



FIVE ESTUARIES OFFSHORE WIND FARM

PEIR UPDATE NOTE – DECEMBER 2023

Document Reference	N/A
Revision	1.0
Date	December 2023



Project	Five Estuaries Offshore Wind Farm
Sub-Project or Package	Stage 3 Consultation
Document Title	PEIR Update Note – December 2023
Document Reference	N/A
Revision	Final

COPYRIGHT © Five Estuaries Wind Farm Ltd

All pre-existing rights reserved.

This document is supplied on and subject to the terms and conditions of the Contractual Agreement relating to this work, under which this document has been supplied, in particular:

LIABILITY

In preparation of this document Five Estuaries Wind Farm Ltd has made reasonable efforts to ensure that the content is accurate, up to date and complete for the purpose for which it was contracted. Five Estuaries Wind Farm Ltd makes no warranty as to the accuracy or completeness of material supplied by the client or their agent.

Other than any liability on Five Estuaries Wind Farm Ltd detailed in the contracts between the parties for this work Five Estuaries Wind Farm Ltd shall have no liability for any loss, damage, injury, claim, expense, cost or other consequence arising as a result of use or reliance upon any information contained in or omitted from this document.

Any persons intending to use this document should satisfy themselves as to its applicability for their intended purpose.

The user of this document has the obligation to employ safe working practices for any activities referred to and to adopt specific practices appropriate to local conditions.

Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
01	Dec 2023	Issued for Use	GoBe	VE OWFL	VE OWFL



CONTENTS

1	Updates to the proposed Five Estuaries Offshore Wind Farm	5
1.1	Purpose of this document.....	5
1.2	Introduction to Five Estuaries and Stage 3 consultation.....	5
	Stage 3 consultation	5
1.3	Key updates since Stage 2 consultation.....	6
	Onshore route changes	6
1.4	Key assessment changes and likely impacts from PEIR to the current proposals..	19
1.5	Concluding remarks.....	24
2	Consultation	25
2.1	Have your say.....	25
2.2	How to respond	25
2.3	Contact us	25

FIGURES

Figure 1.1	Five Estuaries updated red line boundary in detail	9
------------	--	---



DEFINITION OF ACRONYMS

Term	Definition
AfL	Agreements for Lease
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
Galloper	Galloper Offshore Wind Farm
GW	gigawatts
MW	Megawatts
NSIP	Nationally Significant Infrastructure Project
O&M	Operational and maintenance
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
SoS	Secretary of State
TCE	The Crown Estate
The Project	Five Estuaries Offshore Wind Farm
The Applicant	Five Estuaries Offshore Wind Farm Ltd



1 UPDATES TO THE PROPOSED FIVE ESTUARIES OFFSHORE WIND FARM

1.1 PURPOSE OF THIS DOCUMENT

- 1.1.1 This document has been drafted to summarise the updates that have been made to the onshore elements of the Five Estuaries Offshore Wind Farm project (the Project), by Five Estuaries Offshore Wind Farm Limited (the Applicant), since the publication of the Preliminary Environmental Information Report (PEIR) on 14 March 2023 (as part of our Stage 2 consultation); and what effect those changes have on the potential environmental impacts and benefits of the Project.
- 1.1.2 The PEIR set out the environmental information that had been collected and assessed by the Project to that point. It provided an understanding of the potential likely significant effects of the Project on the environment.
- > Refinements to the project design since Stage 2 consultation are set out in Section 1.3; and
 - > Changes to the potential environmental benefits and impacts of the Project as a result of these changes are set out in Section 1.4. These changes are in comparison to the potential environmental effects set out in the PEIR.
- 1.1.3 This document has been prepared as an update summary to support the PEIR consultation (Stage 3 consultation) and should be read in conjunction with the PEIR that can be found on the Project website www.fiveestuaries.co.uk/document-library-stage-2.

1.2 INTRODUCTION TO FIVE ESTUARIES AND STAGE 3 CONSULTATION

- 1.2.1 The Project (Figure 1.1) is a proposed extension project to the operational Galloper Offshore Wind Farm (Galloper) situated off the coast of Suffolk. The Project includes provision for the construction, operation, maintenance and decommissioning of an offshore wind farm located approximately 37 kilometres off the coast of Suffolk at its closest point in the southern North Sea; including up to 79 wind turbine generators and associated infrastructure making landfall at Sandy Point between Frinton-on-Sea and Holland-on-Sea, the installation of underground cables, and the construction of an electrical substation and associated infrastructure to the west of Little Bromley to connect the development to National Grid's proposed East Anglia Connection Node substation. All onshore infrastructure would be located in Tendring District, Essex.
- 1.2.2 As the Project has a proposed generating capacity in excess of 100MW, it is a Nationally Significant Infrastructure Project under section 15(3) of the Planning Act 2008 ('the Act'). As such, we must apply for a Development Consent Order (DCO) from the Secretary of State to build and operate the Project.

STAGE 3 CONSULTATION

- 1.2.3 Due to the changes in the Project, some areas of land may be affected differently by the proposals. In order to collect feedback on these changes and fulfil the requirements of the Act, we are carrying out a targeted consultation with those who have land interests affected by the changes.
- 1.2.4 This consultation will run from 5 December 2023 to Wednesday 31 January 2024.
- 1.2.5 More information about the consultation can be found on the Project's website www.fiveestuaries.co.uk/stage-3-consultation.



1.3 KEY UPDATES SINCE STAGE 2 CONSULTATION

1.3.1 Our proposals have been refined since the Stage 2 Consultation (14 March to 12 May 2023) and the publication of the Project's PEIR. These changes were made following feedback from the consultation, greater understanding of the local environment from dedicated surveys and coordination efforts with the adjacent North Falls Offshore Wind Farm project. Key engineering design updates are set out below.

ONSHORE ROUTE CHANGES

1.3.2 Landfall location options at PEIR have been refined to the north-easterly landfall option, see Figure 1.1, the southwestern option has been dropped, the onshore Export Cable Corridor route has been refined and Onshore Substation location has been selected.

1.3.3 Revisions have been made to the onshore export cable corridor route, resulting from co-ordination with North Falls and an agreed reduction in the maximum number of circuits for each project from four to two. This decision has enabled a reduction in the width of the proposed combined onshore cable corridor during construction, which will be 90m predominantly, rather than 200-250m which would have been required for eight circuits (four for each offshore wind farm). This allows for soil storage, internal haul roads and possible micro-siting plus flexibility for use of trenchless crossing techniques, such as horizontal directional drilling under constraints such as roads. The narrower route corridor has allowed the Project to avoid more ecological constraints and move the Project further away from residential properties at a number of locations.

1.3.4 Key changes at the landfall include:

- > Removal of the south/western landfall option under Holland Haven;
- > The north/eastern landfall leg has been refined to identify a specific land parcel for the landfall construction compound and location of the transition joint bay (to connect the onshore and offshore cables). Selection of the northern leg ensures that the Project is further way from breeding and non-breeding bird habitat and increases the distance from the land fall compound to the closest noise sensitive receptor; and
- > North Falls recently confirmed that the general location of its landfall construction compound would be in the same area as our Project. This gives greater opportunity for the projects to coordinate construction work at landfall.

1.3.5 Key changes to the onshore export cable corridor include:

- > Temporary construction compounds associated with the south/western landfall option have been removed. The corridor has moved further away from residential properties on Clacton Road, where an additional smaller temporary construction compound within the old corridor to the west of Clacton Road has been added.



- > At the crossing of Little Clacton Road, a single corridor is now proposed rather than three. This is adjacent to Mill Lane and the Great Holland Pits Local Nature Reserve. This significantly reduces land take in this area.
- > The route follows the eastern side of the original PEIR corridor crossing under the East Coast Mainline spur railway and a wooded area using a trenchless technique. The area included in the boundary here is greatly reduced compared to the original PEIR boundary, from approximately 700m to 250m.
- > At the crossing of Thorpe Road, the locations of the temporary construction compounds have been refined to move them further away from residential properties, but still within the original PEIR boundary.
- > To ensure the route remains within tolerance at bends and to avoid constraints on the route, the new alignment extends slightly outside of the original PEIR boundary to the north as it crosses Damants Farm Lane.
- > At the crossing of Tendring Road / Thorpe Road / Swan Road junction, the route has been refined removing land parcels to the west of Tendring Road. The route now splits either side of properties on Thorpe Road. The Project has committed to using trenchless techniques in this area to cross the roads and at sensitive ecological features identified here. The locations of temporary construction compounds have been refined to move them away from sensitive ecological features.
- > The location of the proposed temporary construction compound to the south of the A120 has been reduced in size and kept to the eastern portion of the land parcel, to move it further away from a nearby residential property.
- > At the crossing of Bentley Road the temporary construction compounds have been reduced in size and moved within the original export cable corridor, bringing them further way from residential properties.
- > The Project has increased the number of committed trenchless crossings along the whole of the export cable corridor to reduce impacts, particularly on ecological features and avoid the need for road closures for trenching activities.

1.3.6 For the Onshore Substation, the key changes include:

- > Identification of the specific substation location within the northern half of the original Substation Search Area West. This means that the Project's substation would be co-located on the same site as the North Falls substation, adjacent to the proposed location of the National Grid East Anglia Connection Node substation zone. The land parcels to the south of Ardleigh road have been reduced to the width of the export cable corridor route only.
- > This means there will be a lower overall land take than if all three individual projects substations were located in different areas. It allows for opportunities to co-ordinate designs, potentially share temporary and permanent access roads,

