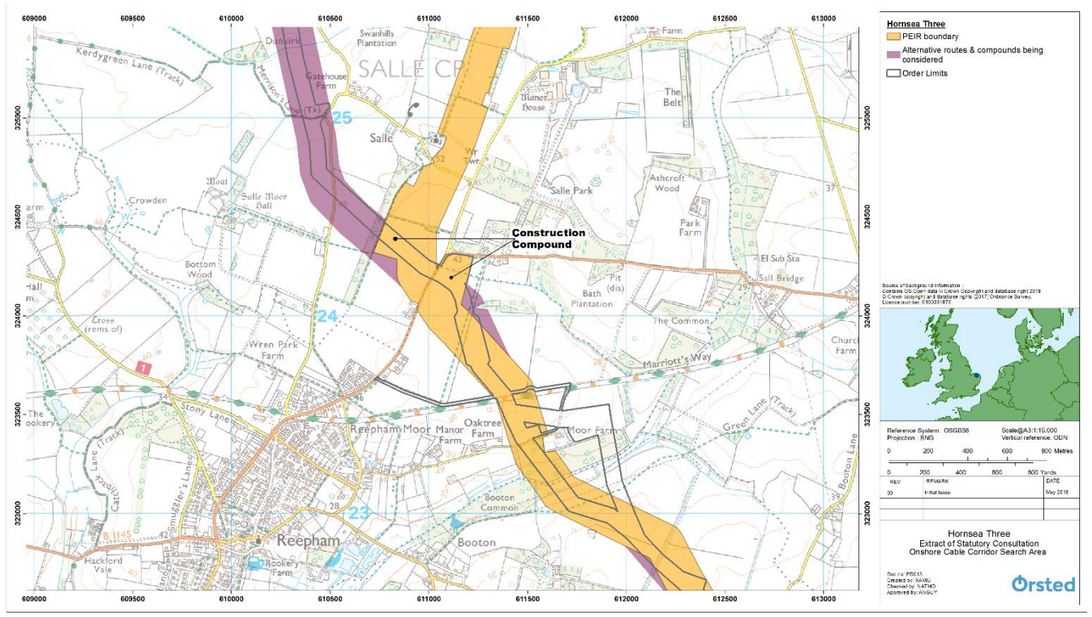

Figure 1.3: Extract of Statutory Consultation onshore cable corridor search area.

1.3.1.2 In response to the Statutory Consultation, Hornsea Three received comments from the landowner's appointed land agent which raised a number of concerns. The considerations pertinent to the onshore cable corridor route at the Land at Booton included:

- The proximity to the edge of the Booton SSSI and an area renowned for Orchids;
- The proximity to an area where a grain store is proposed to be constructed; and
- The need for more clarity on the mitigation measures that will be undertaken to protect the holding.

Further Statutory Consultation

1.3.1.3 Following feedback from the Statutory Consultation, and as part of ongoing design refinements, Hornsea Three developed a refined onshore cable corridor (of approximately 80 m width) within the approximately 200 m PEIR onshore cable corridor search area. This refinement was based on a number of technical, engineering and environmental factors as well as consultation feedback and the ongoing consideration of cable access off the public highway (further details are provided within Environmental Statement volume 1, chapter 4: Site Selection and Consideration of Alternatives).

1.3.1.4 Through the ongoing design refinement process, a number of potential access routes required to support the construction of the Hornsea Three onshore cable corridor were identified. Where any works or access points extended outside of the 200 m PEIR onshore cable corridor search area, they were included in 'Further Statutory Consultation' (also referred to as Phase 2.B consultation) undertaken between 25 November and 22 December 2017. Those pertinent to Land at Booton are shown in Figure 1.4).

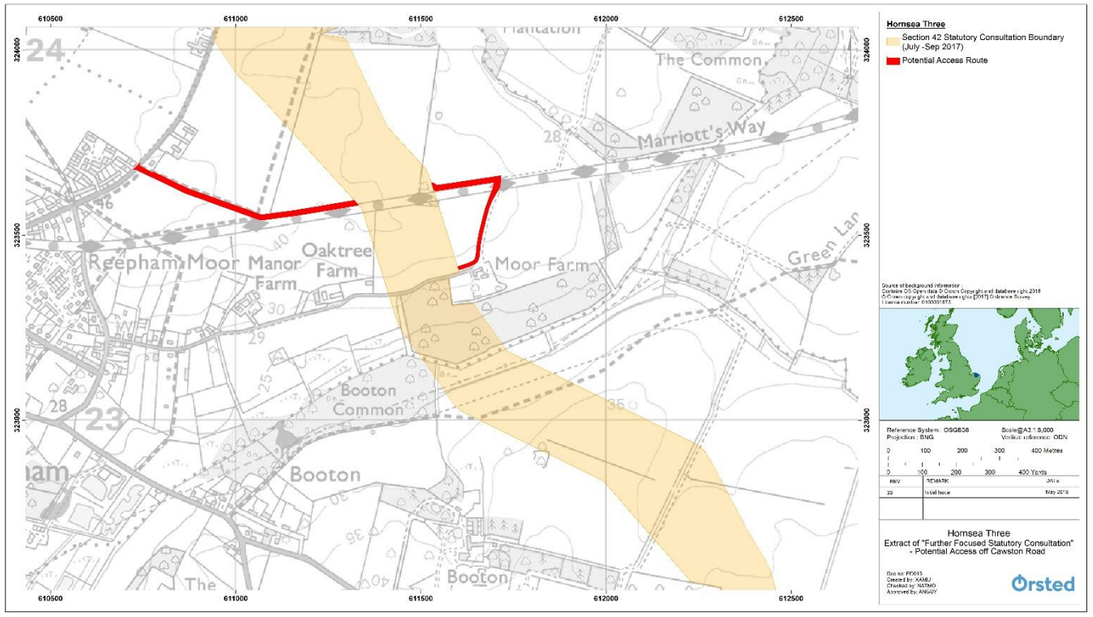

Figure 1.4: Extract of 'Further Statutory Consultation' – showing (in red) potential access route extending off Cawston Road.

