




F I V E 
ESTUARIES
OFFSHORE WIND FARM

FIVE ESTUARIES
OFFSHORE WIND FARM
PRELIMINARY ENVIRONMENTAL
INFORMATION REPORT

**VOLUME 3, CHAPTER 7: ARCHAEOLOGY
AND CULTURAL HERITAGE**

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DEFINITION OF ACRONYMS

Term	Definition
aOD	above Ordnance Datum
APS	Air Photo Services
bgl	below ground level
CifA	Chartered Institute for Archaeologists
DBA	Desk-Based Assessment
DCO	Development Consent Order
EACN	East Anglia Connection Node
ECC	Export Cable Corridor
EHHER	Essex Historic Environment Record
EIA	Environmental Impact Assessment
GPA3	Historic Environment Good Practice Advice in Planning Note 3
HDD	Horizontal Directional Drilling
HER	Historic Environment Record
MDS	Maximum Design Scenario
NMP	National Mapping Programme
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS EN-1	Overarching National Policy Statement for Energy (EN-1)
NPS EN-3	National Policy Statement for Renewable Energy (EN-3)
NPS EN-5	National Policy Statement Electricity Networks Infrastructure (EN-5)
NSIP	Nationally Significant Infrastructure Project
OnSS	Onshore Substation
OS	Ordnance Survey
OSP	Offshore Substation Platform
OWFs	Offshore Windfarms
PEIR	Preliminary Environmental Impact Report



Term	Definition
RLB	Red Line Boundary
TCC	Temporary Construction Compound
SoS	Secretary of State
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator
ZTV	Zone of Theoretical Visibility



GLOSSARY OF TERMS

Term	Definition
Archaeological interest	There will be archaeological interest in a heritage asset if it holds or potentially holds, evidence of past human activity worthy of expert investigation at some point (NPPF 2021; Annex 2 Glossary)
Conservation (for heritage policy)	The process of maintaining and managing change to a heritage asset in a way that sustains and where appropriate, enhances its significance (NPPF 2021; Annex 2 Glossary)
Designated heritage asset	A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation (NPPF 2021; Annex 2 Glossary)
ES	An Environment Statement consists of the documents that collate the processes and results of the Environment Impact Assessment.
Heritage asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing) (NPPF 2021; Annex 2 Glossary)
Historic environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged and landscaped and planted or managed flora (NPPF 2021; Annex 2 Glossary)
Historic Environment Record (HER)	A historic environment record is the store for systematically organised information about the historic environment in a given area and can be accessed by anyone. It is maintained and updated for public benefit.
Onshore Export Cable Corridor (Onshore ECC)	The proposed cable route which represents a corridor within which the cable trenching, haul road and stockpiling areas associated with cable construction, will be located.
Onshore Substation (OnSS)	Where the power supplied from the wind farm is adjusted (including voltage, power quality and power factor as required) to meet the UK System-Operator Transmission-Owner Code (STC) for supply to the East Anglia Connection Node (EACN) Substation
PEIR	Preliminary Environmental Information Report. The PEIR is written in the style of a draft Environmental Statement (ES) and will form the basis for statutory consultation



Term	Definition
Setting	The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the assets and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral (NPPF 2021; Annex 2 Glossary)
Significance (for heritage policy)	The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage assets physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each sites Statement of Outstanding Universal Value forms part of its significance.



7 ARCHAEOLOGY AND CULTURAL HERITAGE

7.1 INTRODUCTION

- 7.1.1 This chapter assesses the likely significant effects of the Five Estuaries Offshore Wind Farm (VE) with respect to onshore archaeology and cultural heritage. This chapter considers the effects of the development upon onshore heritage assets and the ability to appreciate and experience the significance of those assets. The assessment of effects to offshore archaeology and cultural heritage is considered within Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage.
- 7.1.2 This chapter should be read in conjunction with:
- > Volume 2, Chapter 1: Offshore Project Description;
 - > Volume 3, Chapter 1: Onshore Project Description;
 - > Volume 5, Annex 7.1: Archaeological Desk-Based Assessment;
 - > Volume 5, Annex 7.2: Onshore Geophysical Survey;
 - > Volume 5 Annex 7.3: Geoarchaeological Desk-Based Assessment;
 - > Volume 5 Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation Works;
 - > Volume 5 Annex 7.5: GPA3 Exercise and Technical Note (Offshore Array);
 - > Volume 5 Annex 7.6: GPA3 Exercise and Technical Note (Onshore Project Area);
 - > Volume 3, Chapter 2: Onshore Landscape and Visual;
 - > Volume 2, Chapter 10: Seascape Landscape and Visual; and
 - > Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage.
- 7.1.3 Archaeology and cultural heritage are synonymous with the historic environment in the Overarching National Policy Statement (NPS) for Energy (DECC 2011), (NPS EN-1). This is defined at paragraph 5.8.2 as *'All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.'*
- 7.1.4 Following a summary of relevant policy and legislation, this chapter describes the baseline data gathering, methodology and the overall baseline conditions. A preliminary assessment of the likely significant effects of the development is then presented. The chapter concludes with a summary of residual effects and an evaluation of their significance.
- 7.1.5 Some of the issues discussed in this chapter will cross-refer with discussion in other chapters. While the assessment presented here relates to the terrestrial historic environment as defined by statute, policy and regulatory definition, it may be useful to make reference to other chapters, most notably Volume 3, Chapter 2: Onshore Landscape and Visual and Volume 2, Chapter 10: Seascape Landscape and Visual and Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage. Specific cross references are included within the text where appropriate.



7.2 STATUTORY AND POLICY CONTEXT

- 7.2.1 It is necessary to include the national and local planning policy and context in order to set an appropriate scope for the assessment reported in this Preliminary Environmental Impact Report (PEIR) and to be able to understand the acceptability of VE in policy terms. The importance of the historic environment is recognised in legislation and heritage assets that are deemed to be of particular importance are given legal protection. Relevant policy and statutory considerations are set out in Table 1.1.
- 7.2.2 The assessment of the potential impacts of VE upon archaeology and cultural heritage has been made with reference to the UK government NPS(s). The NPS(s) set out policies or circumstances that the UK Government considers should be taken into account in decisions on Nationally Significant Infrastructure Projects (NSIPs). Those relevant to VE are:
- > Overarching NPS for Energy (EN-1) (DECC 2011);
 - > NPS for Renewable Energy Infrastructure (EN-3) (DECC 2011b); and
 - > NPS for Electricity Networks Infrastructure (EN-5) (DECC 2011c).
- 7.2.3 In addition to the current NPS, draft NPS(s) were consulted on in November 2021 although not yet adopted. The draft NPS(s) have been reviewed to determine the emerging expectations and changes from previous iterations of the NPS(s). This includes the Draft Overarching NPS EN-1 (DECC 2021a paragraphs 5.9.1-5.9.35), Draft NPS EN-3 (DECC 2021b, paragraphs 2.32.1- 2.32.2) and Draft NPS EN-5 (DECC 2021c, paragraphs 2.11.13-2.11.14).
- 7.2.4 NPS EN-1 set out that a heritage asset is an element of the historic environment which has sufficient archaeological, historic or artistic/architectural interest to be considered within the planning process (DECC 2011). The sum of the heritage interests of a heritage asset is referred to as its significance.
- 7.2.5 This concept is entirely distinct from the assessment of level of significance of effects in Environmental Impact Assessment (EIA) terms. Consequently, where necessary and to avoid confusion, the term 'heritage significance' is used when referring to the sum of the heritage interests of a heritage asset. For clarity, the level of significance of effect being assessed is the degree to which the interest in/value of a heritage asset (the sum of which is expressed as heritage significance) and the ability to understand and appreciate those interests, is affected by the proposed development.



Table 7.1: Legislation and policy context.

LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
The Infrastructure Planning (Decisions) Regulations 2010	<p>Requires decision makers to have regard for the desirability of preserving:</p> <ul style="list-style-type: none"> > Listed buildings, any features which contribute to their special interest and their settings; > Scheduled monuments and their settings; and > The character and appearance of conservation areas. 	The information required for decision makers to discharge their duty is provided in Section 7.10-7.12.
Ancient Monuments and Archaeological Areas Act 1979	Provides for sites assessed to be of national importance to be included within the Schedule of Monuments. These sites are accorded statutory protection and Scheduled Monument Consent is required before any works are carried out.	Reference has been made to the schedule of monuments as set out in the National Heritage List for England, maintained by Historic England, in developing the scope of this assessment.
Planning (Listed Buildings and Conservation Areas) Act 1990	Provides for a list of buildings of special architectural or historic interest. The buildings included within this list are classified as Grades I, II* and II and are accorded statutory protection. More highly graded buildings (Grade I and II*) are differentiated from Grade II buildings in NPS-EN1 (5.8.14-15). Areas of special architectural or historic interest can be designated as conservation areas. Requires decision-makers to have special regard to the desirability of preserving (a) building or its setting or any features of special architectural or historic interest which it possesses, and to preserving or enhancing the	<p>Reference has been made to the list of designated assets as set out in National Heritage List for England maintained by Historic England in developing the scope of this assessment.</p> <p>Note that for the Development Consent Order (DCO) application, the requirements of the Infrastructure Planning (Decisions) Regulations (2010) and NPSs takes precedence where provisions differ.</p>



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
	character and appearance of conservation areas.	
The Hedgerow Regulations 1997 (as amended 2002)	Set out criteria for identifying important hedgerows and required consent for their removal. Selection criteria include heritage-based considerations. Removal of an important hedgerow is deemed as permitted where a DCO which would require removal of a hedgerow has been granted.	The potential presence of important hedgerows under the Hedgerow Regulations 1997 (amended 2002) is considered in Volume 5, Annex 7.1: Archaeological Desk-Based Assessment and assessed in Paragraph 7.10.57.
The Protection of Military Remains Act 1986	The Protection of Military Remains Act 1986 sets out specific protections for aircraft which have crashed while in military service or vessels which have sunk or been stranded while in military service. It sets out a general prohibition on any disturbance or removal of such remains without a licence granted by the Secretary of State (SoS).	No known areas where military remains (as defined by the act) have been identified in the onshore project area.
NPS EN-1	The NPS discuss the generic impacts on the historic environment associated with the construction, operation and decommissioning of energy infrastructure. The NPS sets out the need to consider the impacts on both designated and non-designated heritage assets (NPS EN-1 paragraphs 5.9.1-5.9.9).	Effects on designated and non-designated heritage assets are considered at Sections 7.10-7.12.
NPS EN-1	Where non-designated heritage assets are of equivalent significance to designated heritage assets, they are subject to the policy considerations that apply to designated heritage assets (NPS EN-1 paragraph 5.8.5).	A series of cropmarks identified as a potential henge to the south of Little Bentley has been put forward for scheduling by Historic England in recognition of its high heritage significance. As such this has been treated the same as a designated archaeological asset and included as



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
		part of the initial assessment of setting in Volume 5, Annex 7.6: GPA3 Exercise and Technical Note (Onshore project area). This has also been excluded from the Onshore Red Line Boundary and will be preserved in situ.
NPS EN-1	Non designated heritage assets of lesser significance should be considered within any decision making (NPS EN-1 paragraph 5.8.6).	Effects to non-designated heritage assets have been considered in Sections 7.10-7.12.
NPS EN-1	Field survey may be required to inform any assessment of significance (NPS EN-1 paragraph 5.8.9).	Initial walkovers and receptor visits have been undertaken to inform this assessment as well as geophysical survey (which is currently ongoing) and the monitoring of geotechnical borehole investigations. Following the staged approach to the archaeological assessment, these surveys will inform the need for and scope of any further field investigations that may be required in consultation with the statutory consultees. Results of any further surveys will be submitted with the ES.
NPS EN-1	Any application should contain sufficient information to allow heritage significance to be understood (NPS EN-1 paragraph 5.8.10).	The heritage significance of heritage assets is set out in Section 7.10-7.12 and is informed by the completed and ongoing baseline surveys