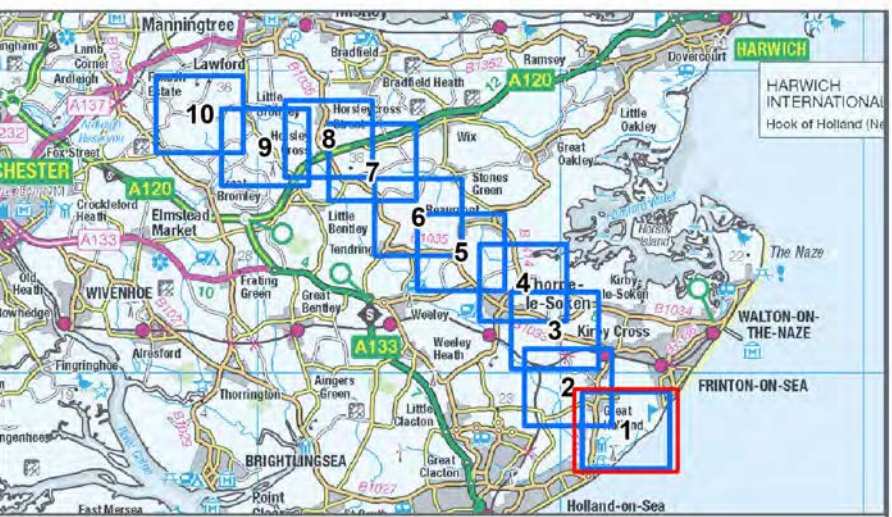
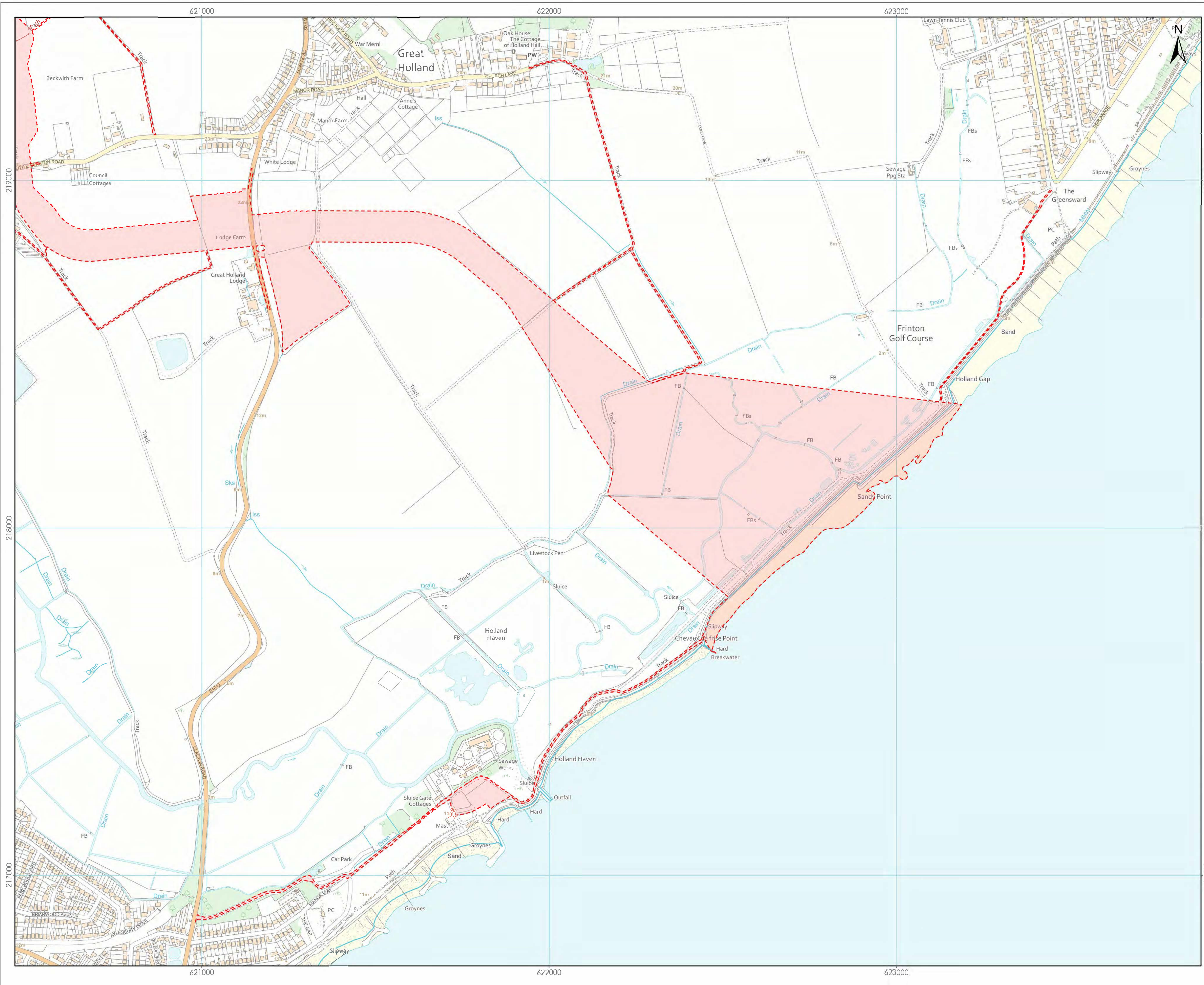


and co-ordinate landscape mitigation principles to reduce impacts on the surrounding area.

- > Substation Search Area East has been removed from the revised project boundary and the area is now crossed by the export cable corridor route only.
- > A requirement for road widening of Bentley Road from the A120 to the export cable corridor route crossing, along with improvements to the A120 junction have been identified and these have been included in the revised project boundary.
- > A portion of the export cable corridor route from Bentley Road to Ardleigh Road will be used to construct a temporary substation construction access road, with the southern temporary construction compound at Bentley Road used for marshalling construction traffic. This could be shared with other projects.
- > The area to the north of Ardleigh Road has largely been retained to allow for construction compounds and mitigation measures, including new drainage and planting.
- > National Grid has provided a revised East Anglia Connection Node Substation Zone, which sits between Grange Road and Hungerdown Lane. This has allowed for the removal of the rest of their search area included within the original PEIR boundary, which extended around the existing substation.

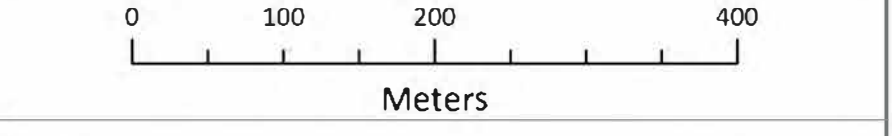
1.3.7 Other changes include:

- > Access points and associated visibility splays (where we will reduce the height of vegetation to ensure that construction vehicles leaving a site have safe visibility before joining the road) have been revised following discussion with the relevant highway authority and more detailed designs, including safety audits. These seek to minimise the impact to trees and hedgerows along the road verges.
- > A number of additional off-route haul roads have been included along the corridor to use existing gaps in hedgerows to minimise ecological effects; and
- > The inclusion of operational access routes, following existing farm tracks, to enable periodic access for testing of cables during the operation of the wind farm.



LEGEND

Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

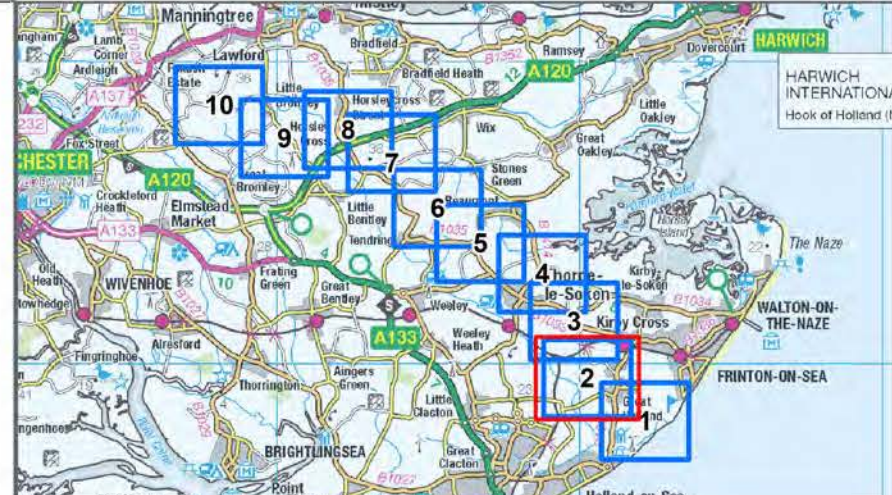
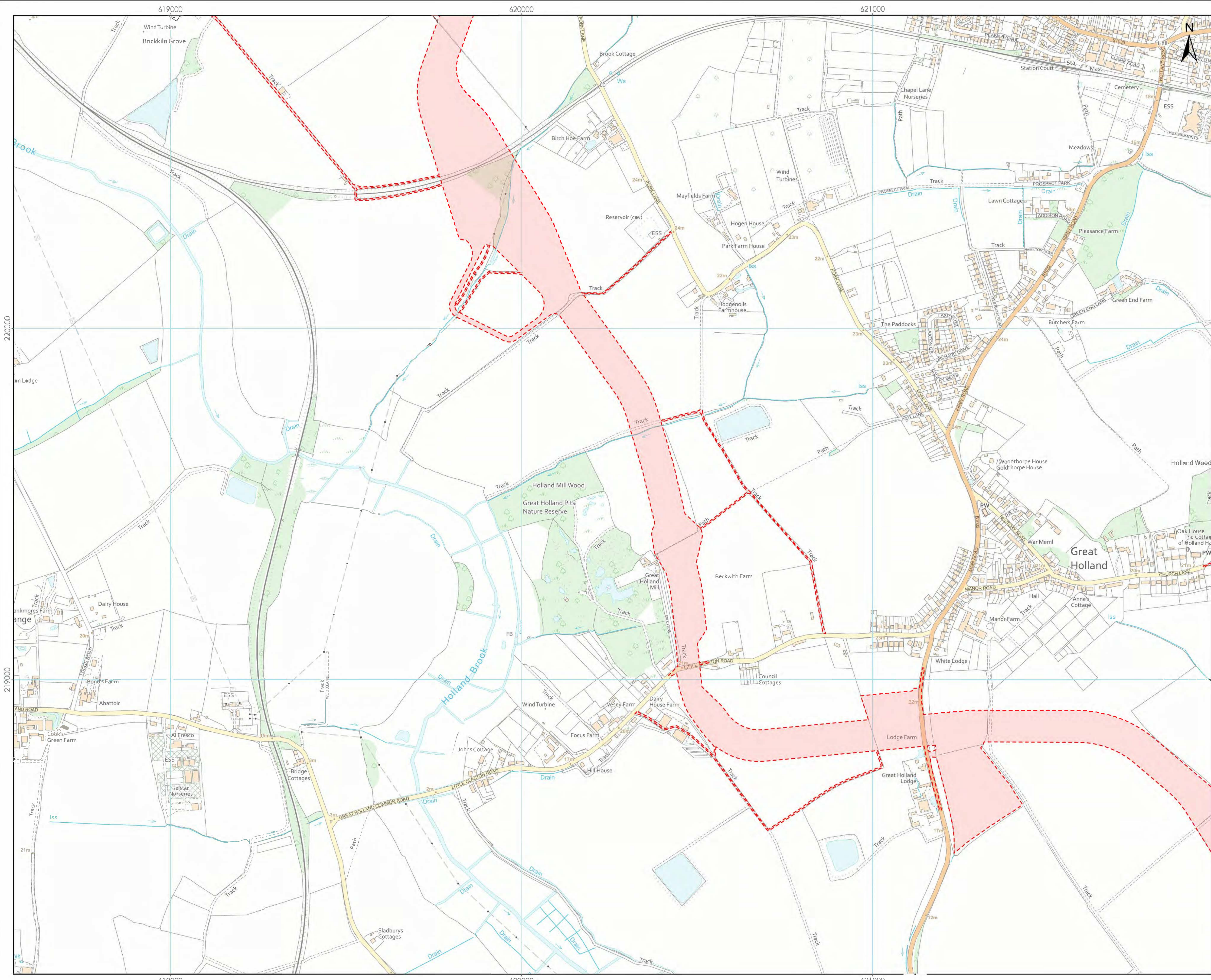
DRAWING TITLE:
Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

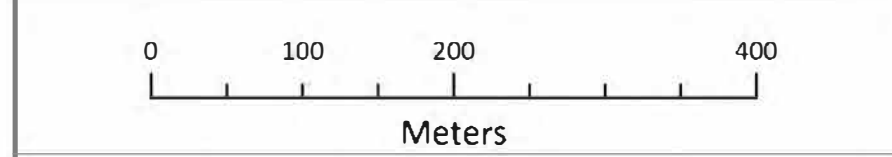
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 1 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