1.3.1.5 In response to the Further Statutory Consultation, Hornsea Three received comments from the landowner's appointed land agent. Those pertinent to the onshore cable corridor route at the Land at Booton included:

- The promotion of an alternative route for the onshore cable corridor for consideration (refer to Figure 1.5) which was considered to avoid sensitivities of the proposed route including Booton Common SSSI, land drains and unforgiving heavy land;
- Objection to the alternative access route (proposed by Hornsea Three and shown red on Figure 1.5) as it was not considered suitable by the landowner for any construction vehicles (as is inaccessible by normal farm machinery) and as such, consent to use this access route by the landowner would not be granted; and
- Concerns regarding the route passing south from Marriott's Way to Moor Farm due to the impact upon the occupiers of Moor Farm.

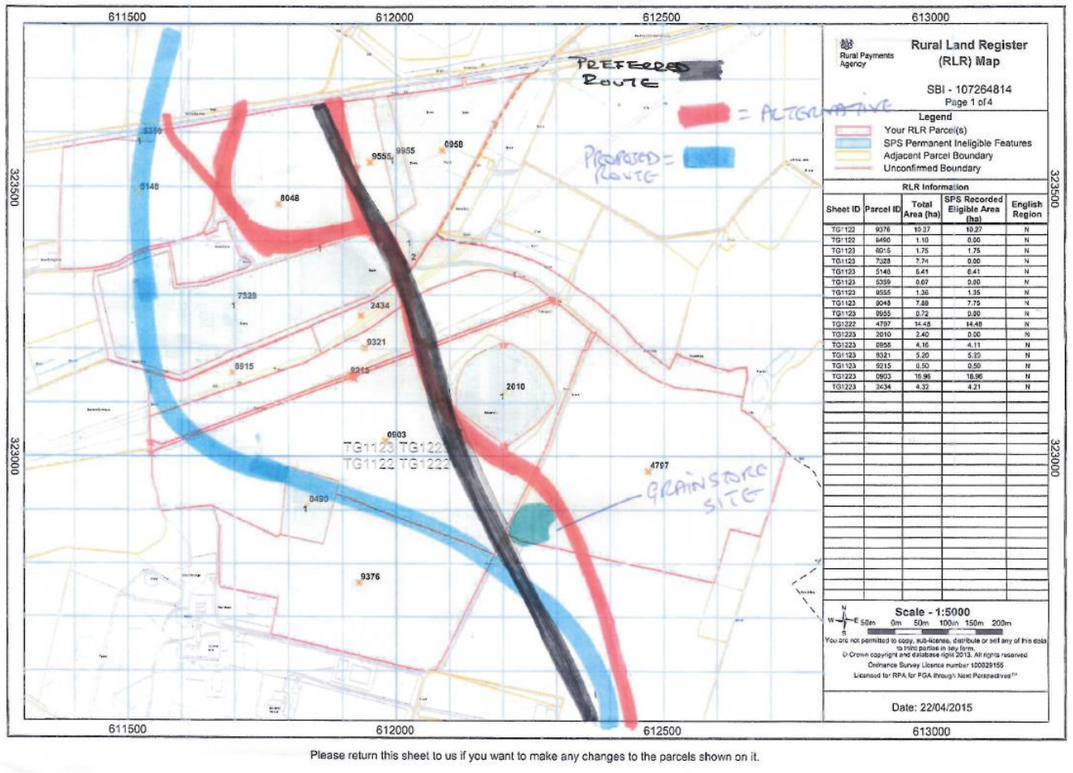

Figure 1.5: Reproduction of Plan provided in responses to 'Further Focused Statutory Consultation'.

Further focused Statutory Consultation

1.3.1.6 In considering responses to the 'Statutory Consultation' and 'Further Statutory Consultation' pertinent to the routing of the onshore cable corridor at the Booton, Hornsea Three developed the east onshore cable corridor option at Booton.

1.3.1.7 The east onshore cable corridor, typically 80m wide, encompassed a wider cable corridor section to provide suitable temporary working area to enable a sharp turn and storage of equipment for the proposed horizontal directional drill under Blackwater Drain, a tributary of the River Wensum and associated wooded area.

1.3.1.8 As the east onshore cable corridor extended outside of the PEIR onshore cable corridor search area (Statutory Consultation area), or Further Statutory Consultation area, the east route was included within a 'Further Focused Statutory Consultation' (also referred to a Phase 2.C) undertaken between 27 February and 30 March 2017 (see Figure 1.5).