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
		presented in Volume 5, Annexes 7.1-7.6.
NPS EN-1	The nature of the significance of heritage assets and the value that they hold for this, and future generations should be taken into account in considering the impact of the proposed development on any heritage assets (NPS EN-1 paragraph 5.8.12).	The assessment presented in Sections 7.10-7.12 has regard to the significance of heritage assets.
NPS EN-1	Development which would give rise to substantial harm to designated heritage assets should be exceptional, or for heritage assets of the highest significance (Grade I and II* listed buildings, scheduled monuments, designated battlefields, world heritage sites, Grade I and II* registered parks and gardens) should be wholly exceptional (NPS EN-1 paragraph 5.8.14).	No cases have been identified where substantial harm to the heritage significance of a designated heritage asset (a Moderate or Major adverse effect in EIA terms) would arise.
NPS EN-1	Development giving rise to substantial harm to a designated heritage asset should only be permitted where necessary to deliver significant public benefits which outweigh the harm occasioned (NPS EN-1 paragraph: 5.8.15).	No cases have been identified where substantial harm to the heritage significance of a designated heritage asset (a Moderate or Major adverse effect in EIA terms) would arise.
NPS EN-1	Not all elements of a conservation area or World Heritage Site necessarily contribute positively to significance and the contribution of parts of such designations which may be affected should be considered (NPS EN-1 paragraph 5.8.16)	The contribution of different elements of a conservation area have been considered within the assessment and within Volume 5, Annex 7.5: GPA3 Exercise and Technical Note (Offshore Array) and 7.6: GPA3 Exercise and Technical Note (Onshore project area) as appropriate. No World Heritage Sites lie



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
		within the Study Areas considered.
NPS EN-1	Provisions for the recording of at risk heritage assets to mitigate against loss of evidential interest are set out at NPS EN-1 paragraphs 5.8.19-5.8.22).	Mitigation proposals have regard to the provisions of NPS-EN-1 and Draft NPS-EN1.
Draft NPS EN-1	The draft NPS discusses the generic impacts on the historic environment associated with the construction, operation and decommissioning of energy infrastructure. The draft NPS sets out the need to consider the impacts on both designated and non-designated heritage assets (Draft NPS EN-1 paragraphs 5.9.1-5.9.9).	Effects upon designated and non-designated heritage assets are considered in Section 7.10-7.12
Draft NPS EN-1	Where non-designated heritage assets are of equivalent significance to designated heritage assets, they are subject to the policy considerations that apply to designated heritage assets (Draft NPS EN-1 paragraph 5.9.7).	A cropmark of a henge monument has been put forward for scheduling by Historic England in recognition of its high heritage significance. As such this has been treated in the same way as a designated heritage asset for the assessment of setting presented in Annex 7.6 and has been excluded from the Onshore Red Line Boundary (RLB).
Draft NPS EN-1	Field survey may be required to inform any assessment of significance (Draft NPS EN-1 paragraph 5.9.12).	Initial walkovers and receptor visits as well as geophysical survey (which is currently ongoing) over the Onshore ECC and OnSS has been used to inform this assessment. A watching brief was undertaken on geotechnical works



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
		(undertaken to inform scheme design).
Draft NPS EN-1	<p>Any application should contain sufficient information to allow heritage significance to be understood (Draft NPS EN-1 paragraph 5.9.13).</p> <p>It goes on to say that <i>'studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected'</i> (paragraph 5.3.9).</p>	<p>The heritage significance of historic assets is set out in Sections 7.10-7.12 and has been informed by desk-based studies, supplemented by walkover survey and specific receptor visits as well as ongoing geophysical surveys.</p> <p>Effects such as noise, vibration and light have been considered as part of the assessment of indirect effects in Section 7.10 as appropriate.</p>
Draft NPS EN-1	<p>The nature of the significance of the heritage assets and the value that they hold for this and future generations should be taken into account in considering the impact of a proposed development on any heritage assets (Draft NPS EN-1 paragraph 5.9.19).</p>	<p>The assessment presented in Sections 7.10-7.12 has regard to the significance of heritage assets.</p>
Draft NPS EN-1	<p>Development that would give rise to substantial harm to designated heritage assets should be exceptional, or for heritage assets of the highest significance (Grade I and Grade II* listed buildings, scheduled monuments, designated battlefields, World Heritage Sites, and Grades I and II* designated registered parks and gardens) should be wholly exceptional. Any harmful impact to the significance of designated heritage assets should be weighed against the benefits of the proposal (Draft NPS EN-1 paragraph 5.9.22-5.9.23).</p>	<p>No cases have been identified where substantial harm to the significance of a designated heritage (a Major or Moderate adverse effect in EIA terms) asset would arise. A small number of minor adverse effects (less than substantial harm) have been identified and these will need to be balanced against the public benefits of the proposals as part of the decision making process.</p>



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
Draft NPS EN-1	<p>Development giving rise to substantial harm to a designated heritage asset should only be permitted where necessary to deliver significant public benefits which outweigh the harm occasioned. The Draft NPS EN-1 goes on to say; 'unless it can be demonstrated that the substantial harm to or loss of significance is necessary to achieve substantial public benefits that outweigh that harm or loss or all of the following apply;</p> <ul style="list-style-type: none"> > The nature of the asset prevents all reasonable usage of the site; > No viable uses of the heritage asset can be found in the medium term through appropriate marketing that will enable its conservation;; > Conservation by grant funding or some form of not for profit, charitable or public ownership is not demonstrably possible; and > The harm or loss is outweighed by the benefit of bringing the site back into use (paragraph 5.9.24). 	<p>No cases have been identified where substantial harm to or loss of a designated heritage asset (Major or Moderate adverse effect in EIA terms) would arise.</p>
Draft NPS EN-1	<p>Not all elements of a conservation area or World Heritage Site necessarily contribute positively to significance and the contribution of parts of such designations which may be affected should be considered (Draft NPS EN-1 paragraphs 5.9.27).</p>	<p>The contributions of different parts of conservation area designations has been considered within Volume 5 Annex's 7.5 and 7.6. There are no World Heritage Sites within any of the study areas considered.</p>
Draft NPS EN-1	<p>Provisions for the recording of at risk heritage assets to mitigate against</p>	<p>Mitigation proposals have had regard to the</p>



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
	loss of evidential interest are set out at paragraphs 5.9.30- 5.9.31 of Draft NPS EN-1.	provisions of Draft NPS EN-1
NPS EN-3	NPS EN-1 contains no specific policy on onshore archaeology and cultural heritage, referring back to the generic policies in NPS EN-1 section 5.8, and specifically refers back to NPS EN-1 for the consideration of elements of the marine historic environment which are, at present located onshore (NPS EN-3 2.6.143).	The approach taken and assessment presented in this chapter follows the provisions within NPS EN-1 and Draft NPS EN-1.
NPS EN-5	Archaeology is considered in NPS EN-5 when weighing up the use of overhead lines and underground cables. The consideration of effects to below ground archaeological remains is balanced against the visual effects of using overhead lines.	The Onshore Export Cable will be underground cables rather than overhead lines as set out in Volume 3, Chapter 1: Onshore Project Description. The approach taken and assessment presented in this chapter follows the provisions within NPS EN-1 and Draft NPS EN-1
National Planning Policy Framework (NPPF); Section 16 Conserving and Enhancing the Historic Environment	The NPPF does not set out policy for the testing of Nationally Significant Infrastructure Projects (NSIPs). However Section 16 of NPPF relates to the historic environment and is broadly consistent with the policies of NPS EN-1 and Draft NPS EN-1.	The approach taken and assessment presented in this chapter is broadly consistent with the NPPF, but where the requirements deviate from NPS EN-1, provisions within the NPS have been followed.
Tendring District Local Plan 2013-2033 and Beyond	Objective 7 relates to conserving and enhancing the historic environment, including listed buildings and their settings, heritage assets, landscapes, links and views.	The approach taken and assessment presented is consistent with this objective, but where the requirements deviate, provisions from the NPS EN-1 have been followed.



LEGISLATION/ POLICY	KEY PROVISIONS	SECTION WHERE COMMENT ADDRESSED
Tendring District Council 2013-2033 and Beyond	Policy SPL3 sets out the requirements for Sustainable Development and in relation to the historic environment states that <i>‘the design and layout of the development maintains or enhances important existing site features of landscape, ecological, heritage or amenity value’</i> .	The approach taken and assessment presented is consistent with this policy, but where the requirements deviate, provisions from the NPS EN-1 have been followed.



- 7.2.6 Further guidance on the application of the policies set out in NPPF are contained within National Planning Practice Guidance (NPPG), which contains a specific section on conserving and enhancing the historic environment (Ministry of Housing, Communities and Local Government 2019).
- 7.2.7 Relevant best practice standards and guidance are published by the Chartered Institute for Archaeologists (CIfA). For the purposes of this assessment the relevant standards and guidance comprise;
- > Standard and Guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (2020); and
 - > Standard and Guidance for Historic Environment Desk-Based Assessment (2020).
- 7.2.8 In collaboration with IEMA and IHBC, CIfA have also produced '*Principles of Cultural Heritage Impact Assessment in the UK*' (2021) which has also been followed.
- 7.2.9 A number of Historic England guidance documents are relevant to this assessment and the technical appendices, these include;
- > Managing Significance in Decision-Taking in the Historic Environment, Historic Environment Good Practice Advice in Planning Note 2 (2015);
 - > The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning Note 3 (2nd Edition, 2017);
 - > Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019);
 - > Preserving Archaeological Remains, Decision Taking for Sites under Development (2016); and
 - > Geoarchaeology, Using Earth Sciences to Understand the Archaeological Record (2015).

7.3 CONSULTATION

- 7.3.1 To date, consultation with regards to the scope of the archaeology and cultural heritage assessment has been undertaken via the Scoping Report (2020) and the Evidence Plan Process.
- 7.3.2 A Scoping Opinion was sought from the Planning Inspectorate (PINS) in September 2021. The Scoping Opinion which includes responses from Historic England and Essex County Council relevant to this assessment, identifies areas of the assessment methodology for further consideration (November 2021).
- 7.3.3 Table 7.2 provides a summary of the Scoping Response provided by PINS received in November 2021.