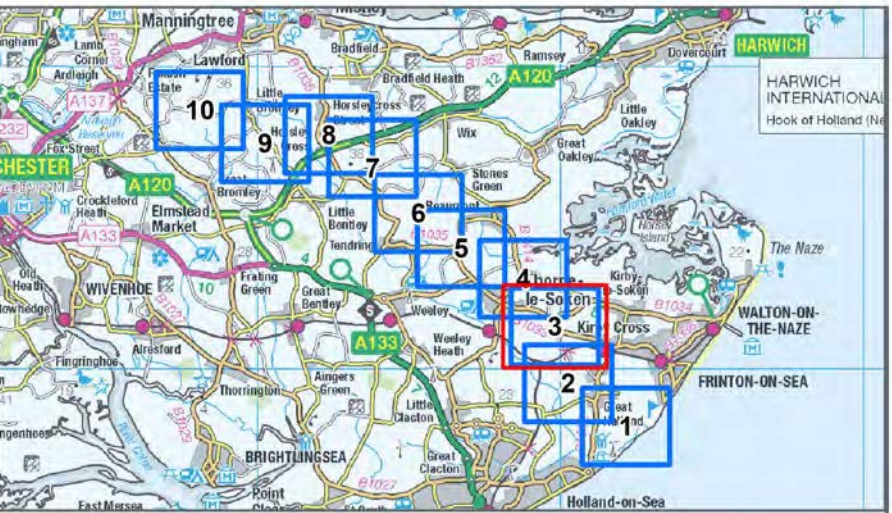
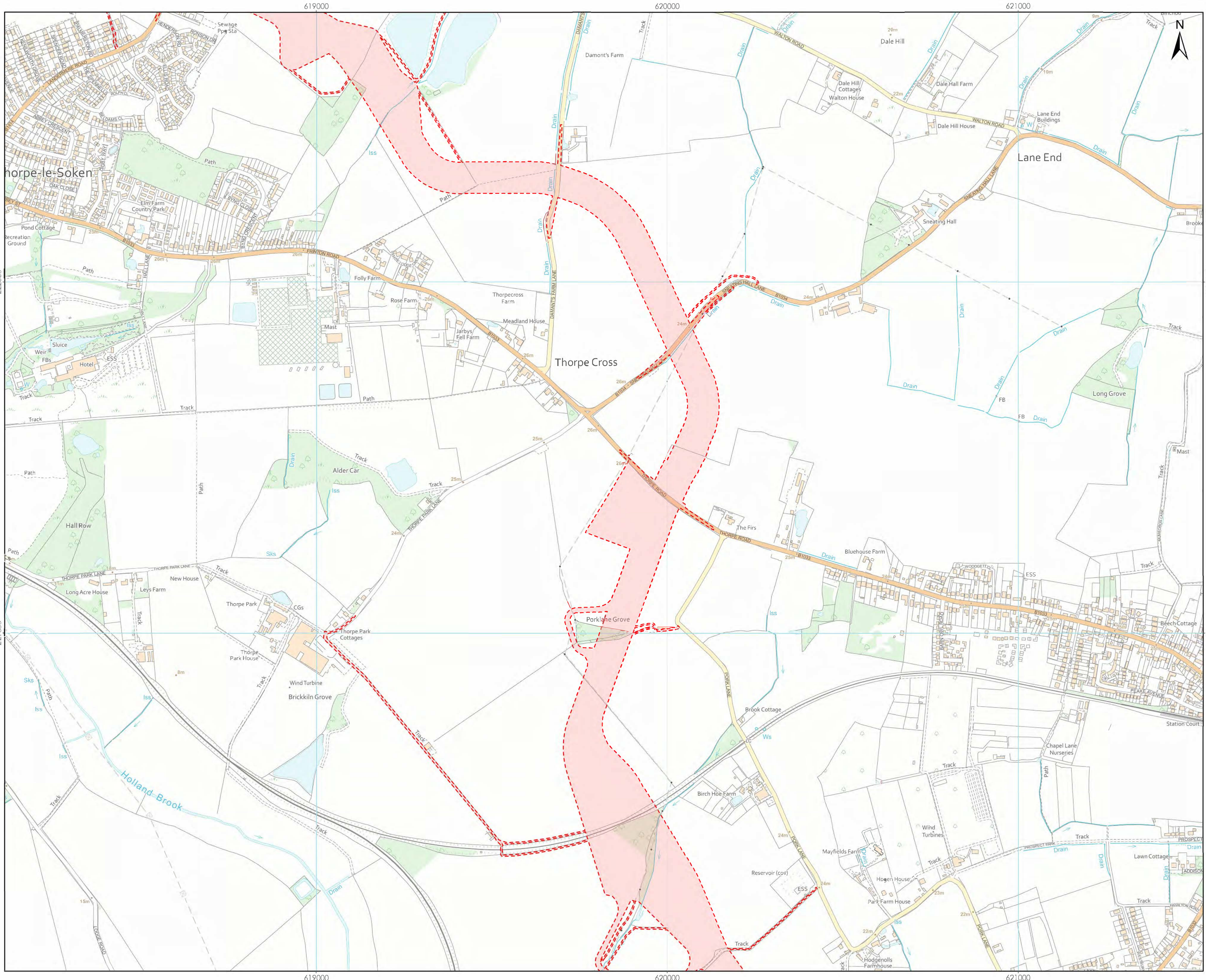
DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-


DRAWING NUMBER: - **Figure 1.1**

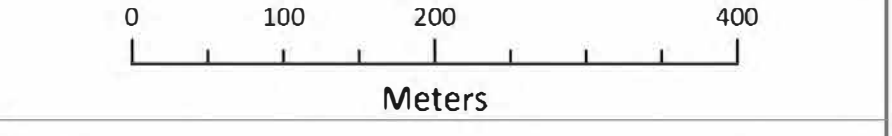
Sheet No: Page 2 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

 Onshore Red Line Boundary



Data Source:
© Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

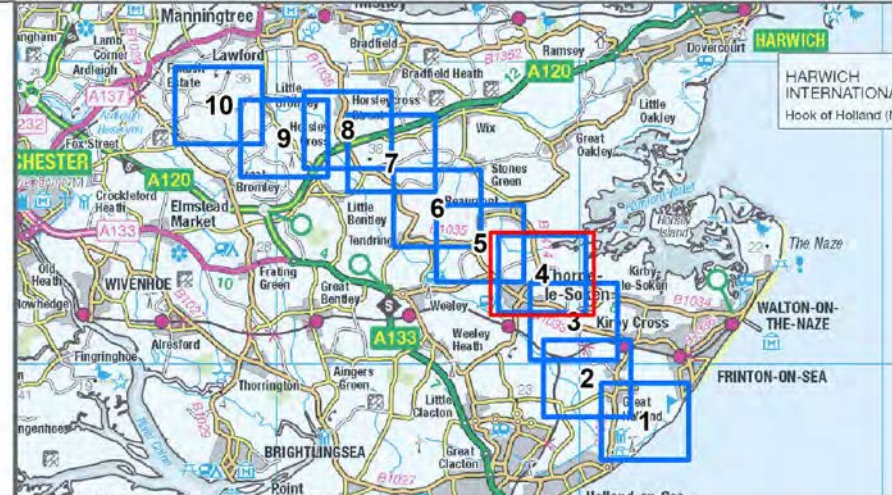
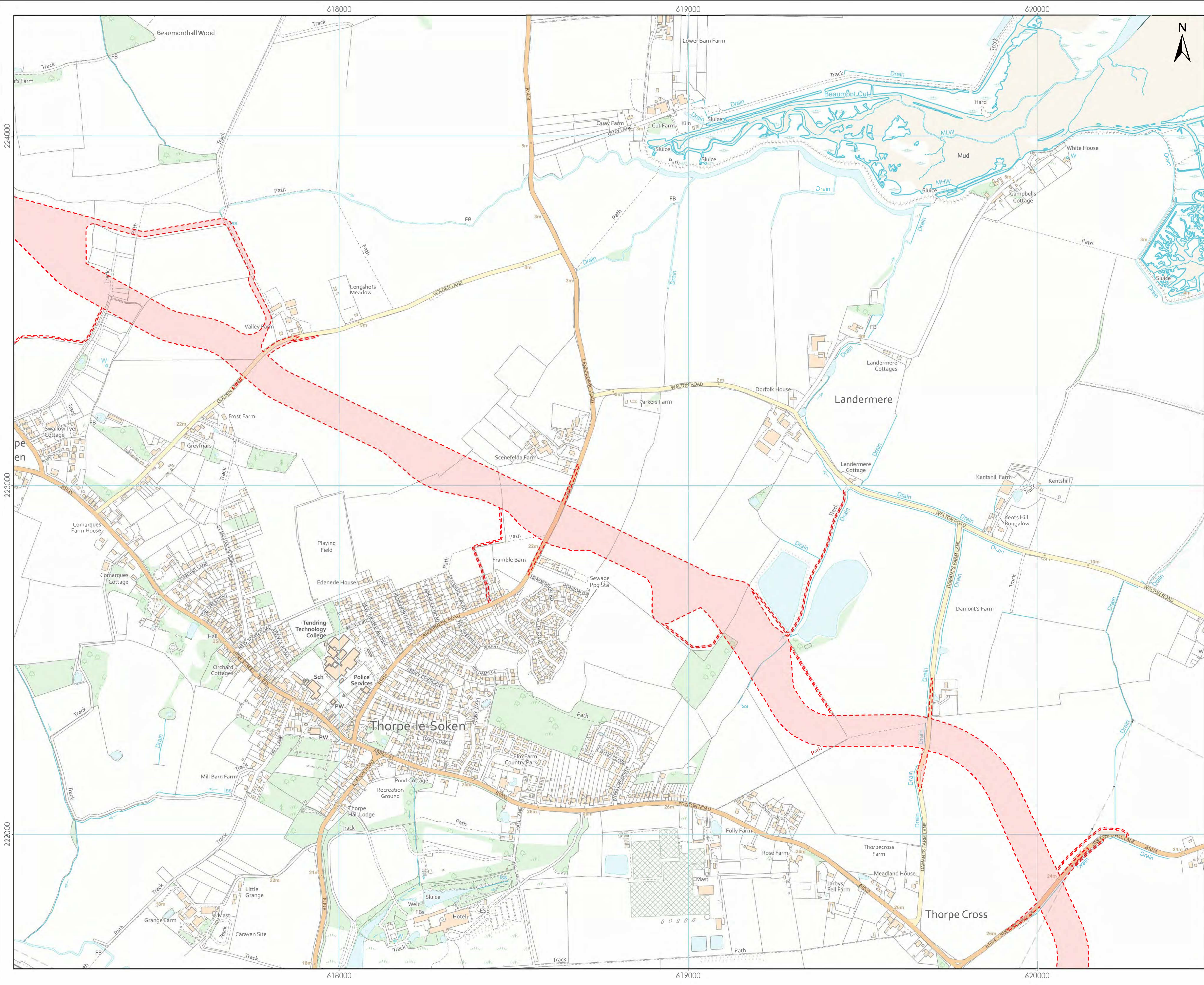
DRAWING TITLE:
Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

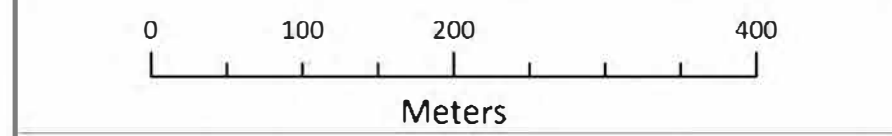
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 3 of 10
SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