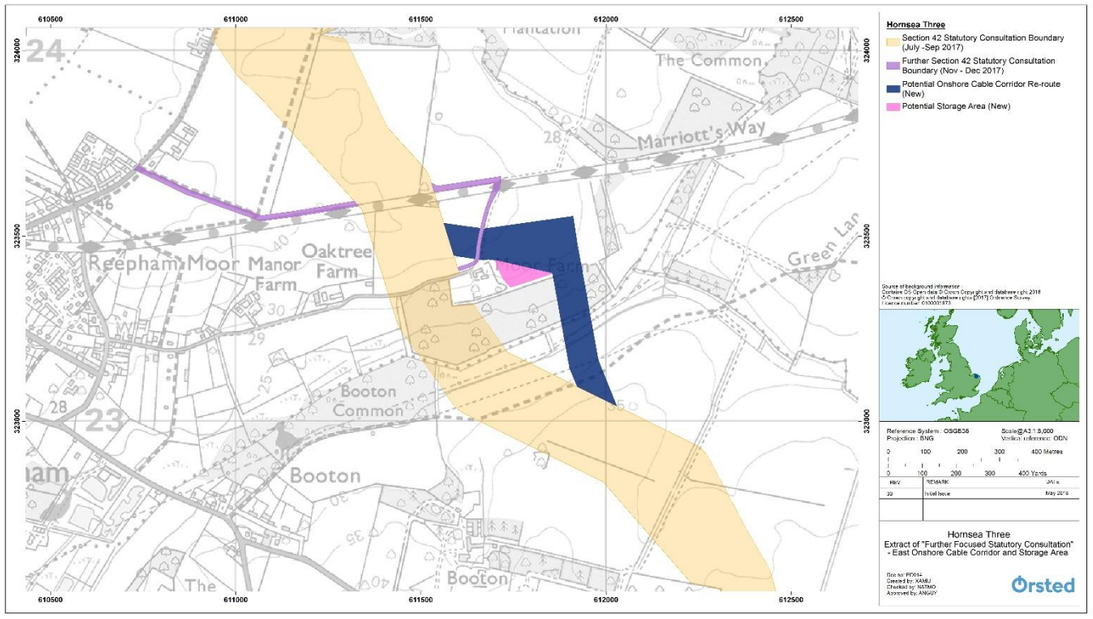

Figure 1.6: Extract of 'Further Focused Statutory Consultation' – east onshore cable corridor and storage area.

1.3.1.9 In response to the Focused Statutory Consultation, Hornsea Three received comments from the landowners appointed land agent. Those pertinent to the routing of the east onshore cable corridor at the Booton included:

- Objection to the routing in general;
- Notwithstanding the objection in principal to the cable routing, of the route options presented, the landowners preferred routing (between the east and west options) was the west onshore cable corridor, but with a further extension further south before turning east so as to minimise the impact on the croppable area of fields. Extract of supporting plan reproduced in Figure 1.6.
- Citing the west onshore cable corridor with extension further south, the landowner noted that this route would:
    - pass through an area of woodland that would be felled by the time works commence;
    - affect fewer land drains;
    - affect fewer irrigation pipes;
    - avoid the grain store, the associated infrastructure and underground cabling;
    - cause less disruptions to farming as it will only affect two arable fields rather than four; and
    - avoid Moor Farm and the associated impact on the occupants.

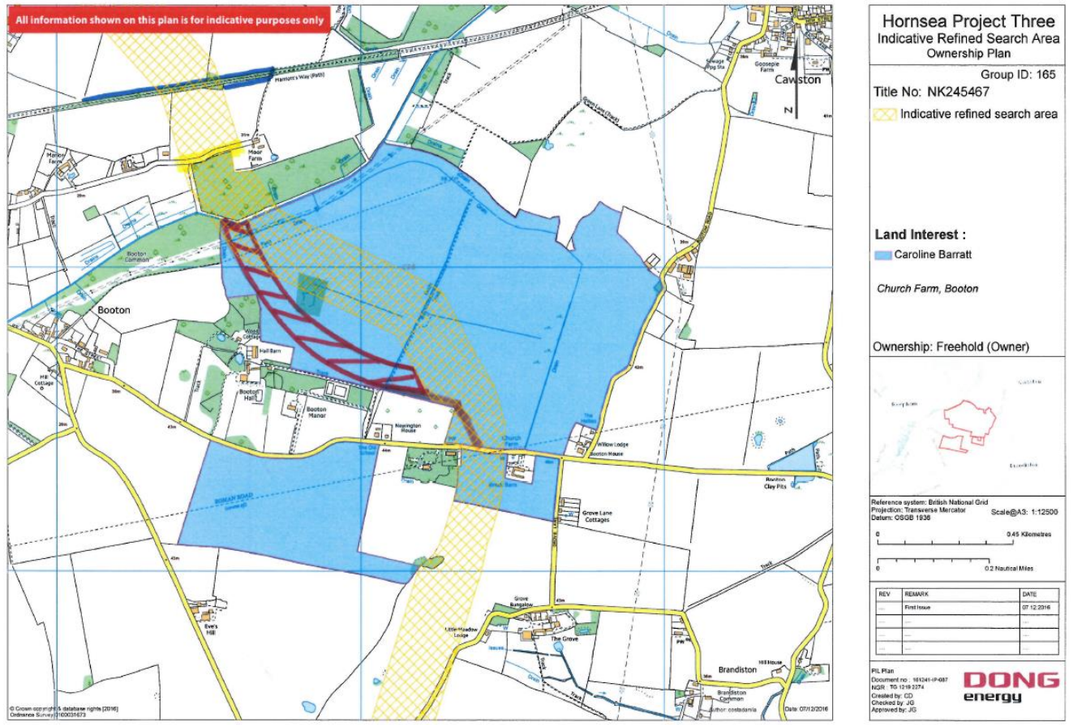

Figure 1.7: Reproduction of Plan provided in responses to "Further Focused Statutory Consultation".