Table 7.2: Summary of consultation relating to onshore archaeology and cultural heritage

Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
<p>November 2021 PINS Scoping Response</p>	<p>Construction phase; assessment of setting of assets greater than 500 m from the cable corridor. The inspectorate agrees that assets beyond 500 m away may be scoped out the assessment. However the report does not consider the potential for construction traffic to impact on the settings of assets. The study area should therefore consider a buffer around the construction traffic affected road network.</p>	<p>The Study Area for the assessment of indirect effects arising from temporary construction activities comprises a 500 m buffer from the PEIR Onshore RLB. This boundary includes all areas for construction access points, temporary construction compounds, construction zones for the OnSS and Onshore ECC. Indirect effects arising from construction effects are assessed in paragraphs 7.10.59 to 7.10.74.</p> <p>For the ES, the Study Area will be buffered from the Order Limits to ensure that a buffer around all temporary construction activities is taken into account.</p>
<p>November 2021 PINS Scoping Response</p>	<p>Operational Phase; settings of assets greater than 2 km from OnSS. The inspectorate notes that 2 km is a considerable distance so agrees that this matter can be scoped out of further assessment, subject to the ES including a ZTV which demonstrates that 2 km is sufficient distance to avoid effects to the setting of heritage assets. In the event that this cannot be achieved, the ES should include an assessment of these matters or evidence demonstrating agreement with the relevant consultation bodies and the absence of likely significant effect on the environment.</p>	<p>Due to the flat topography of the landscape surrounding the OnSS, the ZTV could not demonstrate that theoretical visibility would not occur beyond 2 km. As effects to the significance of heritage assets arising from change within their setting is not based entirely on intervisibility (although this is a consideration), the theoretical visibility of the OnSS from surrounding heritage assets beyond 2 km does not automatically result in a harmful effect. As such all designated assets will be considered to 2 km and highly designated assets (Grades I, II* listed buildings, Scheduled</p>



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		Monuments and Grade I, II* registered parks and gardens) are considered to 5 km.
November 2021 PINS Scoping Response	Additional sources of information listed by Historic England and Essex County Council should be taken into account.	These sources have been considered and taken into account. These are listed in Section 7.4.6 and in the Annexes as appropriate.
November 2021 PINS Scoping Response	Additional guidance documents listed by PINS (prepared by IEMA and Historic England) should be taken into consideration..	These guidance documents have been taken into consideration and are listed in Section 7.2.8 and referenced as appropriate in the Annexes.
November 2021 PINS Scoping Response	Desk-Based Assessment should include an assessment of the Palaeolithic/Pleistocene potential of the area to inform baseline conditions due to the importance of these deposits.	The Geoarchaeological Desk-Based Assessment, Volume 5, Annex 7.3, includes an assessment of Palaeolithic/Pleistocene deposits prepared by a geoarchaeological palaeolithic specialist.
November 2021 PINS Scoping Response	The ES must provide a clear understanding of the impacts on the known deposits, assess the impact of the route on previously unknown deposits (geophysics and trial trenching along the route and substation) and agree a mitigation strategy that can be submitted with the DCO application. An appropriate evaluation technique will need to be defined with the statutory consultees and technical reports provided with the ES.	The assessment of effects within this PEIR chapter is based upon information collected as part of the baseline which comprises desk-based studies, monitoring of geotechnical works and geophysical surveys which are currently ongoing (Volume 5, Annexes 7.1-7.4). This has been undertaken in consultation with the statutory consultees through the scoping process and Expert Topic Group meetings and follows the staged approach to the assessment of archaeological remains with the results of the initial surveys informing the need for and scope of further assessment. Following the completion of the initial



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		surveys, further consultation with the statutory consultees will agree the scope and timing of any further assessment and/or mitigation as part of the ongoing consultation process during the EIA phase. All survey reporting will be provided with the ES. An Outline Written Scheme of Investigation (WSI) which sets out details of post-consent assessment and mitigation measures will be submitted as part of the DCO application.
November 2021 PINS Scoping Response	The Scoping Report states that <i>'where it is found that the proposed change to the setting will not affect the significance of specific assets this will be noted in the ES and no further assessment of those assets undertaken'</i> . Justification should be provided in the ES to support screening out of assets from further detailed assessment.	Justification is provided for the screening of assets within Volume 5, Annex 7.5 for those relating to effects arising from the offshore array and within Volume 5, Annex 7.6 for those relating to effects arising from the onshore construction activities and operational OnSS.
November 2021 PINS Scoping Response	The Applicant should ensure that those assets making up the coastal asset clusters are listed within the ES. Given the number of assets within Harwich, the applicant may wish to consider this as an additional cluster.	The assets considered as part of the coastal asset groups are listed within Volume 5, Annex 7.5 as part of the settings assessment exercise. Harwich has been included as an additional coastal asset group as part of this work.
November 2021 PINS Scoping Response	The inspectorate considers that there is potential for effects to below ground heritage assets arising from changes to groundwater levels and/or movement of water through deposits. The applicant should ensure that	Effects arising from changes to water levels/movement of water levels through deposits has been assessed as a direct effect in Section 7.10.



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
	all relevant indirect impacts are agreed with consultation bodies and assessed in the ES where significant effects are likely to occur.	
November 2021 PINS Scoping Response	The scoping report states that mitigation of unavoidable direct physical impacts will be designed following the EIA and detailed within a WSI. Where reliance is placed upon the use of a specific method as mitigation, the applicant should ensure that such commitments are appropriately defined and secured.	Mitigation measures for unavoidable effects to archaeological remains will be defined through an Outline WSI which will be submitted to the statutory consultees as part of the submission of the ES.
November 2021 PINS Scoping Response	The Scoping Report proposes to limit the cumulative effects on coastal assets to wind farm developments only. All types of plans and projects should be considered in the assessment of cumulative impacts where significant effects are likely to occur.	The cumulative effects assessment has considered wind farm developments for the assessment of cumulative effects on coastal assets. Other onshore developments within the vicinity of the Onshore RLB have been considered for cumulative effects arising from the activities within the Onshore RLB. No likely significant effects as a result of the development have been identified as part of the assessment of the development and as such no cumulative effects to the coastal assets as a result of the other wind farm developments have been assessed.
November 2021 Essex County Council	The applicants should be using the Historic Environment Characterisation study within this assessment.	The Essex Historic Landscape Characterisation and the Tendring District Historic Environment Characterisation



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Scoping Response (Archaeology and Historic Environment)		Project have been used as part of Volume 5, Annex 7.1: Archaeological Desk-Based Assessment. The Tendring Geodiversity Characterisation Report has been used as part of the Volume 5, Annex 7.3: Geoarchaeological Desk-Based Assessment.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	Should the historic town of Harwich be treated as a separate entity within this section. It is also an important Port as well as being an important historic asset.	Harwich has been included as one of the Coastal Asset Groups within Volume 5, Annex 7.5: GPA3 Exercise and Technical Note.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	This should include the Harwich redoubt.	The Harwich redoubt has been considered as part of the Coastal Asset Group for Harwich within Volume 5, Annex 7.5: GPA3 Exercise and Technical Note.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	This should also contain the setting guidance produced by Historic England if this is to be integrated with the heritage and cultural section.	The Historic England Guidance <i>'The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning Note 3'</i> (2017; Second edition) has been used for the assessment presented in Section 7.10 and 7.11 and for the assessment of setting presented in Volume 5, Annexes 7.5 and 7.6.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	The document needs to ensure that the most up to date version of the NPPF is used (July 2021).	The most up to date version of NPPF (July 2021) has been used for this assessment and for the preparation of the Annexes 7.1-7.6 as appropriate.
November 2021 Essex County Council	The assessment needs to take into account the Tendring Historic Environment Characterisation and Tendring	The Essex Historic Landscape Characterisation and the Tendring District Historic Environment Characterisation



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Scoping Response (Archaeology and Historic Environment)	Geoarchaeological Characterisation documents in assessing the study area.	Project have been used as part of Volume 5, Annex 7.1: Archaeological Desk-Based Assessment. The Tendring Geodiversity Characterisation Report has been used as part of the Volume 5, Annex 7.3: Geoarchaeological Desk- Based Assessment.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	The assessment needs to include a separate geoarchaeological desk-based assessment to assess the Palaeolithic/Pleistocene potential of the area due to the importance of these deposits within the study area. This should provide details of the scope for assessment of any significant geoarchaeological remains prior to any construction. The landfall area is the most sensitive area in the whole county for early archaeological deposits.	The Palaeolithic/Pleistocene deposits have been assessed as part of Volume 5, Annex 7.3: Geoarchaeological Desk- Based Assessment. This has provided an assessment of the likely deposits which may exist within the route and an assessment of their significance. This has been used to inform the assessment of direct effects to these deposits in Section 7.10.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	Any ground investigation works carried out for engineering purposes would be of use and relevance to the geoarchaeological assessment and it is highly recommended that this be combined with the geoarchaeological assessment if possible. The results of any geotechnical boreholes should be made available to the specialist employed to carry out the assessment.	Geotechnical investigations were undertaken in April and May 2021 and were monitored under watching brief conditions by a geoarchaeologist. The results of the monitoring are presented within Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation Works. The results have also been used to inform the assessment of effects to geoarchaeological remains in Section 7.10. It is intended that, if appropriate, any future geotechnical investigations will



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		also be monitored by a geoarchaeologist.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	Need to define an appropriate evaluation technique for those areas where there are direct impacts where no information is at present available. A programme of trial trenching will be needed to help define those deposits identified from aerial photographic assessment as well as blank areas on the route of the cable route. This information should be provided with the DCO submission.	The geophysical survey of the route is currently underway and the results of the survey undertaken to date are presented within Volume 5, Annex 7.2. The results of the geophysical survey, once complete, and aerial photographic assessment will be used to inform the need for and scope of any further trial trench evaluation that may be required, targeted on the results of these surveys and in consultation with the statutory consultees.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	The success of this mitigation will be dependent on the quality of the initial evaluation work completed for the DCO application.	Assessment work provided as part of the DCO application will have been undertaken in consultation with statutory consultees to ensure the appropriateness of the final baseline on which the ES assessment will be based. Any non-intrusive or intrusive investigations will be agreed with Essex County Council prior to the works taking place to ensure the quality of the baseline surveys.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	This work should include aerial photographic assessment and rectification which also includes an assessment and plotting of any available LiDAR data and provides a GIS dataset of all cropmark features within the Study Area. This would allow more accurate location of any targeted trenches.	Aerial photographic assessment and rectification has been carried out by Aerial Photographic Services (APS) who also included an assessment of LiDAR data. A GIS dataset has been provided of the cropmarks identified and will be used in the targeting of trial trenches. The APS assessment is provided as



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		Appendix A to Volume 5, Annex 7.1.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	Also there is a need for a separate geoarchaeological desk-based assessment.	A separate Geoarchaeological Desk-Based Assessment has been provided at Volume 5, Annex 7.2.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	There will need to be separate Written Schemes of Investigation for the evaluation work as this will need to be undertaken for the DCO. Only once this is completed can an appropriate understanding of the impact be agreed and a mitigation strategy designed.	The scope and extent of any intrusive or non-intrusive archaeological fieldwork required by way of evaluation to inform the assessment presented with the application will be set out within a WSI and agreed with the statutory consultees prior to the commencement of those evaluation works. Where archaeological works are proposed as mitigation this will be set out in an Outline WSI to be submitted with the DCO application. Consultees will be invited to comment on a draft of this mitigation Outline WSI prior to submission.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	There does need additional data sources comprising the characterisation work that has been undertaken in Tendring. There is also the Palaeolithic assessment undertaken by ECC for Essex which should be used to inform likely impacts and help the production of a geoarchaeological Desk-Based Assessment (DBA).	The Essex Historic Landscape Characterisation and the Tendring District Historic Environment Characterisation Project have been used as part of Volume 5, Annex 7.1: Archaeological Desk-Based Assessment. The Tendring Geodiversity Characterisation Report has been used as part of the Volume 5, Annex 7.3: Geoarchaeological Desk-Based Assessment. 'Managing the Essex Pleistocene' prepared by Essex County Council was also used as part



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		of the geoarchaeological desk-based assessment (Annex 7.3)..
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	A digital rectification of aerial photographic evidence will be necessary to accurately identify the location of cropmarks so that a programme of trial trenching can define extent and significance of these.	Aerial photographic assessment and rectification has been carried out by Aerial Photographic Services (APS). A GIS dataset has been provided of the cropmarks identified and will be used in the targeting of trial trenches. The APS assessment is provided as Appendix A to Volume 5, Annex 7.1.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	For those elements scoped in there under 20.1 there needs to be an assessment of potential for new sites within the DBA which should be gleaned from the various characterisation projects and reports available. Also it will be that all the work described is completed and submitted with the DCO submission.	The potential for as yet unknown archaeological remains has been predicted on the basis of a number of sources including the Historic Environment Record, the characterisation projects, aerial photographs, LiDAR which have been synthesised as part of the Archaeological Desk-Based Assessment (Annex 7.1). These have informed the assessment of potential new archaeological sites that have not yet been discovered.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	The Joint Councils raise no problem from a below ground archaeological viewpoint for those elements identified for scoping out.	This has been noted.
November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)	The mitigation measures can only be agreed once the applicants have an understanding of the impact of the scheme. A range of options will be available once this detail is known.	This PEIR chapter has outlined a range of mitigation measures that may be appropriate. As survey works are still ongoing this will be further refined for the ES.