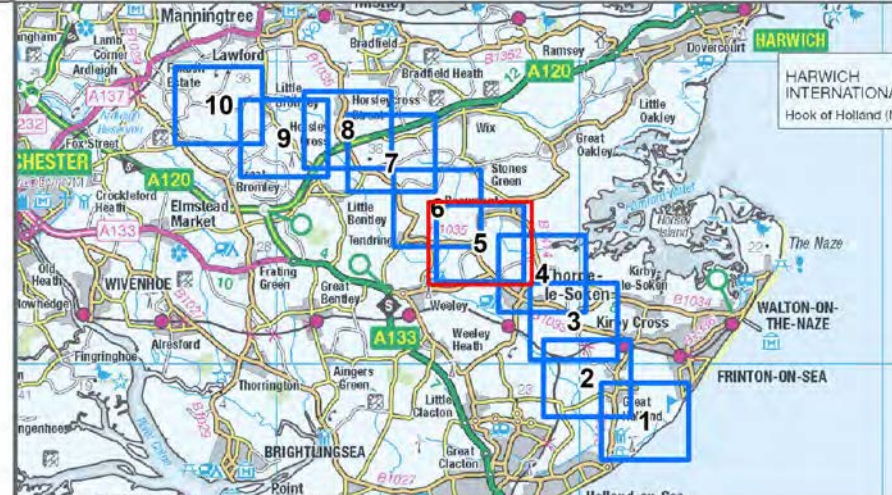
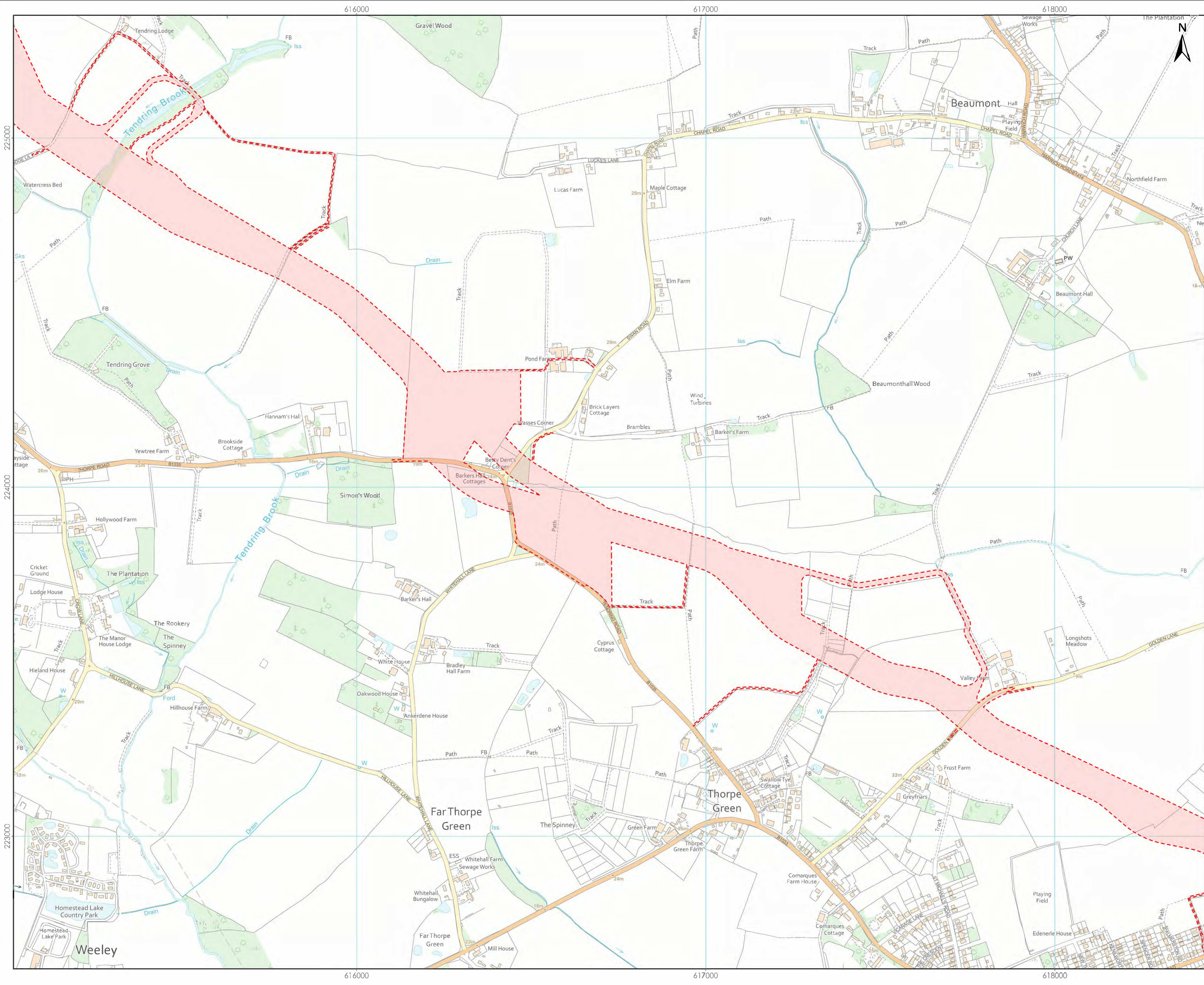
DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

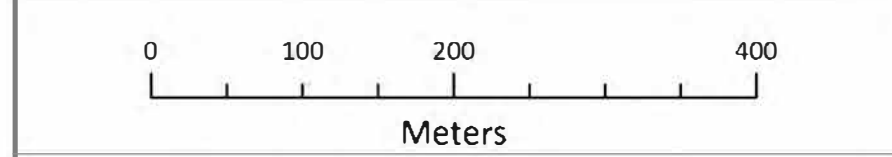
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 4 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

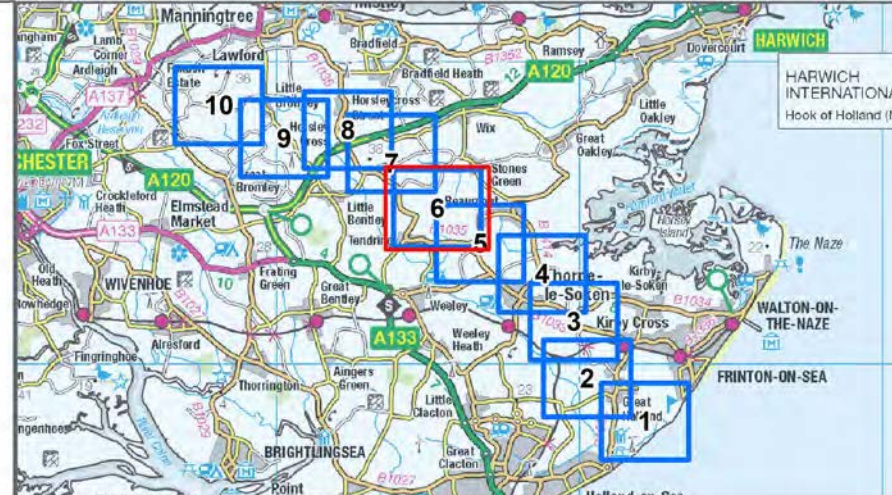
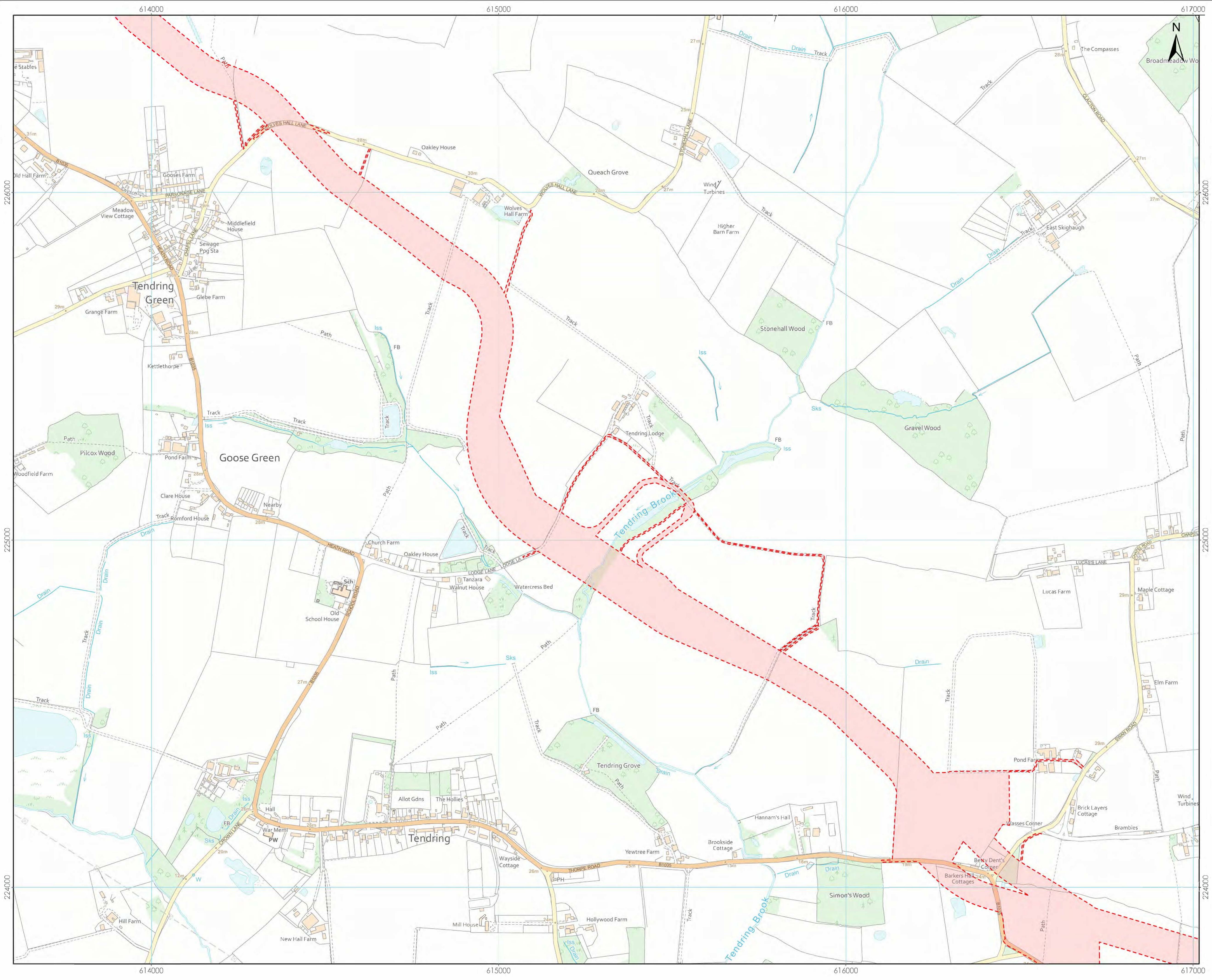
DRAWING TITLE:
Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

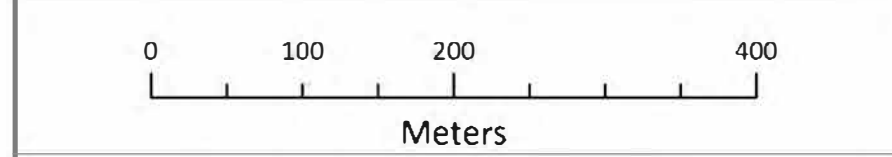
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 5 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