Summary of options taken forward in the Application

1.3.1.10 On review of the responses to the statutory consultation and alternatives presented by the landowner at Booton, Hornsea Three could not identify, based on various technical and environmental factors, which of the west and east onshore cable corridor routes would be clearly better or worse than the other overall. In this regard, it is noted that both options provide for HDD under Blackwater Drain, a tributary of the River Wensum (a Special Area of Conservation) and associated wooded area, as well as avoid the area where a grain store has been constructed.

1.3.1.11 As such, Hornsea Three has decided that both the east and west onshore cable corridors should be taken forward and that the DCO application should present two options for the Hornsea Three onshore cable corridor route as it passes Booton, with the Applicant's expectation that the Secretary of State only grants consent for one option (i.e. either the 'east onshore cable corridor' or 'west onshore cable corridor'.

1.3.1.12 In respect to the west onshore cable corridor with extension further south, this alternative proposed by the landowner has not been taken forward for assessment within the EIA and was discounted by Hornsea Three on the grounds that combined, the east onshore cable corridor or west onshore cable corridor were both considered suitable, and this alternative route did not offer a materially more suitable route than already available. The west onshore cable corridor with extension further south would also have resulted in the following which made the alternative unfavourable:

- Increased proximity to residential receptors (noting one of which being the landowners) including Wood Grange, Hall Barn, Booton Hall, Booton Manor and The Old Newington;
- Increased proximity to heritage receptors (of those listed above, 'Barn at Booton Hall' and Booton Hall are Grade II listed); and
- Reduced the separation between the onshore cable corridor and associated HDD works from Booton Common SSSI.

1.4 Purpose of this addendum

1.4.1.1 The east onshore cable corridor was the subject of the Environmental Impact Assessment (EIA), presented within Environmental Statement volume 1, chapter 3: Project Description and Environmental Statement volume 3: Onshore Chapters submitted as part of the application.

1.4.1.2 This addendum therefore presents the results of the EIA relating to the west onshore cable corridor at Booton during its construction, operation and maintenance, and decommissioning phases. When read with the Environmental Statement, this Environmental Statement Addendum completes the Environmental Statement in support of the Development Consent Order (DCO) application for Hornsea Three under the Planning Act 2008 (the 2008 Act) and accompanies the application to the Secretary of State for Development Consent.

1.4.1.3 Together, the Environmental Statement and Environmental Statement Addendum will provide statutory and non-statutory consultees with sufficient information to complete the examination of Hornsea Three and will form the basis of agreement on the content of the DCO.

1.4.1.4 In this regard, to provide statutory and non-statutory consultees with sufficient information, this Environmental Statement addendum:

- Presents any environmental baseline established from desk studies, dedicated surveys and consultation undertaken if different for the west onshore cable corridor route from those prepared in support of the Environmental Statement;
- Presents the potential environmental effects arising from the west onshore cable corridor route at Booton, based on the information gathered and the analysis and assessments undertaken if different from those potential environmental effects documented Environmental Statement;
- Identifies any assumptions and limitations encountered in compiling the environmental information associated with the west onshore cable corridor route at Booton if different from those documented in the Environmental Statement; and
- Highlights any necessary additional monitoring and/or mitigation measures to be applied at the west onshore cable corridor route at Booton if different from those presented in the Environmental Statement which could prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process.

1.5 Differences between the west and east onshore cable corridor route at Booton

1.5.1.1 Within the context of the onshore works associated with Hornsea Three, the west onshore cable corridor at Booton does not present any material changes to the key assumptions documented in Environmental Statement, volume 1, chapter 3, Project Description. Specifically:

- The description of works associated with the onshore cable corridor, including methodology of installing the cables by way of open cut trench or HDD does not change;
- The size, scale or dimensions of the works, including cable specifications (and any outputs of which include Electromagnetic Fields as documented in volume 4, annex 3.3: EMF Compliance Statement) does not change;
- The description of works associated with storage areas or access roads does not change;
- Durations and phasing does not change; and
- Management measures required to be implemented, such as compliance with the principles established in the Outline Construction Traffic Management Plan (Application document reference A8.2), Outline Code of Construction Practice (Application document reference A8.5), Outline Ecological Management Plan (Application document reference A8.6) or Outline Landscape Management Plan (Application document reference A8.7) does not change.

1.5.1.2 The specific numerical parameters associated with the west onshore cable corridor, do however represent a change from the east onshore cable corridor. Table 1.1 documents the key differences between the west and east onshore cable corridor routes at Booton, which includes a net reduction in length in the west onshore cable corridor of 94 m.

Table 1.1: Key differences between the west and east onshore cable corridor routes.

Parameter	West Onshore Cable Corridor Parameters	East Onshore Cable Corridor Parameters	Difference
Extent over which the two options are presented (i.e. length of route affected)	1,000 m		N/A
Length of route	906m	1,000m	-94m
Of Which:			
Length of open cut trench	616m	834m	-218m
Area (m2) comprises open cut trench / storage	42,000	73,000	-31,000
Extent committed to being HDD	310m	196m	+114m
Associated Storage area	2,728m^2	5,253m^2	-2,525m^2
Length of Access Track	1,365 m	1,144m	+221m

1.6 Planning policy context

1.6.1.1 Given the extent of the alternate west onshore cable corridor route at Booton (which comprises circa 94m shorter route of a circa 55 km onshore cable corridor route), with consistent application of the principal of HDD under the key environmental constraint; Blackwater Drain, a tributary of the River Wensum, the presentation of two options does not amend, or require separate consideration to National Policy Statements or other relevant policies, including:

- National Planning Policy Framework (NPPF) (2012);
- North Norfolk District Council Core Strategy (2008); and
- Joint Core Strategy for Broadland, Norwich and South Norfolk (2011).