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<p>November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)</p>	<p>Specific requirements for this section is to provide a clear understanding of the impacts on the known deposits (this will involve the addition to the present DBA of a geoarchaeological assessment and an aerial photographic assessment), assess the impact of the route on previously unknown deposits (geophysics and trial trenching along the route and substation), and agree a mitigation strategy that can be submitted with the DCO application.</p>	<p>An Outline WSI for further assessment and mitigation will be prepared and submitted with the DCO. Consultees will be invited to comment on a draft of this Outline WSI. The archaeological assessment and mitigation strategy will be designed based upon the information from the completed surveys available at the point of submission.</p>
<p>November 2021 Essex County Council Scoping Response (Archaeology and Historic Environment)</p>	<p>It is noted that within Section 20 that the potential cost of archaeological investigation is raised. However should works be conjoined, this would reduce significantly.</p>	<p>Where appropriate the project is seeking to co-ordinate fieldwork with other nearby projects. The results of the archaeological surveys undertaken to date have been shared between the VE and the North Falls OWF projects.</p>
<p>November 2021 Essex County Council Scoping Response (Built Heritage)</p>	<p>It is agreed that heritage assets with historic functional relationships with the coast and sea may be more susceptible to the change within their settings resulting from the proposal. The list within this paragraph includes port facilities, lighthouses, and military sites but assets relating to leisure uses connected with the coast and seaside resorts could also be more susceptible than other assets. For example, the registered park and garden at Clacton Seafront Gardens.</p>	<p>Heritage assets with functional relationships with the coast and sea have been included for assessment as well as those relating to leisure uses of the historic seaside resorts. These are presented within Volume 5, Annex 7.5 and include the registered park and garden at Clacton Seafront Gardens.</p>



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November 2021 Essex County Council Scoping Response (Built Heritage)	It would be helpful to agree a list of viewpoints requiring wirelines or photomontages to better assess the impact of the proposal on heritage assets.	Some of the viewpoints prepared as part of the Seascape, Landscape and Visual Impact Assessment (Volume 2 Chapter 11) and Landscape and Visual Impact Assessment (Volume 3, Chapter 2) are appropriate for the assessment of impact on heritage assets. Following the preliminary assessment of effects (presented in Annex 7.5 and 7.6 and within Section 7.10 and 7.11 of this chapter) and the preparation of the SLVIA/LVIA visualisations (presented in Volume 2, Chapter 10 and Volume 3, Chapter 2), consultation with statutory consultees will be undertaken on the need for and position of any cultural heritage specific viewpoints.
November 2021 Essex County Council Scoping Response (Built Heritage)	Harwich may be a potential addition to this table of 'coastal asset clusters' and potentially Clacton on Sea although this is just outside the Coastal Study Area.	Harwich and Clacton on Sea have been included as coastal asset groups considered as part of Annex 7.5.
November 2021 Essex County Council Scoping Response (Built Heritage)	Mitigation measures should be developed once the impact of the proposal is fully understood, as per step 4 of <i>Good Practice Advice in Planning 3</i> .	The design of the proposals (density, height and extent of the array to be occupied) will take into account a number of concerns including the potential effects on heritage significance. The PEIR presented in this document has not identified any likely significant effects upon the heritage significance of any assets from the presence of the WTGs nor the OnSS (Section 7.10-7.12).



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		<p>Consequently, no specific mitigation is considered necessary. This will be reviewed against the final design and changes in effect (and mitigation that may be required), if any will be reported in the ES.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>We note that a precautionary approach is taken in defining a 60 km search radius around the study area. Given the estimated maximum rotor tip height of 397 m, which is very high, we would recommend that the search radius for cultural heritage is extended to 70 km, and should include highly graded heritage assets, for example, on the Dengie Peninsula.</p>	<p>The 60 km radius for the assessment of effects arising from the offshore array was extended to 70 km following the Scoping Opinion. Highly graded assets upon Dengie Peninsula were also included, although these lie outside of the 70 km radius. The initial GPA3 scoping exercise presented within Annex 7.5 includes the highly graded assets at the Dengie Peninsula and selected assets out to 70 km.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>It is likely that the proposed onshore substation will have an impact on the significance of designated and non-designated heritage assets, in terms of the changes to their settings and their relationships to the wider landscape. We recommend a ZTV is produced in relation to the designated heritage assets, and any significant historic landscape elements, and used to inform the selection of potential viewpoints to assess the impact of the proposed substation on the setting of heritage assets. The assessment should define a study area according to the sensitivity of the receiving</p>	<p>A ZTV for the OnSS options has been prepared as part of the LVIA assessment and has been used to inform the assessment of effects presented in Section 7.11 and that presented in Annex 7.6. Following the preliminary assessment of effects and the preparation of the SLVIA/LVIA visualisations, consultation with statutory consultees will be undertaken on the need for and position of any cultural heritage specific viewpoints.</p> <p>The study area has been defined based upon the sensitivity of the assets and potential impacts and consists of a 2 km study area for all</p>



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	environment and the potential impacts of the project.	designated heritage assets (and selected non-designated heritage assets) and a 5 km study area for highly graded assets between 2-5 km from the OnSS options.
November 2021 Historic England Scoping Response	We would be pleased to advise on the area of study for designated heritage assets and the extent of the ZTV once the scoping area has been narrowed down. We note that a 2 km buffer has been proposed but the zone of theoretical visibility could be considerably larger- and this cannot be agreed until the location of the proposed substation has been published. We look forward to constructive engagement with the applicant to agree the proposed key viewpoints for visualisations.	The final OnSS location has yet to be confirmed. Two indicative locations, including construction compounds within the substations search areas have been provided to inform the assessment within this PEIR chapter. The study areas associated with the two substation search areas were presented at the Expert Topic Group in November 2022 for agreement with the consultees. Following the preliminary assessment of effects and the preparation of the SLVIA/LVIA visualisations as part of the PEIR, consultation with statutory consultees will be undertaken on the need for and position of any additional cultural heritage specific viewpoints.
November 2021 Historic England Scoping Response	The setting of heritage assets is not just restricted to visual impacts and other factors should be considered, in particular noise, vibration, light, odour, traffic assessments, during construction and operation. Where relevant, the cultural heritage chapter should also be cross-referenced to other relevant chapters, and we advise that all supporting technical heritage information is included as appendices.	The assessment of setting has made an assessment of the effects of the proposals on the significance of the asset through change within their setting. Intervisibility between the proposals and an asset does not automatically equate to harm to significance. Other factors have been considered as part of the assessment of the effects for the construction phase such as noise, dust, light and traffic.



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		<p>Cross references have been made where appropriate in particular to the LVIA chapter (Volume 3, Chapter 2) and SLVIA chapter (Volume 2, Chapter 11).</p> <p>All supporting information is presented in Volume 5, Annexes 7.1-7.6.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>We consider the analysis of setting (and the impact upon it) as a matter of qualitative and expert judgement which cannot be achieved solely by use of systematic matrices or scoring systems. Historic England therefore, recommends that these should be in an appendix and seen only as material to support a clearly expressed and non-technical narrative argument within the cultural heritage chapter. The EIA should use the ideas of benefit, harm and loss to set out 'what matters and why' in terms of the heritage asset's significance and setting together with the effects of the development upon them.</p>	<p>The analysis of setting has been based upon professional judgement. The scoring systems and matrices have been adjusted to more closely account for the nuances associated with the assessment of setting. Annexes 7.5 and 7.6 provide an initial assessment of the assets identified within the study areas and describes the assets, their setting, their significance and the contribution of setting to that significance. A rationale is then provided as to whether the asset is likely to be affected by the proposals and requires further, more detailed narrative assessment within the chapter. The methodology used as part of this chapter equates the levels of harm as per NPPF to the effects considered in EIA terms (Paragraph 7.5.19)</p> <p>The assessment within the chapter is provided in Sections 7.10 (construction effects) and 7.11 (operational effects).</p>
<p>November 2021 Historic England Scoping Response</p>	<p>The appreciation of the value of the historic environment should not rely solely on an appreciation of the location of</p>	<p>The setting of the asset is the surroundings within which the asset is experienced. As such a consideration of the</p>



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	the designated heritage assets but consider the interactions with the wider landscape.	interactions of the asset with the wider surroundings has been considered. This is presented in Annexes 7.5 and 7.6 and in Sections 7.10 and 7.11 of this Chapter.
November 2021 Historic England Scoping Response	The assessment should be prepared and submitted following the approach set out in Historic Environment Good Practice Advice in Planning Note 3, The Setting of Heritage Assets 2017.	The assessment of the effects of the proposals upon the heritage significance of an asset arising from change within setting has followed the staged process presented in Historic Environment Good Practice Advice in Planning Note 3, The Setting of Heritage Assets 2017. This is presented in Annexes 7.5 and 7.6 and in Paragraphs 7.4.17 to 7.4.20 below.
November 2021 Historic England Scoping Response	We would expect the scoping area to be narrowed down at an early stage in the project, prior to submission of the scoping report. Consequently, we would recommend that the scoping exercise for onshore work is repeated once the grid access has been determined.	The Area of Study (AoS) presented as part of the Scoping Report has been narrowed down to an Onshore RLB for PEIR. The baseline data and preliminary assessments presented in Annexes 7.1-7.6 have been based upon the refined area to inform the assessment of effects.
November 2021 Historic England Scoping Response	We are aware that the location of the proposed substation will not be confirmed by National Grid until Q1/2 2022. Consequently, we are concerned to ensure there is adequate time to undertake, in particular, a programme of onshore archaeological assessment that we believe is necessary to support the DCO application.	The geophysical survey of the route is underway and this will be used to inform the need for and scope of any further trial trenching that may be required to support the assessment to be presented in the ES and with the application or as part of post-consent mitigation, in consultation with the statutory consultees.