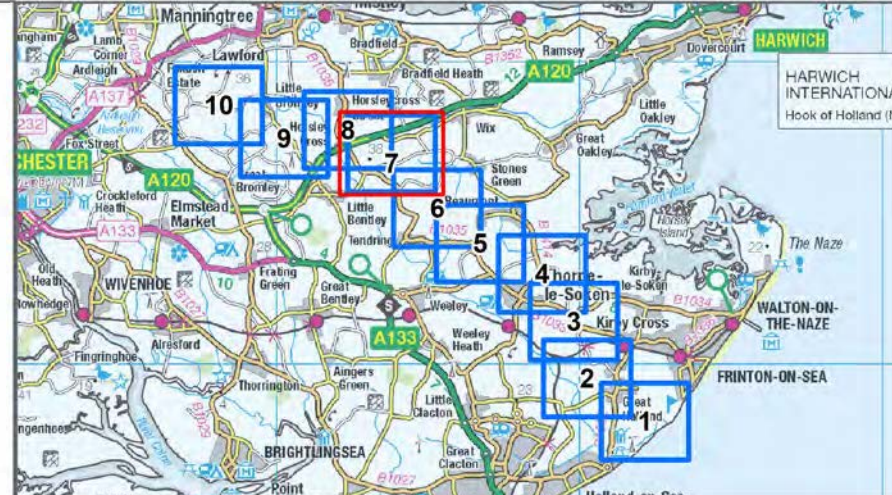
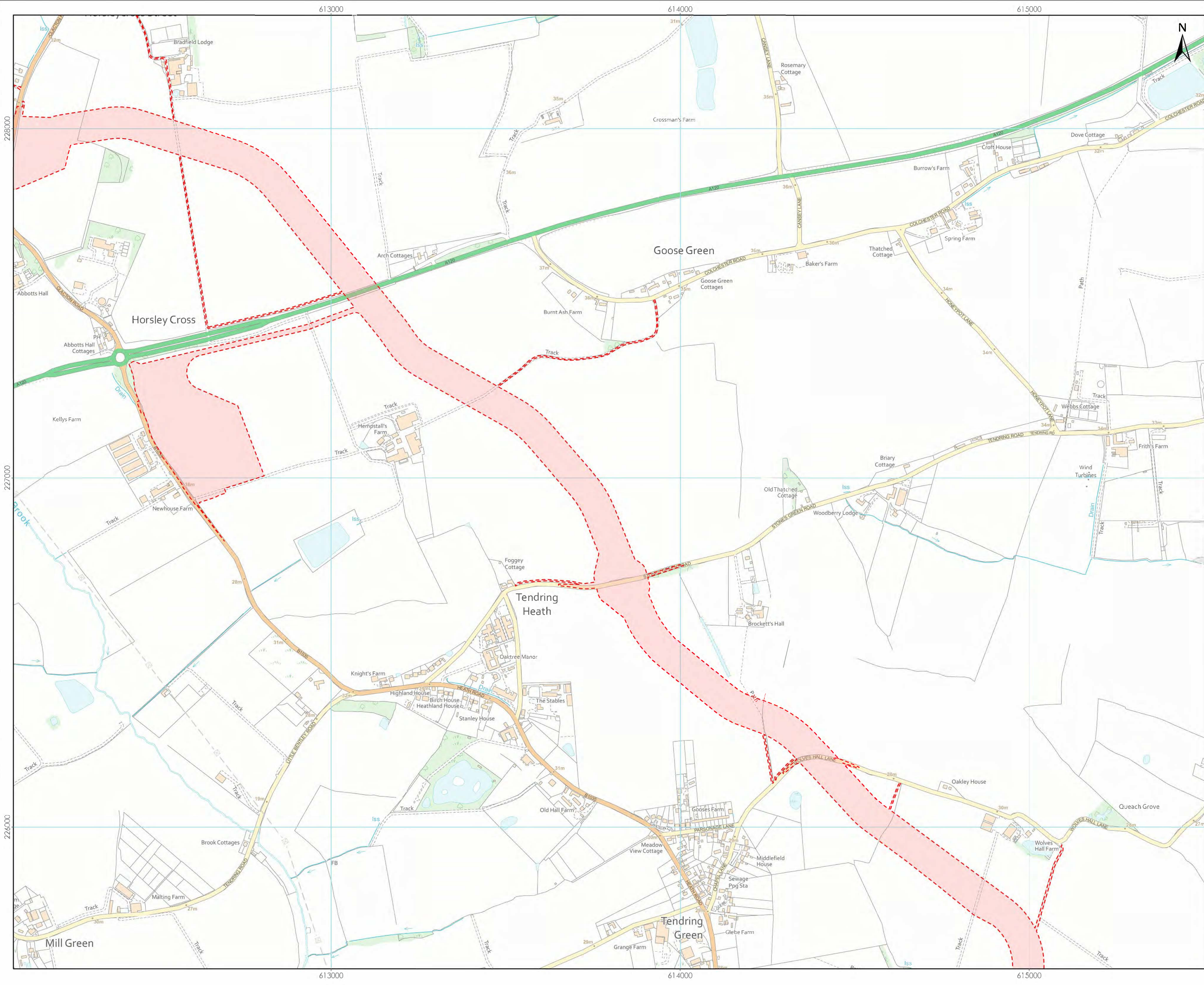
DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

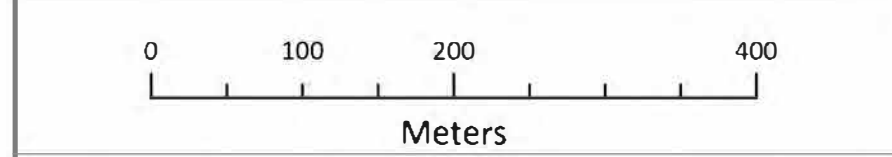
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 6 of 10
 SCALE: 1:5,000 PLOT SIZE: A 3 DATA: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

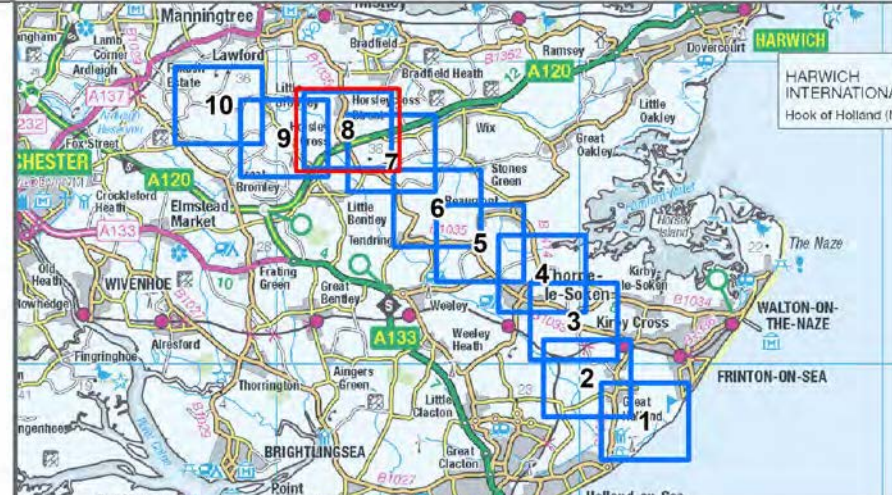
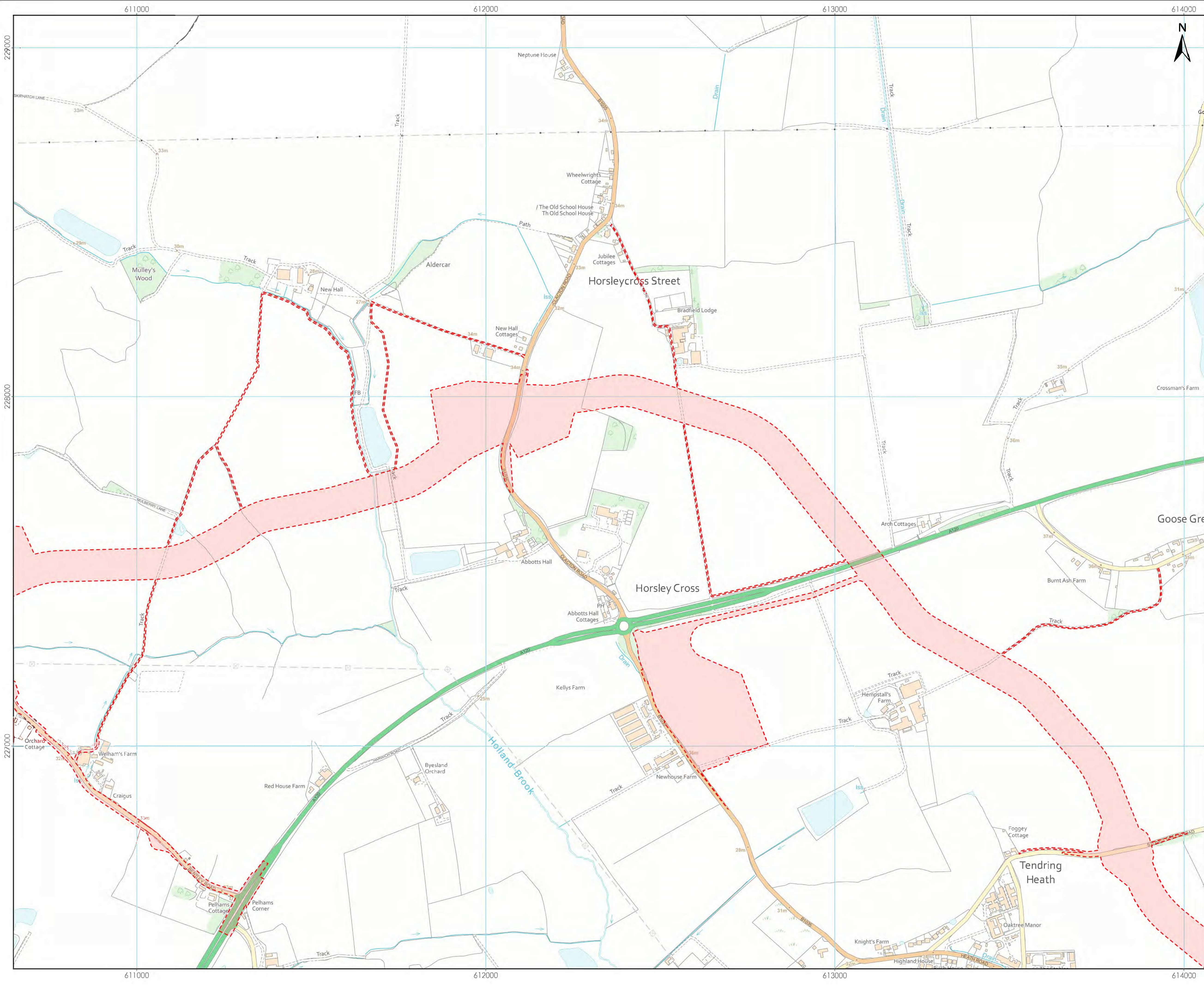
DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

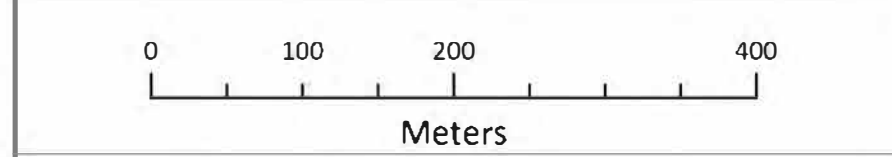
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 7 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright [and database rights] (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