1.6.1.2 The same local planning policies apply to the west onshore cable corridor and therefore there is no material change from the policies presented in the Environmental Statement.

1.7 Assessment methodology

1.7.1.1 Environmental Statement, volume 1, chapter 5, Environmental Impact Assessment Methodology sets out the assessment methodology applied to the EIA and Environmental Statement. The inclusion of the west onshore cable corridor route at Booton does not amend, or require separate consideration to the assessment methodology applied to the Environmental Statement. Specifically:

- The methodology applied to inform the baseline assessment does not change;
- The key parameters for assessment do not change;
- The impact assessment methodology does not change;
- The cumulative effect assessment methodology does not change;
- The transboundary effects methodology does not change; and
- The methodology applied to inform inter-related effects does not change.

1.7.1.2 The topic specific methodologies set out in Environmental Statement, volume 3, chapters 1 to 11 for the east onshore cable corridor will also apply to the west onshore cable corridor.

1.7.1.3 In making an assessment of the west onshore cable corridor route at Booton (as well as the storage area and access roads) the same study areas as applied within each topic chapter of the Environmental Statement (volume 3: Onshore chapters) has been applied to this Environmental Statement Addendum.

1.8 Environmental assessment and conclusions

1.8.1.1 The following section provides a summary of any matters which amend or require separate consideration to the findings presented in each relevant topic chapter of the Environmental Statement (volume 3: Onshore chapters).

1.8.1.2 Where conclusions are consistent with those described in the Environmental Statement, this is stated in the relevant sections below. However, readers are referred to the Environmental Statement for the full justification for this conclusion, which is not repeated within this Environmental Statement Addendum.

1.8.2 Geology and Ground Conditions

1.8.2.1 The geology and ground conditions assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 1: Geology and Ground Conditions. This section considers whether the west onshore cable corridor would change the position presented within this chapter.

1.8.2.2 Geology is the study of the origin, history and structure of the earth and geological materials (i.e. the bedrock and other below ground materials (other than soils). The chapter identifies anticipated geology (sequence of natural soil and rock), the potential for any artificial ground to be presence and the hydrogeological characteristics of the underlying strata. The assessment of ground conditions focuses on the whether the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three will have an impact on local ground conditions. This includes the potential impacts of construction on any existing contaminated land, on the groundwater regime in the vicinity, on mineral resources and any geological Sites of Special Scientific Interest.

1.8.2.3 The anticipated ground conditions beneath the west onshore cable corridor and east onshore cable corridor are very similar. No artificial ground is mapped beneath either onshore cable corridor option, although there is a potential that small pockets of made ground are present as a result of historical land uses on both onshore cable corridor options. There are no records of any landfills or environmental permits within close proximity of either onshore cable corridor option.

1.8.2.4 The BGS mapping indicates that the superficial deposits beneath both onshore cable corridor options comprise Head Deposits and Sheringham Cliffs Formation and the underlying bedrock is the Wroxham Crag Formation.

1.8.2.5 The groundwater characteristics of the west and east onshore cable corridors are considered to be very similar. There is likely to be minor differences of the shallow groundwater associated with the highly variable nature of the superficial deposits and the potential for localised pockets of made ground. There are no groundwater abstraction licenses or discharge consents within approximately 1 km of either onshore cable corridor options.

1.8.2.6 Both onshore cable corridor options cut through an area of mineral safeguarding. The approximate area impacted by each of the onshore cable corridor options is similar. As the baseline conditions between the west and east onshore cable corridors are similar, the significance of the effect will not be materially different

1.8.2.7 Table 1.2 summarises how the findings presented within Environmental Statement volume 3, chapter 1: Geology and Ground Conditions (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.2: Geology and Ground Conditions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.2.8 In reviewing the assessment made in Table 1.2, the conclusion and summary for the Geology and Ground Conditions Environmental Statement chapter remains unchanged.

1.8.3 Hydrology and Flood Risk

1.8.3.1 The hydrology and flood risk assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 2: Hydrology and Flood Risk. This section considers whether the west onshore cable corridor would change the position presented within this chapter.

1.8.3.2 Hydrology assesses the movement, distribution and quality of water above ground, including the hydrological cycle and water resources. The assessment of hydrology and flood risk focuses on the potential for increased flooding and disturbance of surface watercourses (in terms of potential contamination and changes to channel morphology) as a result of the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three.

1.8.3.3 The west and east onshore cable corridors cross the Blackwater Drain, a tributary of the River Wensum between Reepham to the north and Booton to the south. Both routes cross open fields and a small area of woodland, passing through an area of similar flood zone extents, which are assessed at medium to high flood risk (Flood Zone 2 and/or 3). The Water Framework Directive surface water classification status of Moderate (2016) or objective status (good by 2021) is the same for both onshore cable corridor options.

1.8.3.4 Should the west onshore cable corridor be taken forward, Hornsea Three has committed to HDD under Blackwater Drain. The same commitment to HDD under Blackwater Drain has been made for the east onshore cable corridor and is assessed in volume 3, chapter 2: Hydrology and Flood Risk. As a result, there are no significant differences between the routes in terms of their likely impact on hydrology and flood risk.

1.8.3.5 Table 1.3 summarises how the findings presented within Environmental Statement volume 3, chapter 2: Hydrology and Flood Risk (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.3: Hydrology and Flood Risk conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.3.6 In reviewing the assessment made in Table 1.3, the conclusion and summary for the hydrology and flood risk Environmental Statement chapter remains unchanged.