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November 2021 Historic England Scoping Response	Table 20-1 [of the scoping report] lists the resources used as part of the assessment. It may be useful to include the Historic England Archaeology Mapping Explorer as well. It should be noted that an updated version of the Regional Research Framework is available online.	The Archaeological Mapping Explorer and the updated Regional Research Framework have been used as part of the Archaeological Desk-Based Assessment (Annex 7.1), to inform the baseline and assessment of significance.
November 2021 Historic England Scoping Response	The potential impacts of the proposed development have been provided in Table 20-3 and includes the direct and permanent impacts as a result of the construction. We would highlight that damage may also occur to waterlogged archaeological and palaeoenvironmental remains if there are changes to groundwater levels or if heat is emitted from buried cables.	Changes to waterlogged archaeological and palaeoenvironmental remains as a result of changes to groundwater levels or if heat is emitted from buried cables are considered within Section 7.10 of this chapter.
November 2021 Historic England Scoping Response	The ES should provide a detailed archaeological baseline; only a detailed and comprehensive understanding of the below ground archaeological resource will allow for impact to heritage to be properly mitigated. There is significant potential for further nationally important sites to be discovered within the scoping area. We also have concerns around the impact of the onshore cable route, the area of the proposed substation and in the areas of construction compounds and laydown areas.	The detailed archaeological baseline for PEIR is provided within Annexes 7.1-7.4.
November 2021	We would recommend that the resolution of the baseline	The LiDAR analysis has used the highest resolution available



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Historic England Scoping Response	information is considered carefully. For example, the resolution of 1 m is the basic minimum needed for archaeological assessments using LiDAR, but where greater detail is required, higher resolution would be preferable.	for the tiles that cover the route corridor. This ranged between 0.25 m to 2 m resolution. A gazetteer of the LiDAR tiles used for the baseline assessment and their resolution is provided within Appendix 9 of the APS report (Appendix A, Volume 5, Annex 7.1: Archaeological Desk-Based Assessment).
November 2021 Historic England Scoping Response	For the ES desk-based assessment, this should also include the dataset from CITiZAN. In terms of aerial photographs, all potential archaeological features recorded by aerial photography in the scoping area should be accurately plotted and assessed.	The CITiZAN data has been used as part of the Archaeological Desk-Based Assessment (Annex 7.1). All potential archaeological features identified as part of the APS work has been plotted and assessed within Appendix A of Volume 5, Annex 7.1: Archaeological Desk-Based Assessment).
November 2021 Historic England Scoping Response	We welcome the proposed programme of archaeological evaluation, comprising geophysical survey followed by archaeological trial trenching. We note however the proposal for only targeted geophysical survey and trial trenched evaluation identified through desk-based collation.	It is proposed that as much of the route corridor as possible will be subject to geophysical survey for the ES. There may be some areas where survey would be unsuitable such as roads, wooded areas, farmsteads and edges of fields. Following the staged approach to assessment the need for and scope of the trial trenching will be based upon the results of the previous surveys to target geophysical anomalies and test blank areas.
November 2021 Historic England Scoping Response	In our opinion, the geophysical survey should be undertaken across the DCO application area to ensure the nature, extent and survival of	As much of the route corridor as possible will be subject to geophysical survey for the ES. This will inform the need for and scope of further



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	<p>subsurface archaeological and geoarchaeological remains are established and presented in the ES. This will enable an appropriate scheme of mitigation to be prepared. We recommend that all supporting technical heritage information (full survey reports) is included as appendices to allow the information to be critically assessed.</p>	<p>assessment and mitigation. The geophysical survey completed to date is presented in Volume 5, Annex 7.2: Onshore Geophysical Survey.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>We also recommend trial-trenched evaluation should be carried out in the area of the proposed substation and in the areas of construction compounds, as well as in pinch-point locations along the proposed onshore cable route and to test the results of any significant concentrations of archaeological remains.</p>	<p>The need for and scope of targeted trial trenching for the ES will be based upon the results of the geophysical surveys once complete, in discussion with the statutory consultees.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>We acknowledge that mitigation of unavoidable direct physical impacts will include archaeological investigation, recording, analysis and dissemination of the results. This will be designed following the EIA and detailed within a WSI. We are pleased to see that any required fieldwork will be designed in a WSI and we look forward to commenting on these documents in due course.</p>	<p>An Outline WSI will be submitted with the DCO application. This will outline any further assessment or mitigation measures to be implemented pre-construction and post consent.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>We would also recommend that specialist palaeoenvironmental assessment is undertaken where the desk-based</p>	<p>Where appropriate specialist palaeoenvironmental assessment will be considered as part of the design for any trial trench evaluation and it</p>



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
	assessment and other surveys indicate that there is potential for the survival of Palaeoenvironmental remains.	may be possible to combine geoarchaeological test pits with the archaeological trial trenching.
November 2021 Historic England Scoping Response	We recommend that geoarchaeological considerations and requirements are built into any geotechnical investigations that are carried out to ensure that opportunities are maximised where possible. This should include providing the geoarchaeologist with direct access to core material rather than just the logs or to extruded samples.	Monitoring of geotechnical works was undertaken in April-May 2022 and the results of this are presented in Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation Works. It is intended that, if appropriate, any additional future geotechnical investigations will also be monitored by a geoarchaeologist.
November 2021 Historic England Scoping Response	The onshore scoping area also has potential for encountering Pleistocene and Holocene deposits of archaeological significance. Consequently, we recommend that a Palaeolithic Desk-Based Assessment is also prepared. The nature and scope of specialist palaeolithic survey and assessment should be devised through consultation with the archaeological advisors at Essex Place Services.	The Geoarchaeological Desk-Based Assessment presented in Volume 5, Annex 7.3: Geoarchaeological Desk-Based Assessment has been prepared by a palaeolithic specialist.
November 2021 Historic England Scoping Response	An effective method for identifying the potential depth and character of Palaeolithic archaeology would be to undertake a preliminary deposit model as part of the desk-based assessment.	The Geoarchaeological Desk-Based Assessment presented in Volume 5, Annex 7.3: Geoarchaeological Desk-Based Assessment includes a preliminary deposit model.
November 2021 Historic England Scoping Response	The deposit model will also help to guide elements of the proposed mitigation strategy, such as the choice of	The Geoarchaeological Desk-Based Assessment will be used to guide the choice of further assessment and



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
	<p>geophysical survey techniques that are utilised. For example, techniques that investigate deeper deposits of archaeological interest should be considered such as electromagnetic induction (EMI) or electrical resistivity (ERT).</p>	<p>mitigation proposed in discussions with the statutory consultees.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>It is noted that the VE connection cables will be underground (buried) between the landfall and the grid connection point and it stated that VE is committed to considering trenchless technologies such as HDD. If this technique is to be used, the potential issues associated with bentonite slurry outbreak will need to be considered in terms of impact (both direct and indirect) that this may have on any buried archaeological remains. This needs to be considered in the ES, and mitigation included in the WSI for archaeological mitigation.</p>	<p>The impacts arising from the use of HDD (or other trenchless technique) has been considered as part of the assessment of direct effects to buried archaeological remains below. Presently the locations of HDD sites has not been confirmed and as such this will be reviewed and updated following the confirmation of such sites for the ES. This will be fed through into the mitigation strategy.</p>
<p>November 2021 Historic England Scoping Response</p>	<p>It is important to understand how changes to the ground water levels, water quality, or the movement of water through deposits may impact on the historic environment. For example, changes to ground water levels or the mobilisation of contaminants along different pathways may impact on the preservation of archaeological structures, features or remains, including palaeoenvironmental remains. In addition, compression of</p>	<p>Changes to groundwater levels, movement of water through deposits and compression have been considered as part of the assessment of direct effects to archaeological remains, presented in Section 7.10.</p>



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
	deposits or the creation of pathways for contaminants or oxygen could potentially damage deposits/remains of archaeological interest or alter the preservation conditions on the site.	
November 2021 Historic England Scoping Response	Additional works are planned to investigate the hydrology/hydrogeology and geology of the development area; we would recommend that the value of this information to inform the assessment of the historic environment should be considered and discussed with the project archaeological team.	Geotechnical works were monitored in April-May 2022 (results presented in Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation works). It is intended that, if appropriate, any future geotechnical investigations will also be monitored by a geoarchaeologist.
November 2021 Historic England Scoping Response	The nature and scope of the archaeological evaluation should be devised through consultation with the archaeological advisors at Essex Place Services. We would be pleased to provide any further advice, and comment on the proposed methodology, as well as advising on the significance of the results. In our view, this will provide the Examining Authority with the appropriate level of information to determine the application, confident that the historic environment has been adequately assessed and that the proposed mitigation measures will be effective and proportionate to the significance of heritage assets.	Discussions with the archaeological advisors and Essex County Council and Historic England will take place following the completion of the geophysical survey to discuss the need for and scope of further archaeological assessment to be provided for the ES assessment and to inform the determination of the application.



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
November 2021 Historic England Scoping Response	Considering the amount of evaluation fieldwork that is likely to be required, we strongly recommend that discussions about this fieldwork commence at the earliest opportunity. We also advise that a timetable is agreed for each stage of the assessment process, especially because onshore transmission substation location has yet to be confirmed by National Grid.	Discussions on the content of the Written Schemes of Investigation for the geophysical survey and the monitoring of the geotechnical boreholes (as required as part of the archaeological evaluation works) have taken place with the archaeological advisor at Essex County Council via email. These WSIs have been approved and are being implemented. Following the completion of the geophysical survey further discussion will take place on next steps.
November 2021 Historic England Scoping Response	Some of the work associated with the proposed Project may impact on the groundwater levels or movement of water through deposits. For example, the need for foundations for the substation, compression of deposits through the construction of elements or the movement of vehicles, the reduction in recharge values, or the need to dewater areas during construction. The impact that this work may have on the historic environment needs to be considered as any changes may affect preservation conditions within the area of the proposed project or in nearby deposits, which in turn may result in the damage and/or loss of archaeological remains.	Effects arising from changes to water levels, compression and dewatering have been considered as part of the assessment of buried archaeological and geoarchaeological remains within Section 7.10.
November 2021 Historic England	We would recommend that the Historic England document	'Preserving Archaeological Remains (2016)' has been



Date and consultation phase/ type	Consultation and key issues raised	Section where comment addressed
Scoping Response	Preserving Archaeological Remains (2016) is referred to aid the discussions of the potential impacts to the historic environment as well as the approaches used to investigate them.	used to inform the potential impacts to the archaeological remains that could occur. This assessment of the impacts to buried archaeological remains is presented in Section 7.10.
November 2021 Historic England Scoping Response	We note the proposed cumulative impact assessment (4.6 and 20.4.39 - 43). This will need to be considered in terms of cultural heritage once the study area has been narrowed down.	The cumulative assessment is presented within Section 7.13.
November 2021 Historic England Scoping Response	By following planning policy and guidance we would expect the project to be creative in how it might offer opportunities for the enhancement of heritage assets, and how the project might deliver public (heritage) benefit. The ES should aim to make clear public heritage benefits and outreach as part of planned mitigation.	Details for opportunities for enhancement and public benefits will be considered as part of the Outline WSI prepared for the DCO application. This will be in discussion with the archaeological advisors at Essex County Council and Historic England.
November 2021 Historic England Scoping Response	We would advise the ES should put forward proposals for the use, display and interpretation of archaeological evidence that will be revealed by the development and to provide enhancement to heritage assets and secure wide heritage benefits as part of the Project and we would be pleased to provide advice about potential heritage schemes.	Details for opportunities for enhancement and public benefits will be considered as part of the Outline WSI prepared for the DCO application This will be in discussion with the archaeological advisors at Essex County Council and Historic England.



7.4 SCOPE AND METHODOLOGY

SCOPE OF THE ASSESSMENT

IMPACTS SCOPED IN FOR ASSESSMENT

7.4.1 The following impacts have been scoped into this assessment:

- > Construction:
 - > Direct permanent effects to buried archaeological remains;
 - > Direct permanent effects to the historic landscape character (historic hedgerows); and
 - > Indirect temporary effects upon heritage significance of assets arising from change within setting.
- > Operation and maintenance:
 - > Indirect permanent effects associated with the presence of the substation within the setting of heritage assets;
 - > Indirect permanent effects upon heritage significance of onshore assets associated with the presence of the offshore Wind Turbine Generators (WTGs); and
 - > Indirect permanent effects arising from the change to the historic landscape as a result of the presence of the OnSS.
- > Decommissioning:
 - > Indirect temporary effects upon heritage significance of assets during decommissioning.