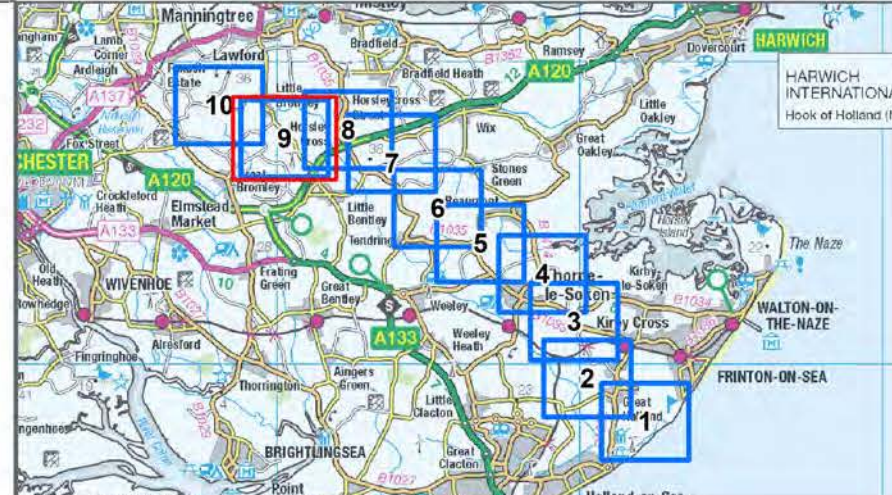
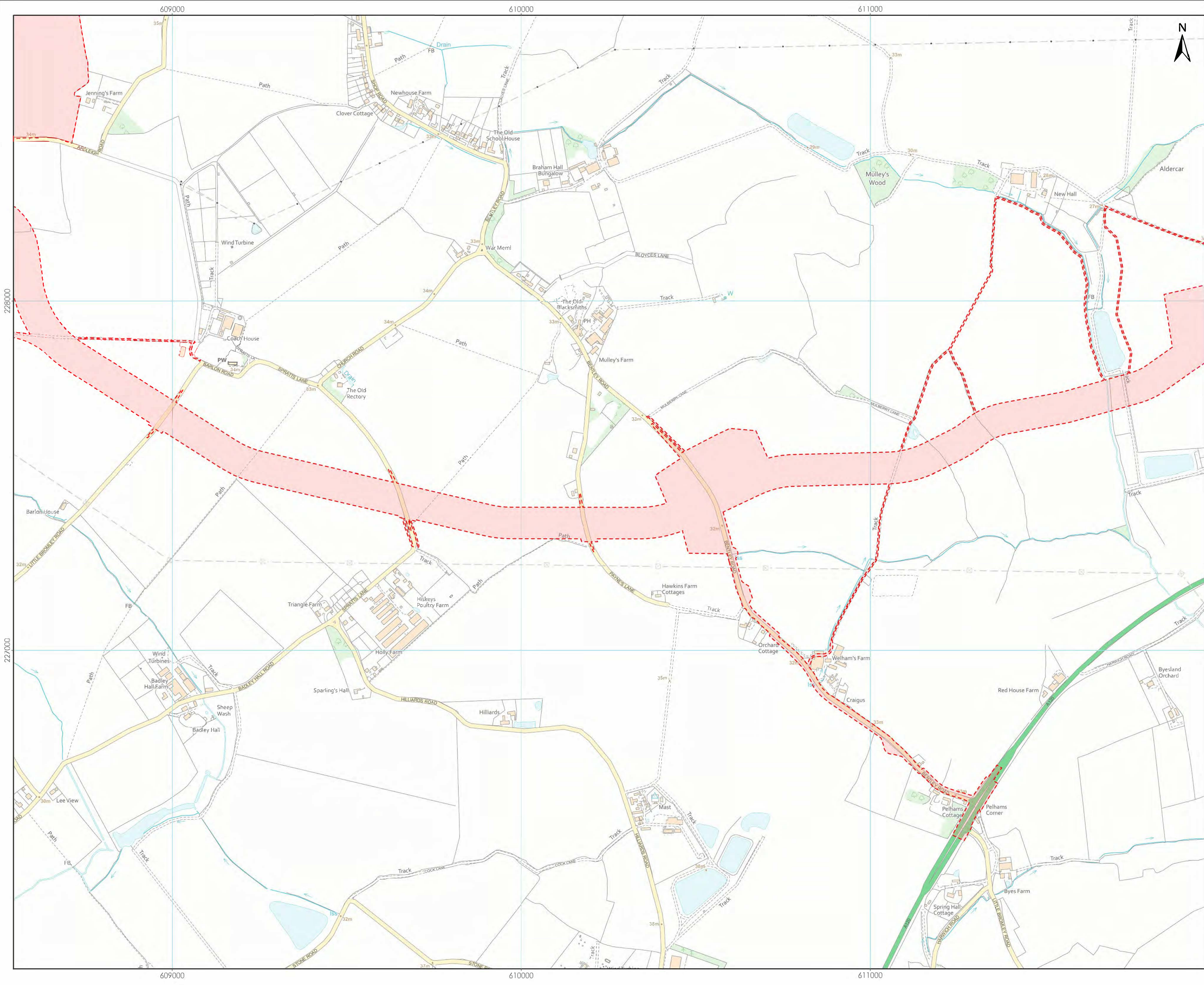
DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

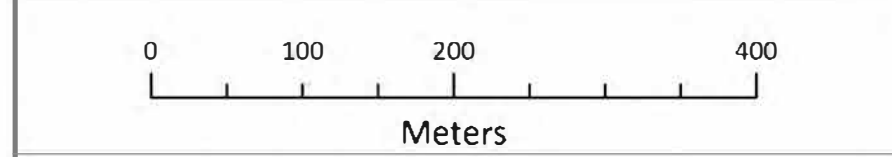
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 8 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright (and database rights) (2023) license number 0100091673

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

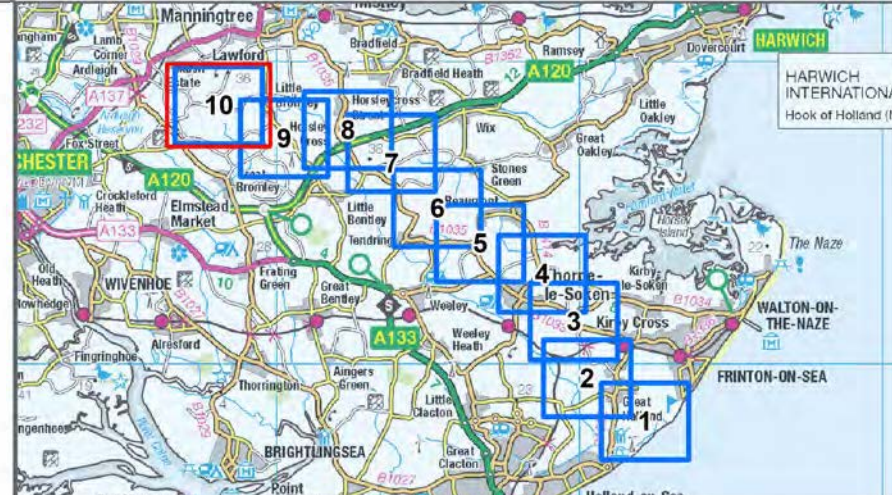
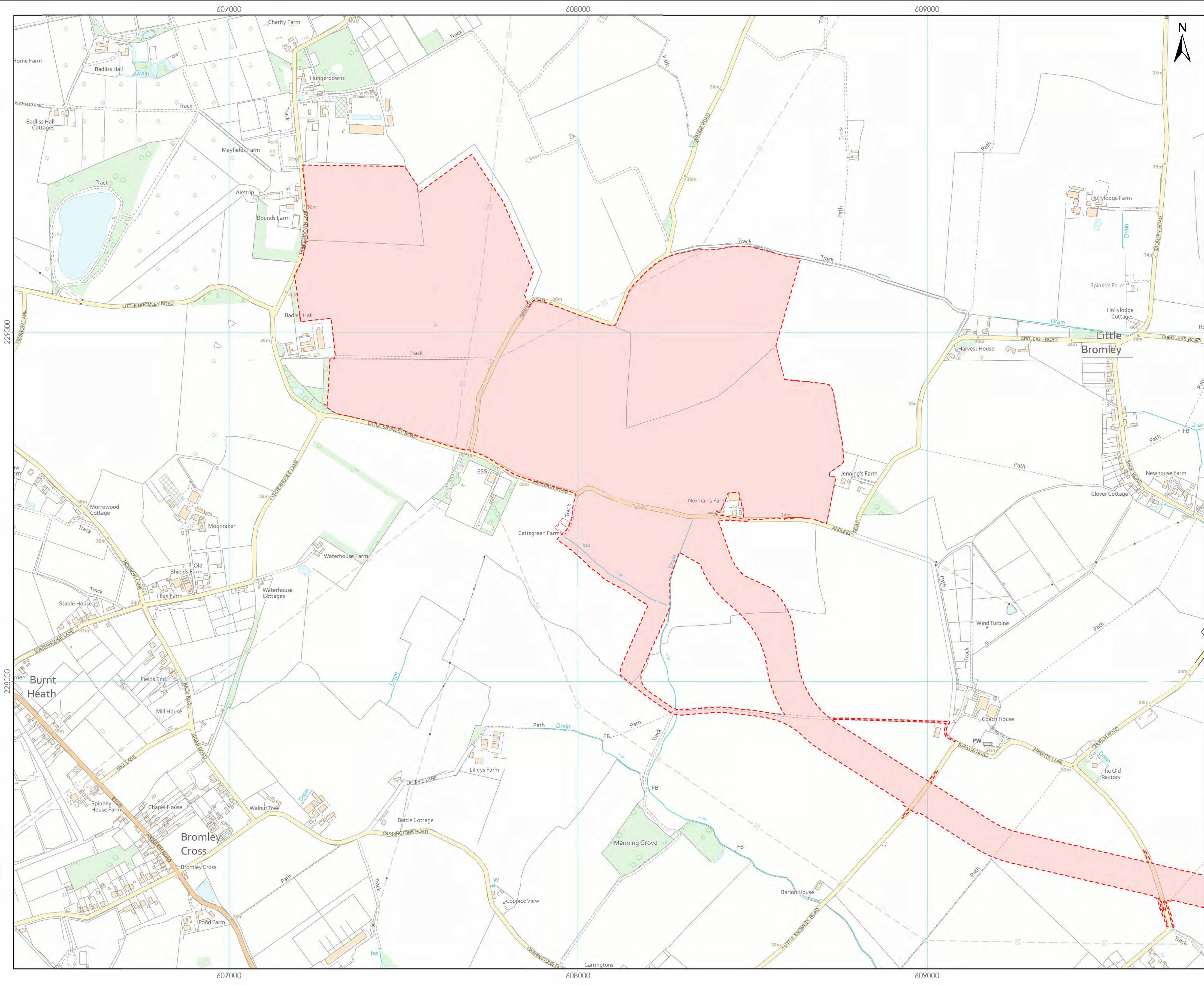
DRAWING TITLE:
Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

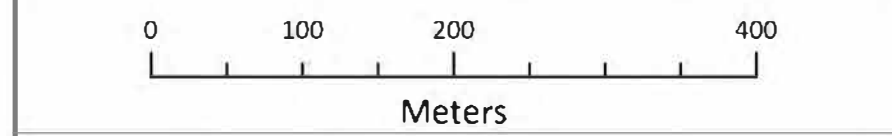
DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 9 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND
 Onshore Red Line Boundary



Data Source:
 © Crown copyright [and database rights] (2023) license number 0100091673

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM

DRAWING TITLE:
 Five Estuaries red line boundary in detail

VER	DATE	REMARKS	Drawn	Checked
1	29/11/2023	For information	JB	-

DRAWING NUMBER: - **Figure 1.1**

Sheet No: Page 10 of 10
 SCALE: 1:5,000 PLOT SIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





1.4 KEY ASSESSMENT CHANGES AND LIKELY IMPACTS FROM PEIR TO THE CURRENT PROPOSALS

- 1.4.1 The table below sets out the likely changes to the potential environmental impacts as a result of the changes between the proposals published as part of our Stage 2 consultation and the current updated proposals.
- 1.4.2 The Project is now unlikely to change significantly before final proposals are submitted as part of a DCO application. The application will be accompanied with an Environmental Statement, which will set out the environmental information collected and assessed based on the final proposals. It will also provide an understanding of the potential likely significant effects of the Project on the environment. It will follow the same structure as the PEIR and provide greater detail and certainty based on the final proposals.

Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
<p>Landscape and Visual Impact Assessment</p>	<p>The PEIR (Volume 3, Chapter 2) provided an assessment of two alternative onshore substation search areas. It assessed representative viewpoints for each onshore substation search area. Indicative mitigation plans were prepared to indicate general extents of landscape screening. On that basis the PEIR presented a high level assessment of landscape and visual effects associated with the onshore Export Cable Corridor. The PEIR concluded that the Project would have the following potential effects:</p> <ul style="list-style-type: none"> > Localised significant effects on landscape character; > Localised significant effects on visual amenity; and > Localised significant effects where trees, hedgetrees and taller hedgerows will be removed to facilitate onshore substation and onshore Export Cable Corridor construction. <p>Following this assessment, the proposed use of screening and mitigation planting could reduce the landscape and visual impact to 'not significant'.</p> <p>Detailed cumulative assessment was not included at the PEIR stage owing to lack of available information relating to the substations for the National Grid and North Falls projects. High level assessment identified localised significant landscape and visual effects relating to interactions with National Grid and North Falls for the Substation Search Area West.</p>	<ul style="list-style-type: none"> > On the basis of the changes to the Project there is a likely reduction in the significant effects along the Export Cable Corridor by use of Horizontal Directional Drilling (instead of open cut trenching) - reducing loss of trees, hedgetrees and taller hedgerows.
<p>Socioeconomics, Tourism and Recreation</p>	<p>The PEIR (Volume 3, Chapter 3) provided an assessment of the likely significant effects of the Project on employment generation in the construction and operational phases, identifying the potential for a peak of 331 construction workers associated with the Export Cable Corridor route and 75 full time construction workers at the onshore substation.</p> <p>The PEIR provided a summary of the potential effects related to construction activity on accommodation / housing and particularly the most likely demand for tourist accommodation, summarising that the impact of construction activity on the displacement of visitors is likely to be insignificant, with the demand for construction-related accommodation estimated to represent approximately 0.064% of the serviced accommodation stock in Essex.</p> <p>The operational workforce of projects of a similar scale are not considered to be of a magnitude that would result in the displacement of tourism visitors, while also providing an additional revenue stream for accommodation businesses. It was considered that this would result in no effect in the deterrence of tourists.</p> <p>Analysis as part of baseline research within the PEIR identified 14 tourism assets within the local area of influence and considered the potential environmental effects from across various topic areas to identify the potential for effects to be either negligible or minor adverse.</p> <p>Maintenance work associated with the normal operations of the onshore infrastructure (including the landfall, cable route, substation and associated infrastructure) would have an overall limited impact on tourism receptors.</p> <p>The PEIR identified the potential for recreational effects – both onshore and offshore during construction and operation. The impacts on Public Rights of Way were considered low as the majority of these routes were short and alternatives will be available within the network and embedded mitigation. The residual effects for Public Rights of Way and National Cycle Routes were not considered likely to be significant, although for long-distance routes could be moderate and significant due to their high sensitivity in policy terms.</p> <p>The PEIR considered that the greatest level of impact due to construction on offshore recreation would be in reference to the effect of the offshore and landfall workings, including the construction of the landfall, the preparation, excavation and installation of the offshore export cables, offshore substation platforms, turbines and turbine foundations, although summarised that the significance of effects on bathing, watersports, scuba diving, recreational angling and recreational sailing is likely to be of negligible or minor adverse significance.</p>	<ul style="list-style-type: none"> > At present, the updated proposals are not expected to result in any significant changes to the findings and impacts contained in the original PEIR.



Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
	<p>With the operational lifetime of the Project expected to be up to 40 years, the PEIR anticipated that maintenance activities would be undertaken via normal service vessels and would not result in any impact to offshore receptors.</p> <p>Effects on community facilities within 500m of the Onshore red line boundary was considered to be negligible or minor adverse during construction.</p>	
<p>Onshore Biodiversity</p>	<p>The PEIR (Volume 3, Chapter 4) provided an assessment of the project on key ecological sites and species, examples of these within the study area include:</p> <ul style="list-style-type: none"> > Hamford Water Special Area of Conservation, Special Protection Area and Ramsar > Stour and Orwell Estuaries Special Protection Area and Ramsar > Colne Estuary (Mid-Essex Coast Phase 2) Special Protection Area and Ramsar > Holland Haven Marshes Site of Special Scientific Interest and Local Nature Reserve > Local Wildlife Site within the red line boundary, including Simon’s Wood, Great Holland Pits, and Thorpe Green > Ecological features, such as Hedgerows, Arable margins, Lowland meadow and Woodland, including mature trees > Ecological species such as GCN and common toad, Reptiles, birds, bats, badger, otter, water vole, dormouse, hedgehog, brown hare and harvest mouse. <p>The study areas and species vary in their in their geographical scale of importance from local to international. Overall, through the implementation of avoidance, mitigation and compensation measures, it is considered that the likely overall effect on most ecological receptors is unlikely to be significant in EIA terms.</p> <p>The exception is hedgerows, lowland meadow, woodlands (excluding ancient semi-natural woodland and plantations on ancient woodland sites), notable plant species and invertebrates which could potentially experience effects in the short to medium term, but these are not likely to be significant in the long term. Any impacts could be mitigated through the use of appropriate construction controls, set out in the Code of Construction Practice and species / habitat specific measures which would be secured through a Landscape and Ecological Management Plan.</p>	<ul style="list-style-type: none"> > The Project red line boundary width has been reduced, as part of this process the Project has been able to remove a number of ecological features from the red line boundary, including local wildlife sites. The Project has committed to trenchless crossings at a number of ecological features to reduce the direct impacts to them. > Beyond the above mentioned points, the assessment is unlikely to significantly differ from that in the original PEIR.
<p>Ground Conditions and Land Use</p>	<p>The PEIR (Volume 3, Chapter 5) comprised an assessment of the available published data in relation to ground conditions and land use. The assessment looked at the potential impacts from the Project on construction workers, humans, soil, agricultural land, land quality as well as mineral deposits.</p> <p>Embedded designed in mitigation included reducing land take so far as practical, reinstating land to its original use, applying appropriate conditions from environmental permits, adherence to a Code of Construction Practice to include pollution prevention, soil management and industry best practices.</p> <p>The potential for contaminants (such as pesticides and fertilizers, small spillages and leakages of fuel or oil, waste materials and unexploded ordinance) contained within excavated ground and stockpiled materials is very unlikely. Aerial photography and preliminary site walkover have not indicated any visible impact suggesting the likely magnitude of contamination if present is very low. The published data review indicates that there are no known contaminated sites within the study area.</p> <p>The impact of the construction of the onshore export cable corridor and onshore substation on soil and land use receptors (workers, the public, soil & land quality and mineral deposits), is considered to be minor adverse, which is not significant in EIA terms.</p> <p>The North Falls and National Grid projects have the potential to overlap spatially with the Project which could lead to effects on a similar area of agricultural land. Should the projects overlap, this has the potential to lead to a cumulative permanent loss of agricultural land throughout operation. This could be significant at a local scale; however it would be considered not significant at a county scale.</p> <p>As the projects co-ordinate and progress through further design refinement prior to DCO submission, a better understanding of the potential cumulative impacts will be gained.</p>	<ul style="list-style-type: none"> > Reduction of the Project red line boundary has reduced the overall footprint therefore reducing the land area that may be impacted. > Beyond this, the assessment is unlikely to significantly differ from that in the original PEIR.
<p>Hydrology and Flood Risk</p>	<p>The potential hydrological and hydrogeological receptors in the study area of the PEIR (Volume 3, Chapter 6) included:</p> <ul style="list-style-type: none"> > The tidal and fluvial floodplain; > Surface watercourses, including Main Rivers and ordinary watercourses or drains; > Near-shore tidal waters of the North Sea; and > Groundwater bodies and associated users. 	<ul style="list-style-type: none"> > At present, the assessment is unlikely to significantly differ from that in the original PEIR; and > Further information will be available on the assessment of the project proposals on private water supplies.



Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
	<p>These receptors vary in their environmental sensitivity from low to high.</p> <p>The assessed magnitude of the various identified impacts on water quality and flood risk varies from minor adverse to negligible. Overall, through the implementation of mitigation measures, including those specified in the Code of Construction Practice, it is considered that the likely overall effect on water quality and flood risk throughout construction, operation and decommissioning is not significant in EIA terms.</p> <p>The reliability of existing groundwater private water supplies through construction and operation of the Project will be investigated prior to submission of the DCO application. It is not expected that there will be any significant impact on private water supplies.</p>	
<p>Onshore Archaeology and Cultural Heritage</p>	<p>The PEIR (Volume 3, Chapter 7) is summarised as follows:</p> <p>Archaeology</p> <ul style="list-style-type: none"> > Assessment was largely based upon desk-based sources and non-intrusive geophysical survey at PEIR. > The significance of buried archaeological assets was predicted at PEIR, with site data to come and inform the later Environmental Statement. > Magnitude of impact through physical effects (below ground activity) reported as high negative magnitude and permanent and irreversible. > Potential effects to buried archaeological remains can be reduced through programme of archaeological assessment and mitigation. <p>Cultural Heritage</p> <ul style="list-style-type: none"> > Two baseline assessments were prepared for PEIR, one for effects arising from the onshore substation to surrounding designated assets and another for effects arising from the offshore array on onshore assets. No significant impacts were identified from either. 	<ul style="list-style-type: none"> > At present, the assessment is unlikely to significantly differ from that in the original PEIR. Although, a reduced project construction corridor width should result in reduced probability of potential impact to archaeological features.
<p>Traffic and Transport</p>	<ul style="list-style-type: none"> > The PEIR (Volume 3, Chapter 8) described the scope, relevant legislation, assessment methodology, and existing baseline conditions in the proposed project area and its surroundings. It considered any potential significant environmental effects, the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. > Embedded mitigations were identified and adopted as part of the evolution of the project design, these include project design measures, compliance with elements of good practice and use of standard protocols as follows: <ul style="list-style-type: none"> o Development of Project specific Outline Construction Traffic Management Plan, Outline Workforce Travel Plan, Outline Public Access Management Plan, and Strategy for Access. All of which set out the key principles and types of measures to be implemented during construction of the Project; o No road would be fully closed for cable installation under the public highway (Other than roads where the width of the carriageway is unlikely to permit one lane to be kept open). Horizontal Directional Drilling (or another trenchless technique) (or other trenchless crossing technique) will be utilised for the installation of the export cable under the A120 (and other roads where this is considered appropriate); o Temporary haul roads length would be maximised at construction sites, to remove as much HGV traffic from the local highway network as possible; and o Decommissioning works would be undertaken in accordance with best practice measures at the relevant time. > Further explanation of the predicted impacts of the proposed works is provided below. <p>Impacts assessed in the PEIR</p> <ul style="list-style-type: none"> > Peak Hour Traffic Impact: following assessment of the routes and predicted traffic numbers it was found that construction vehicle movements would be a negligible magnitude of impact and with any level of sensitivity the resulting adverse effect on driver severance and delay on all highway links would result in a negligible or minor significance which is not significant in terms of the EIA Regulations. > Impact of open trenching on highway links: following assessment of the possible roads that would be affected and given the very short duration of any temporary lane closure, the magnitude of impacts was assessed to be negligible, and the temporary adverse effect on driver severance and delay would be minor in significance, which is not significant in terms of the EIA Regulations. 	<ul style="list-style-type: none"> > At present, the assessment is unlikely to significantly differ from that in the original PEIR. > Access route to the Substation zone via Harwich Road / B1027 and Waterhouse Lane as main construction accesses have been removed. Main construction access will be via Bentley Road only. > Commitment to horizontal directional drilling (or other trenchless technique) under a greater number of roads, with only four proposed temporary road closures (on very minor roads). > Construction access and haul road crossings defined and planned to be shared with North Falls Offshore Windfarm project – noting the location may alter within the export cable corridor route, post consent following more detailed design work. > More detailed cumulative assessment will be undertaken and will include some traffic data provided by National Grid and North Falls, compared to the estimated data at PEIR.



Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
	<ul style="list-style-type: none"> > Community Severance: In summary, there would be a negligible or minor adverse effect on community severance and dust and dirt on all the highway links, which is not significant in terms of the EIA Regulations, with the exception of Waterhouse Lane. However, the magnitude of impact could be reduced to negligible given HGVs already use the route and the number of pedestrian movements across the lane are likely to be limited, given there are no local facilities along it. This would result in an effect that has minor significance, which is not significant in terms of the EIA Regulations. > Vulnerable Road Users and Road Safety: In summary, there would be a negligible or minor adverse effect on vulnerable road users and road safety on all the highway links, which is not significant in terms of the EIA Regulations. > Pedestrian Amenity: In summary, there would be a negligible or minor adverse effect on pedestrian amenity on all the highway links, which is not significant in terms of the EIA Regulations, with the exception of: Waterhouse Lane, which has high sensitivity, is considered to be a medium magnitude of impact. This would result in an adverse effect that is major in significance which is significant in terms of the EIA Regulations. > Dust and Dirt: In summary, there would be a negligible or minor adverse effect on dust and dirt on all the highway links, which is not significant in terms of the EIA Regulations. > Users of Public Rights Of Way: In summary, there would be a negligible or minor adverse effect on public rights of way on all the highway links, which is not significant in terms of the EIA Regulations. <p>Cumulative Impacts</p> <ul style="list-style-type: none"> > Projects that may have overlapping construction programmes are considered as part of a cumulative assessment, namely North Falls Offshore Wind Farm and National Grid East Anglia Connection Node Substation. > As there is uncertainty regarding the potential highway links that would be impacted and the number of likely vehicle movement on those links associated with these projects, a full cumulative impact assessment could not be undertaken at this stage. However, given the export cable corridor for the North Falls project would follow a very similar alignment as our Project, and would be of a similar length, a high level estimate of the potential cumulative traffic impacts with that project has been undertaken. > Based on this high level cumulative assessment, there would be a particularly high increase in HGVs on Bentley Road should our Project and North Falls be constructed simultaneously and both projects use this link for access (also, there could be additional vehicles using Bentley Road associated with the construction of the East Anglia Connection Node Substation, depending on the access route used for that project). > Discussions are ongoing between the Five Estuaries and North Falls project teams regarding potential cumulative impacts and options to coordinate construction accesses along the respective export cable corridors and substation locations. Given the East Anglia Connection Node Substation may also use the same construction access routes as our Project and North Falls from the A120, including Bentley Road, a strategy to minimise impacts for these routes will be given consideration for assessment in the Environmental Statement. 	
<p>Noise and Vibration</p>	<ul style="list-style-type: none"> > The PEIR assessment (Volume 3, Chapter 9) considered noise and vibration impact during construction at landfall, along the export cable corridor, around the onshore substation, and from construction traffic. > A cumulative assessment of construction and operational noise associated with the onshore substation was undertaken considering the Project and North Falls together, with further overview consideration of the National Grid substation. > Embedded mitigation in the Project design comprised good project design, control measures in the code of construction practice and good siting away from residential properties for the onshore substation. > Following initial assessments, further mitigation was found to be required at certain locations for particular activities as detailed below. All other noise related impacts were assessed to be insignificant in terms of EIA Regulations. <p>Landfall Construction</p> <ul style="list-style-type: none"> > Landfall construction at temporary construction compounds – given the wide ranging locations in certain areas further mitigation would need to be consider including the selection of quieter equipment, relocating noisier plant at greater distances from the noise sensitive receptors, the use of a noise barrier around the perimeter of the works, localised acoustic screening around noisy plant, the use of an enclosure, alternative piling methods such as continuous flight auger, vibro displacement or rotary bored during the night. This resulted in minor residual effects and all other construction activity would be of minor or negligible magnitude of impact, which 	<ul style="list-style-type: none"> > At present, the updated proposals are not expected to result in any significant changes to the findings and impacts contained in the original PEIR.



Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
	<p>upon medium sensitive receptors would be of minor effect or negligible effect, which are not significant in terms of the EIA Regulations.</p> <p>Export Cable Corridor Construction</p> <ul style="list-style-type: none"> > The majority of construction activities would take place within the export cable corridor and could occur along the length of the corridor. The exception to this is horizontal directional drilling work and the construction of temporary construction compounds, where activity will be in limited areas. For export cable corridor construction activities that could occur along the entire length of the corridor, the installation of temporary haul roads provides a worst case as it is the noisiest. > There is a potential for medium to high impacts from the installation of temporary haul roads upon dwellings along the export cable corridor route. > The construction of temporary construction compounds has the potential for medium to high impacts upon dwellings. > Horizontal directional drilling will be utilised along the export cable corridor and at a number of crossing locations, such as major roads, the railway and rivers. Depending on the progress rates and techniques employed, noise and vibration effects due to drilling are relatively short-lived, in addition, levels of vibration are found to decrease rapidly with distance. Noise from horizontal directional drilling work has the potential for medium to high impacts upon dwellings > The exact number of dwellings exposed to medium to high impacts will vary greatly on where in the construction activity is taking place. In most cases it will be possible to reduce impacts to low or negligible by increasing the distance to the activity or by introducing temporary mitigation that is appropriate to the nature of the work being carried out. The reduced impacts would lead to a minor residual effect during the daytime and evenings, which would not be significant in terms of the EIA regulations. <p>Onshore Substation Operational Noise</p> <ul style="list-style-type: none"> > The assessment of noise impacts from operation of the onshore substation has been undertaken on the basis of the type, quantity and size of plant that is likely to be required. It should be noted that the final design of the substation has not been determined and so a maximum worst case design has been assessed. > The exact location of the onshore substation was not finalised at PEIR; however, the assessment considered four potential indicative locations. Each of the locations resulted in at least one receptor being exposed to a significant effect; therefore mitigation would be required. > A number of mitigation options are available that can be applied as appropriate, including electrical components with reduced sound power levels, enclosures or localised screening around selected noisy components, a noise barrier around some or all of the substation, repositioning the substation to be further away from receptors and using buildings and other structures within the substation to form a noise barrier. > On this basis, the highest residual rating level at a receptor would be 34 dB LAr, Tr, (the specific noise level plus any adjustment for characteristic features of the noise) which is very low and would be of low impact magnitude during the night-time. Furthermore, the change in sound level at all locations during the daytime and night-time would be negligible. Therefore, in the context of the development and surrounding area, a low residual impact would result after mitigation. This effect is considered not significant in terms of the EIA regulations. 	
<p>Air Quality</p>	<p>The PEIR (Volume 3, Chapter 10) assessment is summarised as follows:</p> <p>There are both human and ecological receptors within the Project’s area of influence. Onshore construction areas have been assessed collectively. This aggregated approach increases the opportunity for greater derived sensitivities and dust emission magnitudes, and therefore represents the worst-case level of impact</p> <p>Construction Dust Assessment</p> <p>Given the low number of highly sensitive human receptors within 20 m of any potential construction works, and within 20 m of potential trackout routes, the sensitivity of the area with respect to human health impacts in relation to earthworks, construction and trackout is low. However, following best practice guidance the following measures have been included in the project design:</p> <ul style="list-style-type: none"> > Stakeholder Communication Plan, public Hotline to report any issues. > Bunding and wetting of stockpiles, when appropriate to prevent dust escaping 	<ul style="list-style-type: none"> > At present, the updated proposals are not expected to result in any significant changes to the findings and impacts contained in the original PEIR.



Topic	Summary of assessment and impacts at PEIR	Key changes in impacts under the refined proposals (December 2023)
	<ul style="list-style-type: none"> > Planting and covering exposed earth to prevent dust forming > Daily monitoring and inspection of dust > Best practice measures for vehicle maintenance, construction techniques and site housekeeping <p>Considering the mitigation that is proposed above, construction dust impacts are removed or minimised. As such, residual effects are concluded to be not significant in terms of the EIA Regulations.</p> <p>Road Traffic Assessment</p> <p>Detailed screening was carried out throughout the onshore Project area. Following detailed dispersion model undertaken to quantify impacts on human and ecological receptors, road traffic effects from the construction phase on NO₂, PM10 and PM2.5 are found to be not significant in terms of the EIA regulations.</p> <p>Furthermore, onshore main construction works are expected to last up to approximately 24 months and as such, any consequential impacts onto local road traffic flows are believed to be temporary, with no long-term deterioration of conditions. Implementation of road traffic air quality mitigation measures is therefore not required.</p> <p>Non-Road Mobile Machinery Emissions Assessment</p> <p>Given the implementation of the controls provided under Construction Dust Emissions above, it is considered impacts associated with construction phase generated Non-Road Mobile Machinery emissions are not likely to be significant.</p>	
Public Health	<ul style="list-style-type: none"> > The PEIR (Volume 3, Chapter 11) comprised a high level signposting document drawing on relevant information from other chapters. It listed the information from relevant chapters in relation to each topic covering public health, climate change and major disasters. > Additional mitigation measures proposed in the relevant technical chapters were considered from the perspective of human health impact; and > The overall conclusion is that after the relevant mitigation measures are applied, the Project would not cause any significant residual effects to human health. 	<ul style="list-style-type: none"> > At present, the updated proposals are not expected to result in any significant changes to the findings and impacts contained in the original PEIR. Public health will now be reported within its own standalone ES chapter.
Climate Change	<ul style="list-style-type: none"> > The PIER (Volume 3, Chapter 11) compromised high-level signposting document drawing on information from other chapters covering public health, climate change and major disasters. > The overall conclusion related to climate change was that after the relevant mitigation measures are applied, the Project would not cause any significant adverse effect in relation to climate change. > It is expected that the Project will contribute to an overall reduction in greenhouse gas emissions regionally and globally, by displacing existing sources of fossil fuel energy generation. 	<ul style="list-style-type: none"> > At present, the updated proposals are not expected to result in any significant changes to the findings and impacts contained in the original PEIR. > Additional work is being undertaken to assess greenhouse gas emissions through the Project's lifetime as well as the climate vulnerability of the Project and its' nearby receptors. > Climate change will now be reported within its own standalone ES chapter.

1.5 CONCLUDING REMARKS

1.5.1 Overall, the onshore updates to the Project since the publication of the PEIR, (which include refinement of the landfall area, with the northerly landfall option being dropped, a reduction in the width of the onshore export cable corridor, refinement of the onshore boundary, and the identification of the location for the Project's onshore substation within the original PEIR's Substation Search Area West), while seen as broadly beneficial in reducing impacts to a number of topics are not expected to result in any significant changes to the findings and impacts contained within the original PEIR document. The full Environmental Impact Assessment for the Project is still ongoing and will be reported within an Environmental Statement which will form part of the Project's Development Consent Order application, expected in early 2024.



2 CONSULTATION

2.1 HAVE YOUR SAY

- 2.1.1 Between **5 December 2023 and 31 January 2024**, we are consulting with those with land interests affected by the changes to the proposals set out in section 1.3. Feedback to the consultation will be helpful in finalising the detailed designs and final proposals.
- 2.1.2 This document and more detailed red line boundary plans can be found at www.fiveestuaries.co.uk/stage-3-consultation.
- 2.1.3 Our published Preliminary Environmental Information Report (March 2023) can be found at www.fiveestuaries.co.uk/document-library-general in the Stage 2 Consultation section of the document library.
- 2.1.4 If you require documents in other formats or if you would like a paper copy of any document that has been published as part of this consultation or earlier in the Project, please let us know. A cost may be associated with large requests to cover printing and postage (maximum £1000).

2.2 HOW TO RESPOND

- 2.2.1 The deadline for submitting responses to the consultation is 11:59pm on **Wednesday 31 January 2024**. Responses received after this time may not be considered.
- 2.2.2 You can respond to the consultation through the following channels:
- 2.2.3 Written feedback can be sent to us at the following Freepost address. Please note that no stamp or further address information is required. Please ensure postal responses are sent by the deadline.
- 2.2.4 **Freepost FIVE ESTUARIES**
- 2.2.5 You can email your feedback at fiveestuaries@dalcourmaclaren.com. Please include 'FEEDBACK' in the subject line.

2.3 CONTACT US

- 2.3.1 If you have any questions about this document or the Project's potential impact on your land interest, you can contact us using the Project's contact details or our land agent team by email at fiveestuaries@dalcourmaclaren.com or by calling 03331883514.
- 2.3.2 Alternatively, If you have general questions about the Project, consultation or information published, please contact us at any time using the details below.

Telephone: 0333 880 5306

Email: fiveestuaries@rwe.com

The logo for Five Estuaries Offshore Wind Farm. The word "FIVE" is written in a large, sans-serif font. The letter "I" is grey, "V" is purple, and "E" is pink. To the right of "FIVE" are three wavy lines representing water, colored teal, green, and yellow from top to bottom. Below "FIVE" is the word "ESTUARIES" in a large, grey, sans-serif font. At the bottom of the logo is the text "OFFSHORE WIND FARM" in a smaller, grey, sans-serif font.

FIVE
ESTUARIES
OFFSHORE WIND FARM

PHONE
EMAIL
WEBSITE
ADDRESS

COMPANY NO

0333 880 5306

fiveestuaries@rwe.com

www.fiveestuaries.co.uk

Five Estuaries Offshore Wind Farm Ltd
Windmill Hill Business Park
Whitehill Way, Swindon, SN5 6PB

Registered in England and Wales
company number 12292474