1.8.4 Ecology and Nature Conservation

1.8.4.1 The ecology and nature conservation assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 3: Ecology and Nature Conservation. This section considers whether the west onshore cable corridor would change the position presented within this chapter. The assessment of effects on ecology and nature conservation focuses on the potential for impacts on designated sites, habitats protected species or other species of significant conservation interest by the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three.

1.8.4.2 Similar to the east onshore cable corridor route, the west onshore cable corridor route is characterised as arable land within areas of open cut, with cable installation via HDD underneath Blackwater Drain and associated riparian and woodland habitat. The localised differences are set out below.

1.8.4.3 Booton Common SSSI (a component site of the Norfolk Valley Fens SAC), is located west of Hornsea Three at approximately 45 m from the west onshore cable corridor at its closest point, compared to 280 m for the east onshore cable corridor. No direct loss would be incurred at the SSSI as a result of constructing the west or the east onshore cable corridor.

1.8.4.4 As shown in Table 1.1, the west onshore cable corridor route results in a shorter section of open cut trenching within arable land than the east onshore cable corridor (-218 m). However, in the context of the full extent of the area affected by open cut for the onshore cable corridor, this difference is considered insignificant.

1.8.4.5 Should the west onshore cable corridor be taken forward, Hornsea Three has committed to HDD under Blackwater Drain to avoid direct impacts from trenching on habitats of conservation interest associated with the Blackwater Drain and adjacent flood meadow and woodland and on the nearby Booton Common SSSI / Norfolk Valley Fens SAC. The same commitment to HDD under Blackwater Drain has been made for the east onshore cable corridor and is assessed in volume 3, chapter 3: Ecology and Nature Conservation. The west onshore cable corridor would require a longer length of HDD to avoid impacts to Blackwater Drain and its associated habitats.

1.8.4.6 Table 1.4 summarises how the findings presented within Environmental Statement volume 3, chapter 3: Ecology and Nature Conservation (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.4: Ecology and Nature Conservation conclusions for the west onshore cable corridor as its relates to conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.4.7 In reviewing the assessment made in Table 1.4, the conclusion and summary for the ecology and nature conservation Environmental Statement chapter remains unchanged.

1.8.5 Landscape and Visual Resources

1.8.5.1 The landscape and visual resources assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 4: Landscape and Visual Resources. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.5.2 Landscape and visual resources refers to the physical elements of the landscape, landscape character, areas designated for their scenic or landscape-related qualities and views from publicly accessible locations such as settlements, transport routes and, Public Rights of Way (PRoW). The landscape and visual resources assessment presents an assessment of the potential impacts of the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three on onshore landscape and visual resources. Volume 6, annex 4.6: Residential Visual Amenity also presents an assessment of effects on residential amenity due to changes in views from dwellings.

1.8.5.3 As shown in Table 1.1 the west onshore cable corridor proposes a shorter length of open cut trenching than the east onshore cable corridor (-218 m), a smaller storage area (-2,525 m^2), and a longer access track (+221 m). The west onshore cable corridor passes within a few metres of a residential property at Oaktree Farm whereas the east onshore cable corridor passes within a few metres of a residential property at Moor Farm. Given the similarities in the two onshore cable corridor options, including proximity to sensitive receptors, the differences outlined do not lead to any change in baseline conditions that would lead to a reportable difference in assessment.

1.8.5.4 Table 1.5 summarises how the findings presented within Environmental Statement volume 3, chapter 4: Landscape and Visual Resources (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.5: Landscape and Visual Resources conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.5.5 In reviewing the assessment made in Table 1.5, the conclusion and summary for the Landscape and Visual Resources Environmental Statement chapter remains unchanged.

1.8.6 Historic Environment

1.8.6.1 The historic environment assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 5: Historic Environment. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.6.2 The assessment of effects on historic environment focuses on the potential for impacts on designated and undesignated heritage assets in terms of physical impacts and also impacts on the settings of these assets during the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three.

1.8.6.3 Both the west and east onshore cable corridors cross the parish boundary between Reepham to the north and Booton to the south. Both onshore cable corridor options cross arable fields and a small area of woodland established during the 20th century. (There is a commitment to HDD under this woodland for both onshore cable corridor options.) Both corridors lie within an area recorded as being the findspot of a single medieval coin (NHER number MNF50195). Both onshore cable corridor options lie approximately equidistant from two listed buildings, Moor Farm House and Moor Farm Barn (list entry numbers 1342794 and 1170036 respectively). Each building is listed at Grade II. There are few, if any significant differences between the onshore cable corridor options in terms of their likely impact on heritage assets, designated or otherwise.

1.8.6.4 Table 1.6 summarises how the findings presented within Environmental Statement volume 3, chapter 5: Historic Environment (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.6: Historic Environment conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.6.5 In reviewing the assessment made in Table 1.6, the conclusion and summary for the historic environment Environmental Statement chapter remains unchanged.

1.8.7 Land Use and Recreation

1.8.7.1 The land use and recreation assessment for the east onshore cable corridor is reported within the Environmental Statement volume 3, chapter 6: Land Use and Recreation. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.7.2 The assessment of effects on land use and recreation focuses on the potential for impacts on Agricultural Land Classification in terms of the temporary and permanent loss of the "best and most versatile" agricultural land; the loss of agricultural land and severance on farm businesses; and the disruption to the use of recreational resources during the construction, operation and maintenance and decommissioning of the onshore elements of Hornsea Three.