IMPACTS SCOPED OUT OF ASSESSMENT

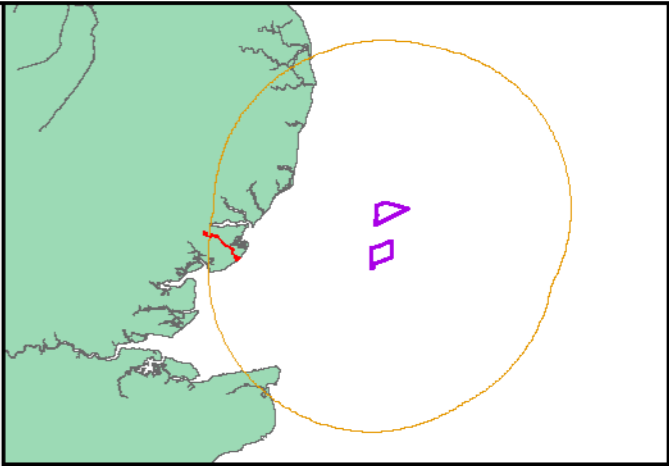
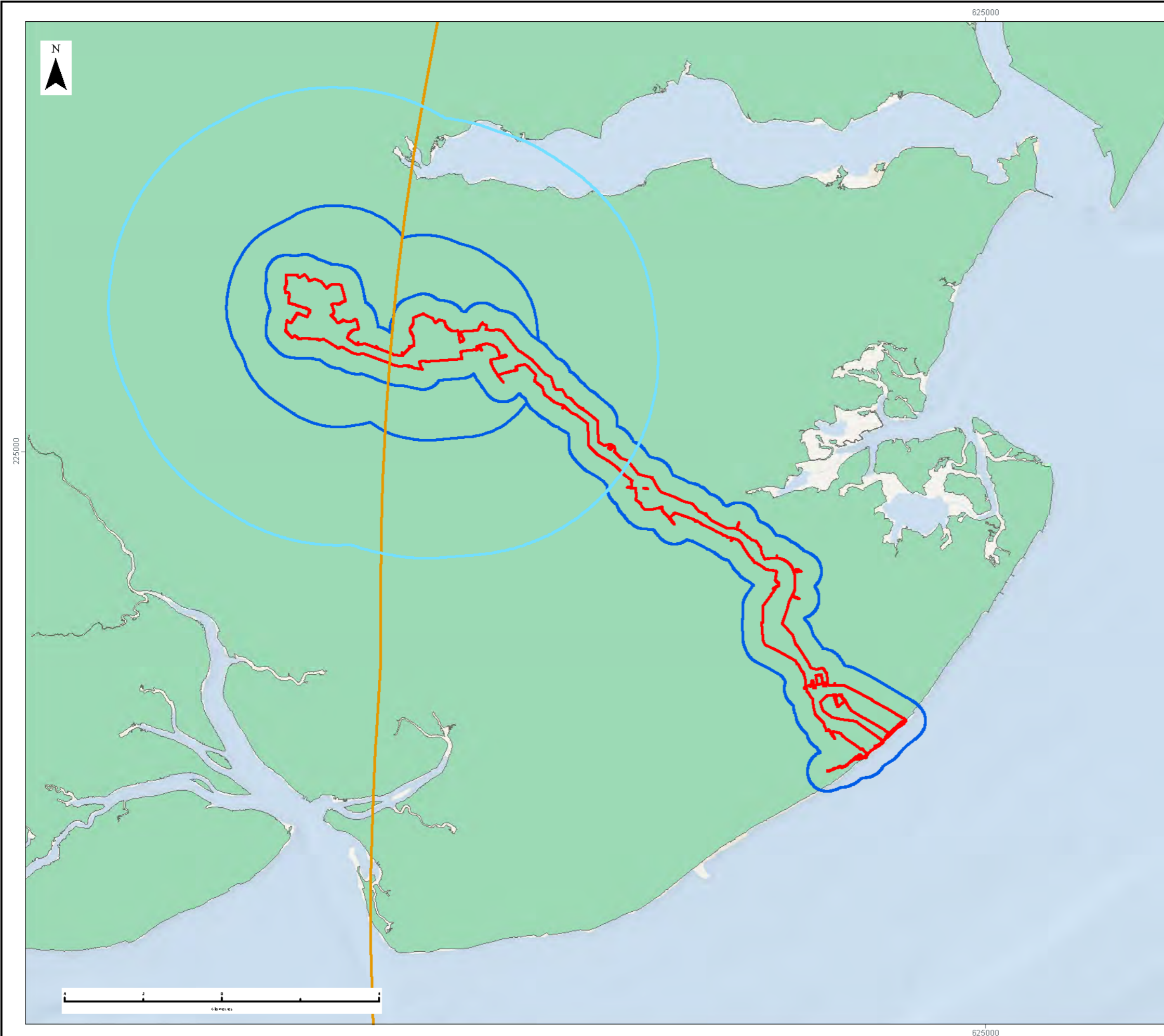
7.4.2 On the basis of the baseline environment and the project description outlined in Volume 2, Chapter 1: Offshore Project Description and in accordance with the Scoping Opinion (PINS, 2021), a number of impacts have been scoped out, these include:

- > Construction and decommissioning:
 - > Indirect temporary effects arising from change within setting greater than 500 m from the Onshore ECC;
- > Operation and maintenance:
 - > Indirect permanent effects arising from change within setting to less sensitive (Grade II) designated heritage assets between 2 km-5 km from the OnSS.



STUDY AREA

- 7.4.3 A distance based approach was undertaken to define the Study Areas for use within this assessment. The Study Areas defined below are shown on Figure 7.1. For the assessment of effects to below ground archaeological remains a 500 m Study Area has been buffered from the Onshore RLB. The Onshore RLB includes the Onshore ECC, the OnSS options as well as areas for Temporary Construction Compounds (TCC), construction zones and construction and operational accesses. The 500 m study area allowed archaeological information on heritage assets within close proximity to the Onshore ECC and OnSS to be collected to fully understand the potential for as yet unrecorded heritage assets to be present within the area potentially affected by the onshore construction of VE.
- 7.4.4 For the assessment of indirect effects, a 500 m buffer from the Onshore RLB has been used for the Onshore ECC to encompass assets which could receive effects as a result of the construction of the cable route and associated works. A 2 km buffer has been used for all designated assets within 2 km of the OnSS options. In response to concerns expressed as part of the scoping response, this has been extended out to 5 km for highly graded assets (Grade I and II* Listed Buildings, Scheduled Monuments and Grade I and II* Registered Parks and Gardens) as these assets may be more sensitive to change within their setting. This corresponds with the ZTV which also extends 5 km around the OnSS options.
- 7.4.5 For the assessment of indirect effects arising from the offshore WTGs a 70 km study area has been considered as part of the initial assessment presented in Volume 5, Annex 7.6: GPA3 Exercise and Technical Note (Onshore project area). A 60 km study area was proposed as part of the Scoping Report, however due to concerns raised regarding the extent of effects from the increased height of the turbines the initial settings exercise was extended to 70 km and also included Dengie Peninsula (which lies beyond 70 km) at the request of the consultees.



- LEGEND**
- Array Areas
 - Onshore Red Line Boundary
 - Onshore archaeological remains and inner Onshore Designated Heritage Assets Study Area (500 m and 2 km)
 - OnSS Study Area (5 km)
 - Offshore Array Coastal Study Area (70 km)

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

DRAWING TITLE:
Array Area, Onshore RLB and Study Areas

VER	DATE	REMARKS	Drawn	Checked
1	20/01/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.1

SCALE: 1:100,000	PLOTSIZE: A3	DATUM: OSGB 1936	PROJECTION: BNG
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DATA SOURCES

DESK-BASED SOURCES

- 7.4.6 Many of the technical annexes which support this chapter have been prepared using desk-based sources, these include;
- > Essex Historic Environment Record Data;
 - > National Heritage List for England;
 - > National Record for the Historic Environment (NHRE) Excavation Index;
 - > Conservation Area Appraisals;
 - > Historic and Ordnance Survey maps;
 - > Published and unpublished documentary sources;
 - > Landmark data;
 - > LiDAR data;
 - > Aerial Photographs;
 - > Geological mapping and borehole information held by the British Geological Survey;
 - > Data from the Portable Antiquity Scheme (PAS) accessed through the information held by EHER, with supplementary information accessed via the online database, which records chance finds recovered and reported to them;
 - > Relevant grey literature reports relating to archaeological investigations within the vicinity;
 - > Tendring District Council Historic Environment Characterisation Report (Tendring District Council and Essex County Council 2008);
 - > Tendring Geodiversity Characterisation Report (Tendring District Council and Essex County Council 2009);
 - > Essex Historic Grazing Marsh Project (Essex County Council 2014);
 - > Managing the Essex Pleistocene (Essex County Council 2015);
 - > CITiZAN Data, available online; and
 - > The Historic Landscape Characterisation for Essex (Essex County Council 2011).

SURVEYS/MONITORING

- 7.4.7 Geophysical survey is currently being undertaken over the Onshore ECC and OnSS options. The results of the data collected to date, are presented in Volume 5, Annex 7.2: Geophysical Survey Report and summarised below in Paragraph 7.7.36.
- 7.4.8 Monitoring of geotechnical boreholes under watching brief at the landfall was undertaken in April-May 2022, and the results have been used to inform types of deposits that exist within the Onshore ECC. The results are presented in Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation Works and included below as part of the assessment of effects to geoarchaeological deposits (Paragraph 7.10.2).



- 7.4.9 A walkover survey of the Onshore ECC and OnSS has been undertaken to inform the assessment, as well as specific receptor visits for the assessment of setting. The majority of the Onshore ECC and parts of the OnSS were accessible for walkover in October 2022. Any remaining areas (subject to access arrangements), and an additional visit to the foreshore, will be undertaken for the ES. Observations made during these walkovers are presented in Volume 5, Annex 7.1: Archaeological Desk-Based Assessment and Volume 5, Annex 7.6: GPA3 Exercise and Technical Note (Onshore Project Area).
- 7.4.10 Walkovers and specific receptor visits were also undertaken within the coastal area for the assessment of effects to heritage assets from the offshore array. Visits were made to the Coastal Asset Groups and other selected assets that were identified as being potential sensitive receptors to the proposed offshore array. Further detail is provided in Volume 5, Annex 7.5: GPA3 Exercise and Technical Note (Offshore Array).

ASSESSMENT METHODOLOGY

- 7.4.11 For the purposes of determining the DCO application, the Infrastructure Planning (Decisions) Regulations 2010 require that decision makers have regard for the desirability of preserving;
- > Listed buildings and any features which contribute to their special interest and settings;
 - > Scheduled monuments and their settings; and
 - > The character and appearance of conservation areas.
- 7.4.12 For the purposes of the Infrastructure Planning (Decisions) Regulations 2010, if the assessment determines that where the contribution that setting makes to significance of a heritage asset is not changed and the asset does not lose its significance as a result, both the setting and the asset are considered to be preserved (at least in respect of their heritage interests).
- 7.4.13 The assessment proceeds from the basis that it is the significance of an asset that is of concern (following both NPSs and NPPF), and follows the Historic England guidance in considering that setting is important in respect of what it contributes to an asset's significance, and the way in which that significance is able to be understood and appreciated. Significance is the sum of an asset's heritage interests.

ASSESSMENT OF DIRECT EFFECTS

- 7.4.14 Direct effects to heritage assets result from physical damage or disturbance, which gives rise to a loss of heritage significance. Consequently, it is only those assets which are within the footprint of the proposed development and associated enabling works (such as site compound and access tracks) which are potentially subject to direct effects. As archaeological features are not always evident, desk-based assessment and geophysical survey have been undertaken to determine the presence and locations of archaeological heritage assets (where possible) and inform on the potential that unrecorded remains may survive that might be affected by the proposed development.



- 7.4.15 As the conclusions of the DBA are predictive and probabilistic and the results of the geophysical surveys have not been ground truthed (by intrusive investigation), there are some cases where the potential presence of heritage assets or their significance remains difficult to state with confidence. However, significance has been assigned based upon professional judgement, taking into account the previous experience and results of archaeological work in the wider area as recorded in the Historic Environment Record. The assessment of potential effects has taken a precautionary approach, assuming a reasonable worst case scenario (that is any archaeological remains will have some value and, where present, this will likely be damaged or destroyed by construction related activities such as groundworks and earthmoving which could take place anywhere within the Onshore RLB); design has been undertaken and mitigation proposed as appropriate, with this in mind.
- 7.4.16 Direct effects on heritage assets, as a result of the onshore elements of VE, would only occur within the Onshore Red Line Boundary. The study area for the assessment of direct effects on the onshore historic environment is considered within the desk-based assessment (Volume 5, Annex 7.1: Archaeological Desk-Based Assessment) and baseline data was gathered within a 500 m radius of the Onshore RLB to inform the prediction of likely archaeological remains within the route. This includes areas which are in the intertidal zone between Mean High Water Springs (MHWS) and Mean Low Water Springs. The archaeological potential of these areas is discussed at Volume 5, Annex 7.1: Archaeological Desk-Based Assessment to provide context for the assessment, but effects on heritage assets below MHWS are assessed in Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage.

ASSESSMENT OF INDIRECT EFFECTS

- 7.4.17 For the purpose of the assessment within this PEIR chapter, indirect effects are defined here as those which result in potential change to heritage significance, but do not give rise to physical damage or disturbance to the asset. In this context, these effects will generally arise through change to the settings of heritage assets. Setting is not explicitly defined in either statute or NPS EN-1. However, the draft NPS EN-1 does make reference to setting and provides a definition (Draft NPS EN-1 2021, paragraph 5.9.3, footnote 103) and goes on to set out how setting should be taken into account. Setting is also defined in the NPPF glossary as *'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral'* (NPPF 2021, Annex 2 Glossary).
- 7.4.18 The Historic England guidance (The Setting of Heritage Assets, 2017) follows this definition and sets out guidelines for considering any effects on the significance of heritage assets arising from change to setting. The guidance accords with the NPS and NPPF in recognising that it is effects to significance which are of concern. The guidance specifically states that *'Setting itself is not a heritage asset'* and that *'its importance lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance'* (Historic England 2017).



- 7.4.19 Assessment of setting is primarily associated with designated heritage assets or non-designated heritage assets of equivalent heritage significance (where such assets are identified). The assessment follows steps 1-4 of the following five step sequential process (Step 5 being the responsibilities of the decision makers and the local planning authority) set out in Historic England (2017) guidance;
- > **Step 1:** Identify which heritage assets and their settings are affected;
 - > **Step 2:** Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;
 - > **Step 3:** Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it;
 - > **Step 4:** Explore ways to maximise enhancement and avoid or minimise harm; and
 - > **Step 5:** Make and document the decisions and monitor the outcomes.
- 7.4.20 In order to better understand the potential effect, a clear statement of the asset's overall significance is required, as well as the contribution that setting makes to that heritage significance. It is the final effect on the overall heritage significance of an asset that is being assessed, not simply the degree to which the contribution to that heritage significance made by setting is changed.

7.5 ASSESSMENT CRITERIA AND ASSIGNMENT OF SIGNIFICANCE

- 7.5.1 To understand the significance of direct effects, baseline data has been reviewed to
- > Identify known or suspected archaeological sites within the Onshore RLB; and
 - > Characterise the heritage resource from the Study Area
- 7.5.2 Comparison of the distribution of the known and potential archaeological features with location and extent of the proposed construction works allows the potential extent and nature of any direct disturbance to be characterised.
- 7.5.3 The assessment of effects arising from change within settings follows the approach set out by Historic England in the guidance outlined above (The Setting of Heritage Assets, 2017). For the assessment of VE, the potential for loss of heritage significance is most likely to occur as a result of intervisibility or direct views between the heritage asset and the development, where that presence adversely affects one or more of the interests which comprise the heritage significance of that asset. Change to views of an asset from a third viewpoint, even where there is no direct intervisibility between the development and the asset, may also be relevant as there may be non-tangible historic or other associations. However, it is important to consider that simple intervisibility between an asset and the development, or presence in views, is not in and of itself an adverse effect. There has to be specific change (reduction in) the contribution made by that element of the 'setting', so as to cause a reduction in (harm to) the heritage significance of the asset.



- 7.5.4 In addition to purely visual considerations (which may or may not make a contribution to the heritage significance of an asset), other effects of the development, such as noise, may also have an effect, although this is normally only relevant in relatively close proximity to the proposed development. These effects are understood in terms of the relationship of the asset with its current setting and may be positive, enhancing the heritage significance of the asset, value-neutral or harmful depending upon the nature of the change, the character of the setting and its contribution to the heritage significance of the asset.

SIGNIFICANCE EVALUATION METHODOLOGY

- 7.5.5 The assessment of the significance of any effect on a heritage asset is largely a product of the heritage significance of an asset and the magnitude of the effect that may give rise to harm, qualified by professional judgement. An assessment of effects on a heritage asset involves an understanding of the heritage significance of an asset and in the case of an indirect effect, the contribution of the setting to the heritage significance of an asset. The effect being assessed is whether the asset loses significance due to a reduction in the contribution that its setting makes to that significance, as a result of development within that setting. NPS EN-1 (DECC 2011) paragraph 5.8.8 and Draft NPS EN-1 (2021) paragraph 5.9.11, sets out that the level of detail should be proportionate to the heritage significance of a heritage asset, and no more than is sufficient to understand the potential impact of the proposal.
- 7.5.6 Guidance discusses the conservation of the heritage significance of heritage assets, as change as an inevitable process but one that can be managed. Heritage significance is not necessarily dependent upon the preservation of a feature as it can be enhanced through sensitive management. NPS EN-1 (DECC 2011), paragraph 5.8.13 and Draft NPS EN-1 (2021), paragraph 5.8.20 directs the Infrastructure Planning Committee (now the Secretary of State) to take account of viable uses that sustain the significance of the historic environment, consistent with the conservation of historic assets.
- 7.5.7 Rather than just characterising the potential effects of development, any assessment therefore needs to understand the effects on the heritage significance of heritage assets and/or significant places. The heritage significance of the asset is determined by reference to heritage interests as set out in NPPG (2019; Paragraph: 006 Reference ID: 18a-006-20190723) and restated in Historic England's 'Statements of Heritage Significance; Analysing Significance in Heritage Assets' (2019; p.16). These are as follows;
- > Archaeological Interest; there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.
 - > Architectural and Artistic Interest; these are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of a design, construction, craftsmanship, and decoration or buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture.
 - > Historic Interest; an interest in past lives or events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history, but



can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.

- 7.5.8 For the purposes of assessing the significance of effects in EIA terms, heritage significance has also been assigned to one of the five classes, with reference to the heritage interests described above and relying on professional judgement as informed by policy and guidance. The hierarchy given in Table 7.3 reflects the NPS distinction between designated and non-designated heritage assets. The NPS further distinguishes between designated assets of the highest heritage significance (i.e. World Heritage Sites, scheduled monuments, protected wreck sites, Grade I and II* listed buildings and Grade I and II* registered parks and gardens) and other designated assets. This further distinction is relevant to planning policy, but has less influence on the establishment of the significance of an effect in EIA terms (and listed buildings of any grade are subject to the same legal protection in any case).
- 7.5.9 Effectively, designation of an asset is a recognition of the heritage interests and value inherent within that asset, which are deemed worthy of statutory protection. These assets are therefore typically regarded as more important than non-designated heritage assets, except where provided for in the Environmental Impact Assessment Regulations (The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017) and in the NPS (e.g. where non-scheduled assets which are of demonstrably equivalent importance to a scheduled monument can be afforded the same degree of consideration). The sensitivity of an asset to change (as opposed to simply its accorded level of importance) is discussed within the assessment text provided in Section 7.10-7.12 below, as appropriate.
- 7.5.10 The significance of identified heritage assets is defined in Table 7.3, following the definition of heritage significance as set out in NPS EN-1 (DECC 2011) and Draft NPS EN-1 (2021). The phrase 'heritage significance' is used where appropriate to avoid confusion between the significance of a heritage asset in policy terms and the significance of effect.

Table 7.3: Sensitivity/Importance of Receptor

Heritage Significance	Description/ reason
Very High	World Heritage Sites; which are internationally important Assets of acknowledged international importance Assets that can contribute significantly to acknowledged international research agendas Historic landscapes of international value (designated or not)
High	Scheduled monuments and undesignated assets of Schedulable quality and importance Listed Buildings



Heritage Significance	Description/ reason
	Archaeological assets that can contribute significantly to acknowledged national research objectives Designated and non-designated historic landscapes of high quality and importance and of demonstrable national value (including Grade I and II* registered parks and gardens)
Medium	Designated or undesignated archaeological assets that contribute to regional research objectives Conservation areas Designated and non-designated historic landscapes of special historic interest (including Grade II registered parks and gardens)
Low	Non designated heritage assets, including locally listed buildings and other buildings that are considered to be of local interest Archaeological assets of limited value, but with potential to contribute to local research objectives
Negligible	Assets with very little or no surviving archaeological interest/buildings with little or no value at local or other scale; Landscapes with little or no significant historic interest

7.5.11 In consideration of sensitivity and importance, designation status (and its implicit recognition of the value of heritage interest with an asset deserving of such protection) is a starting point. However, some aspects may be more or less sensitive to the anticipated changes from the proposed development whatever their grading. The categorisation of an asset to a particular level of sensitivity or importance is based in part on designation and in part on professional judgement on the degree to which an asset is sensitive to the type of change expected. The text assessments presented in Section 7.10- 7.12 take this into account.

7.5.12 Direct effects are qualified by the extent and nature of remains associated with an asset which would be disturbed or lost, and the effect of this loss on the heritage interests (heritage significance) of the asset. In respect of buried archaeological remains with no visible above ground expression, this would normally result in the loss of archaeological interest, but elements of architectural and historic interest can also be affected, depending on the asset.

7.5.13 In this context, the effects of change in the setting of a heritage asset may depend on individual aspects of that setting, and assessments must be, by their nature, specific to the individual assets being considered. Historic England guidance (2017) advises that the following aspects of setting should be considered in addition to any identified key attributes;

- > The physical surroundings of the asset, including its relationship with other assets;



- > The way the asset is appreciated; and
- > The asset's associations and patterns of use.

7.5.14 It should be noted that not all change necessarily detracts from the heritage significance of an asset. In the assessment of effects on the setting of heritage assets, the nature of the effect, i.e. positive, negative or neutral, of development is a subjective matter. Change is usually taken to constitute a negative effect where it will introduce new and different elements to the setting of designated features, either to an imagined contemporary setting or to their existing setting, in such a way that the interests which comprise the heritage significance of that asset (or the ability to appreciate them) are adversely affected, or the ability to appreciate that heritage significance is diminished. However, this change will only be assessed as generating a significant (adverse) effect where it reduces the contribution made by the setting of an asset to such a degree (magnitude) that the overall significance of the asset is diminished or otherwise harmed. The degree to which this overall significance is affected is what is being assessed and is reflected in the final assessed significance score.