1.8.7.3 The west onshore cable corridor at Booton does not present any material changes to the assessment in Environmental Statement, volume 1, chapter 6, Land Use and Recreation. The west onshore cable corridor would result in a similar area of agricultural land being temporarily affected during the installation of the cable and the effect on the operation of the farm holding would not be significant. Booton Common would be located outside of both onshore cable corridor options, although the west onshore cable corridor would be slightly closer, in particular the HDD compound to the south of the woodland (circa 210m). However, any impacts would not be significantly different from those assessed for the east onshore cable corridor.

1.8.7.4 Table 1.7 summarises how the findings presented within Environmental Statement volume 3, chapter 6: Land Use and Recreation (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.7: Land Use and Recreation conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.7.5 In reviewing the assessment made in Table 1.7, the conclusion and summary for the land use and recreation Environmental Statement chapter remains unchanged.

1.8.8 Traffic and Transport

1.8.8.1 The traffic and transport assessment for the east onshore cable corridor is reported within the Environmental Statement volume 3, chapter 7: Traffic and Transport. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.8.2 The assessment of effects on traffic and transport considers the impacts of driver delay, severance, pedestrian delay, accidents and road safety, pedestrian amenity, and hazardous, dangerous and abnormal indivisible loads as a result of the traffic movements associated with the construction and decommissioning of Hornsea Three. The operation and maintenance of Hornsea Three is not expected to lead any likely significant traffic effects and therefore was scoped out of the assessment.

1.8.8.3 Access 32(B) will be taken from the highway network at the B1145 and will route to the onshore cable corridor via Access Corridor 31(B). This is the access arrangement to both the west onshore cable corridor and the east onshore cable corridor, thus the access route for construction vehicles remains unchanged from that set out within volume 3, chapter 7: Traffic and Transport.

1.8.8.4 Access Corridor 31(B), accessed via Access 32(B), will require an extension along The Moor to reach the west onshore cable corridor, however, the access arrangements would remain the same as that that set out within volume 3, chapter 7: Traffic and Transport and thus there is no difference to the EIA as a result west onshore cable corridor in comparison to the east onshore cable corridor.

1.8.8.5 The west onshore cable corridor is slightly shorter than the east onshore cable corridor, thus, the total number of construction vehicle movements generated will be lower for the west onshore cable corridor in comparison to the east onshore cable corridor. The EIA assesses the construction vehicle movements generated by the east onshore cable corridor and is therefore a robust assessment in comparison to a similar assessment for the west onshore cable corridor.

1.8.8.6 Table 1.8 summarises how the findings presented within Environmental Statement volume 3, chapter 7: Traffic and Transport (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.8: Traffic and Transport conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e., the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.8.7 The realignment of the east onshore cable corridor to the west onshore cable corridor will not affect the access routing nor the point of access to the onshore cable corridor; there is however, the potential for a slight reduction in the number of construction vehicle movements. In reviewing the assessment made in Table 1.8, the conclusion and summary for the traffic and transport Environmental Statement chapter remains unchanged.

1.8.9 Noise and Vibration

1.8.9.1 The noise and vibration assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 8: Noise and Vibration This considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.9.2 The assessment of effects on noise and vibration focuses on the potential noise emissions from the construction, operation and maintenance and decommissioning of Hornsea Three and the potential impacts on noise sensitive receptors in the vicinity.

1.8.9.3 The west onshore cable corridor would potentially move construction works marginally towards Reepham. Three residences: one at Oak Tree Farm; and two to its east (identified as a bungalow and caravan within the OS Address Base data) would fall closer to the construction working areas. Moor Farm, which is situated between the two cable corridor alternatives, would likely be exposed to similar levels of construction noise for either onshore cable corridor option, however the façade which would be most exposed to construction noise would change.

1.8.9.4 For the west and the east onshore cable corridors an adverse impact during construction is predicted at Moor Farm, Oak Tree Farm, and the two properties east of Oak Tree Farm. This is an additional adverse impact predicted at Oak Tree Farm (above that reported for the east onshore cable corridor) due to its proximity to the relocated HDD works. The introduction of this one additional adverse impact would not change the overall findings of the Environmental Statement, of minor adverse effect due to construction noise.

1.8.9.5 There would be no change in the overall magnitude of impacts or effect, as the potential additional impact for Oak Tree Farm would be of a magnitude comparable with the majority of other residential noise sensitive receptors (NSRs) identified.

1.8.9.6 Table 1.9 summarises how the findings presented within Environmental Statement volume 3, chapter 8: Noise and Vibration (and supporting annexes) would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.9: Noise and Vibration conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e. the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	Additional construction noise impact at Oak Tree Farm. No change to overall assessment of significance.
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.9.7 In reviewing the assessment made in Table 1.9, the conclusion and summary for the volume 3, chapter 8: noise and vibration Environmental Statement chapter remains unchanged.

1.8.10 Air Quality

1.8.10.1 The air quality assessment for the east onshore cable corridor is reported within Environmental Statement volume 3, chapter 9: Air Quality. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.10.2 The assessment of effects on air quality focuses on the potential for dust and traffic emissions during the construction and decommissioning phases. The operation and maintenance of Hornsea Three is not expected to lead to air quality impacts with any likely significant effects and therefore was scoped out of the assessment.

1.8.10.3 The west onshore cable corridor has the same baseline air quality to the east onshore cable corridor and a similar number of sensitive receptors. Although the west onshore cable corridor moves construction works closer to Reepham, there is no increase in the number of receptors.

1.8.10.4 The dust effects associated with construction activity after implementation of the proposed control measures would be not significant in EIA terms.

1.8.10.5 The amount of traffic generated by the construction and decommissioning phases of the west onshore cable corridor is expected to be the same as that assessed for the east onshore cable corridor in Environmental Statement volume 3, chapter 9: Air Quality. Therefore, the significance of effects will the same for both onshore cable corridor options (i.e. negligible).

1.8.10.6 Table 1.10 summarises how the findings presented within Environmental Statement volume 3, chapter 9: Air Quality would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.10: Air Quality conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e., the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.10.7 In reviewing the assessment made in Table 1.10, the conclusion and summary for the air quality Environmental Statement chapter remains unchanged.

1.8.11 Socio-economics

1.8.11.1 The socio-economics assessment for the east onshore cable corridor is reported within the Environmental Statement volume 3, chapter 10: Socio-economics. This section considers whether the west onshore cable corridor would change the findings presented within this chapter.

1.8.11.2 The assessment of effects on socio-economics focuses on the potential impacts of Hornsea Three on socio-economics, tourism and recreation, namely:

- Employment and Gross Value Added (GVA) effects;
- Effects on access to employment by local residents;
- Effects on the demand for housing, accommodation and local services;
- Effects on the performance of the renewable energy sector;
- Effects on offshore and coastal tourism activity and associated economic value; and
- Effects on local tourism and recreational resources, including public rights of way.

1.8.11.3 The chapter has set out the baseline socio-economic conditions in the three study areas identified for Hornsea Three (UK, New Anglia local economic development area, and Humber local economic development area).

1.8.11.4 Socio-economic impacts are primarily driven by the supply chain expenditure which can be secured from each of the study areas. Therefore, the impacts are not dependent on the exact route of the onshore cable corridor. For quantitative socio-economic receptors, the difference between east and west onshore cable corridor has no bearing on the results of the assessment.

1.8.11.5 The assessment of effects on tourism and recreation receptors draws on the evidence from other chapters, and therefore the differences in assessment which have been identified in sections 1.8.2 to 1.8.11

1.8.11.6 The assessments in these chapters found no change to the assessment of significance of effects between the east and west onshore cable route options. As such, it can be concluded that the difference between the two onshore cable corridor options does not affect visual amenity, noise and vibrations or cause any further obstruction to recreational activities and there will be no change to the assessment of significance on tourism and recreation receptors.

1.8.11.7 Table 1.11 summarises how the findings presented within Environmental Statement volume 3, chapter 10: Socio-economics would be affected, if at all, through the inclusion of the west onshore cable corridor.

Table 1.11: Socio-economics conclusions for the west onshore cable corridor as it relates to the conclusions of the Environmental Statement (i.e., the assessment of the east onshore cable corridor).

Assessment	Reportable difference in Assessment
Baseline environment	No change
Measures adopted as part of Hornsea Three	No change
Assessment of significance	No change
Cumulative effects assessment methodology and assessment	No change
Transboundary effects	Not applicable – screened out.
Inter-related effects	No change

1.8.11.8 In reviewing the assessment made in Table 1.11, the conclusion and summary for the socio-economics Environmental Statement chapter remains unchanged.

1.8.12 Inter-related Effects (Onshore)

1.8.12.1 The inter-related effects (onshore) is reported within the Environmental Statement volume 3, chapter 11: Inter-related Effects (Onshore). This section considers whether the west onshore cable corridor would change the conclusions presented ~~in~~ within this chapter. The assessment of inter-related effects (onshore) focuses on receptors which may be affected by more than one environmental topic or impacts that may arise during more than one phase. The approach considers both receptor-led and project lifetime effects on different receptor groups.

1.8.12.2 In reviewing the assessments provided in section 1.8.2 to 1.8.11 of this Addendum to the Environmental Statement, the conclusion and summary for the inter-related effects (onshore) Environmental Statement chapter remains unchanged.

1.8.13 Transboundary Effects

1.8.13.1 Transboundary impacts relate to those impacts that may arise from an activity within one European Economic Area (EEA) state, that significantly affect the environment or other interests of another EEA state. Hornsea Three have completed a transboundary screening matrix for onshore transboundary effects,

1.8.13.2 Transboundary assessment for the east onshore cable corridor is reported within the Environmental Statement volume 4, Annex 5.4: Transboundary Impacts Screening. Through section 1.7 of this addendum for all chapters, transboundary effects of the west onshore corridor have been scoped out.

1.8.14 Other considerations

1.8.14.1 Any management measures required to be implemented, such compliance with the principles established in the following application documents continue to be applied, irrespective if the west or east route is taken forward:

- Volume 4, annex 3.4 - Site Waste Management Plan;
- Volume 4, annex 5.1 - Enhancement, Mitigation and Monitoring Commitments;
- Cable Statement (Application document ref A7.2);
- Statutory Nuisance Statement (Application document ref A7.3);
- Consents Management Plan (Application document ref A7.4);
- Outline Construction Traffic Management Plan (Application document ref A8.2);
- Planning Statement (Application document ref A8.3);
- Hierarchy of Management Plans (Application document ref A8.4);
- Outline Code of Construction Practice (Application document ref A8.5);
- Outline Ecological Management Plan (Application document ref A8.6);
- Outline Landscape Management Plan (Application ref A8.7).

1.9 Conclusion and summary

1.9.1.1 This Addendum sets out how appropriate consideration has been given to the introduction of the west onshore cable corridor route at Booton as one of two options which are included within the application.

1.9.1.2 The assessment concludes that should the west onshore cable corridor be taken forward, this does not amend the conclusions presented within the Environmental Statement (volume 3).