7.5.15 Effects on receptors are assigned to one of four classes of magnitude, defined in Table 7.4.

Table 7.4: Impact Magnitude Definitions

Magnitude	Definition
Very High	Total loss or major alteration to a site, building or other feature (e.g. destruction of archaeological feature, demolition of a building).. Fundamental change in setting and/or disassociation of an asset from its setting, such as by blocking or severance of key views so as to cause wholesale reduction in the contribution that setting makes to the heritage significance of that asset, and hence a significant loss of the asset's overall heritage significance.
High	Major physical damage to or significant alteration to a site, building or feature. Extensive change (e.g. loss of dominance, intrusion on a key view or sightline) to the setting of a scheduled monument, listed building or other feature registered as nationally important, which may lead to a major reduction in the contribution of that setting to the heritage significance of the heritage asset itself, and hence a loss of overall heritage significance for that asset.
Medium	Damage or alteration to a site, building or other feature. Encroachment on an area considered to have high archaeological potential. Change in setting (e.g. intrusion on designed sightlines and vistas) to monuments/buildings and other features, which may lead to a moderate



Magnitude	Definition
	reduction in the contribution of that setting to the heritage significance of the heritage asset, and hence a reduction in the assets overall heritage significance.
Low	<p>Minor damage or alteration to a site, building or other feature.</p> <p>Encroachment on an area where it is considered that a low archaeological potential exists.</p> <p>Minor change in setting, (e.g. above historic skylines or in designed vistas) of monuments, listed buildings, sites and other features, which may lead to a small reduction in the contribution that setting makes to the heritage significance of a heritage asset, with an appreciable loss in the assets overall heritage significance.</p>
Negligible	<p>No or minimal physical impact.</p> <p>Slight or no change in setting, or one with no or very limited change in the contribution that setting makes to the heritage significance of the asset and no loss of overall heritage significance.</p>

7.5.16 Effects are considered to be significant or not significant in EIA terms according to the matrix in Table 7.5. For this assessment, a moderate or major effect would be considered to be significant in EIA terms, depending on the heritage significance of the asset (above) and the exercise of professional judgement.

7.5.17 In making the final decision on the significance of an effect, consideration is given not only to the importance of the asset in terms of its designation, but also to the sensitivity of an asset to the type of change or impact anticipated, as well as the magnitude of that change. For example, a highly graded listed building may have a high level of importance by virtue of its designation, but may be less susceptible to change in setting (and hence potential reduction in heritage significance) arising from development proposals. This may be due to the asset's form, or that the location or form of its heritage interests are not such that its heritage significance relies on a visual contribution from setting, so that its heritage interests and hence overall heritage significance is not harmed.

7.5.18 Conversely if a heritage asset's heritage significance is entirely derived from a visual contribution from its setting, then a higher level of heritage significance may be accorded to the effect on the asset's heritage significance from the anticipated impact, whatever the level of grading of the asset. The final conclusion of the significance of any given effect is informed by professional judgement and based on consideration of all these factors, as set out in the relevant assessment text as appropriate.



Table 7.5: Matrix to determine effect significance.

		Heritage Significance/Sensitivity					
		Very High	High	Medium	Low	Negligible	
Magnitude	Negative	Very High	Major	Major	Moderate	Minor	Negligible
		High	Major	Major	Moderate	Minor	Negligible
		Medium	Moderate	Moderate	Moderate	Minor	Negligible
	Neutral	Low	Minor	Minor	Minor	Negligible	Negligible
		Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	Beneficial	Low	Minor	Minor	Minor	Negligible	Negligible
		Medium	Moderate	Moderate	Moderate	Minor	Negligible
	High	Major	Major	Moderate	Minor	Negligible	

Note: shaded cells are defined as significant with regards to the EIA Regulations 2017¹.

7.5.19 The ES will report effects in line with the EIA regulations in terms of significant effects, however to equate this effect to NPS EN-1, Draft NPS-EN-1, NPPF and technical guidance which refers to substantial harm and less than substantial harm to heritage significance in weighing the balance of effects against public benefits, the following equivalents should be considered to apply;

- > Negligible= No harm to heritage significance;
- > Minor negative effect= Less than substantial harm to heritage significance (lower end of the scale);
- > Moderate negative effect= Less than substantial harm to heritage significance (upper end of the scale); and
- > Major negative effect=Substantial harm.

7.5.20 The use of a scale in consideration of 'less than substantial harm' allows a more nuanced correlation with the levels of significance of effect in EIA terms, and permits a greater degree of variance in how 'less than substantial harm' can be expressed.

¹ The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017



7.6 UNCERTAINTY AND TECHNICAL DIFFICULTIES ENCOUNTERED

- 7.6.1 There are two principal areas of uncertainty in this chapter of the PEIR. The first relates to the nature of the archaeological baseline. The desk-based studies on which this assessment has been based in part, are predictive and do not provide a definitive understanding of as-yet unrecorded archaeological heritage assets that may be affected by the proposed development. The geophysical survey is ongoing and therefore the information presented as part of the PEIR is incomplete. Following the completion of the geophysical survey the results will be used to inform the ES chapter and will be presented as an Annex.
- 7.6.2 The second area of uncertainty relates to the detail of the proposed development, which retains a degree of flexibility within the Rochdale Envelope approach, which allows for a range of design options that will be finalised in the detailed design phase, post-consent. In addition, for the purposes of PEIR, the onshore infrastructure has retained the two search areas for the location of the OnSS, two landfall options and potential locations for Horizontal Directional Drilling (HDD) sites along the route have also not yet been defined. These elements will be refined between PEIR and the final ES.
- 7.6.3 The nature of the site area means that the character of as-yet unrecorded heritage assets can be predicted with a reasonable degree of confidence, although the condition and distribution of such heritage assets is less well defined. The implications of this uncertainty are discussed in more detail in the assessment of direct effects (Section 7.10).
- 7.6.4 Additionally, some of the assets considered within this assessment have been included due to location within the ZTV, as prepared for and used by the LVIA and SLVIA. It is noted that the ZTV is a bare-earth model, and does not take into account any screening afforded by vegetation and buildings which may prevent or reduce actual visibility. The ZTV assumes visibility at 2m above ground level and is based on a 5m data grid digital terrain model. This provides a rather coarse grain and the actual degree of visibility of the development may be different at any given location than predicted. Finally, the ZTV does not reflect the degree to which visibility can decrease with distance; the nature of what is visible at 3 km will differ considerably from what is visible at 10 km, although both are indicated by the ZTV to have the same level of visibility. Further details on the ZTV can be found in Volume 2, Chapter 10: Seascape, Landscape and Visual Impact Assessment and Volume 3, Chapter 2: Landscape and Visual Impact Assessment of this PEIR.



7.7 EXISTING ENVIRONMENT

THE ONSHORE ECC AND ONSS

SUMMARY OF THE GEOARCHAEOLOGICAL AND ARCHAEOLOGICAL BASELINE

7.7.1 A summary of the geoarchaeological and archaeological baseline is provided below. The geoarchaeological desk-based assessment was originally prepared for the North Falls OWF, however due to the similarity of the routes and ongoing co-operation between the two projects, and to avoid duplication, this has been shared and applied to VE. Due to the scale of the projects and the amount of information collected as part of the baseline, the following represents a summary only. Full details of archaeological discoveries within the study area and further detail on the geoarchaeological background are provided within Volume 5, Annex 7.1: Archaeological Desk-Based Assessment and Volume 5, Annex 7.3: Geoarchaeological Desk-Based Assessment.

GEOARCHAEOLOGICAL BACKGROUND

- 7.7.2 Quaternary superficial deposits are present within the Onshore RLB and include deposits of both Pleistocene and Holocene date. Pleistocene deposits are likely to be widely present across the Onshore RLB, including Kesgrave Sands and Gravels and Brickearth, with Alluvium of Holocene date, and potentially Pleistocene fluvial deposits associated with the Holland Brook, located at the southern end of the Onshore RLB. Pleistocene and/or Holocene deposits of Head/Colluvium, though unmapped, may be present on valley slopes or at the base of valleys in various parts of the Onshore RLB.
- 7.7.3 The Kesgrave Sands and Gravels underlying much of the Onshore RLB are likely to comprise deposits of the pre-Anglian Colchester Formation, equivalent to the Cooks Green/Wivenhoe and Ardleigh Gravels. Towards the south of the Onshore RLB deposits of the Anglian Holland Gravel, and unmapped post-Anglian fluvial deposits, may also be present, along with post-Anglian fluvial deposits of the Holland Brook. On the basis of Palaeolithic finds within the study area, these deposits are of high archaeological and geoarchaeological potential.
- 7.7.4 The sands and gravels in the area of the Onshore RLB are overlain by a widespread unit of Pleistocene Brickearth; these deposits are undated, but may include deposits of Late Devensian or older Pleistocene date. They are likely to be originally aeolian in origin, but may be substantially reworked by various processes. The geoarchaeological and archaeological potential of these deposits is unknown.
- 7.7.5 Towards the south eastern end of the Onshore RLB in the area of Holland Haven Marshes, and in the valley of the Holland Brook and its tributaries, Holocene Alluvium is likely to be encountered. In the absence of GI data for these areas the depth, thickness and character of these deposits is unknown, but they may contain peat or organic-rich units of high geoarchaeological and archaeological potential.



- 7.7.6 Three geotechnical boreholes were monitored as part of a watching brief within the landfall zone. These recorded alluvial deposits interbedded with peats within all three of the boreholes at a depth of between 1.2-2 m below ground level (bgl) and between 4.5 m and 7.2 m thick. In BH203 the peat and alluvial deposits overlaid Kesgrave sands and gravels between 9.2-11.5 m bgl. The other two boreholes did not record the Kesgrave sands and gravels. The full results of the watching brief are presented in Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation works.

LOWER PALAEOLITHIC

- 7.7.7 The Kesgrave Sands and Gravels in the Onshore RLB have undergone little research and their distribution and stratigraphy is uncertain. Nevertheless, they have been shown to contain Lower Palaeolithic archaeology in the study area that predates the diversion of the Thames further to the south during the Anglian glaciation.
- 7.7.8 This is the earliest archaeology from the region and some of the earliest archaeology from Britain. Units within the Kesgrave Sands and Gravels contain organic and other fossiliferous sediments, and therefore also have significant geoarchaeological potential. Consequently, these deposits have potential to contain Palaeolithic archaeological and geoarchaeological evidence that will contribute to national and regional research themes and priorities (EH 2008; EERRF 2021).
- 7.7.9 Potentially the earliest Lower Palaeolithic artefact from the study area is a small broken handaxe from Badley Hall, Great Bromley. Although this artefact does not have a recorded context, its condition has been assessed as rolled and stained (Wymer 1985), indicating that it originates from Pleistocene fluvial deposits.
- 7.7.10 The most significant collection of Lower Palaeolithic archaeology from the study areas is from Daking's Pit, Weeley. Palaeolithic artefacts were first collected from this site, a disused gravel pit, by Warren in the 1930s (Warren 1933). Most are slightly fluvially abraded, though one handaxe is noted as in nearly mint condition.

MESOLITHIC

- 7.7.11 In the Tendring area generally, evidence from the Mesolithic period can largely be characterised by significant assemblages of microlith stone tools, particularly around the coast at Walton-on-the-Naze, which attest to the presence of transient groups relying on wild game and fishing for subsistence. Within the study area records of Mesolithic finds include one tranchet axe and an adze. In the wider area other tranchet axes, maceheads and a perforated stone objects have also been found.
- 7.7.12 The sea levels began to rise during this period due to glacial melt and by the Mesolithic period there was probably a tidal estuary within the cable landfall search area, which occupied the area of low, flat, marshy land in the vicinity of the current Holland Brook (former Holland River). The estuary was known as the Gunfleet estuary from the Medieval period onwards. The estuary extended broadly along the line of the Holland Brook and surrounding marshlands and narrowed as it stretched northwest inland. It probably extended well beyond the present location of Fan bridge on the road between Great Holland Common and Cook's Green (Little Clacton) and may have been tidal as far as Weeley and navigable to smaller boats up to Thorpe-Soken further north.

NEOLITHIC



- 7.7.13 Neolithic activity is well attested across the wider Tendring District and is evidenced by cropmarks of a monumental causewayed enclosure at St Osyth and a ring ditch at Brightlingsea, which together have yielded one of the largest collections of early Neolithic ceramics in the East of England. Evidence suggests that during this period the population begins to move to a more settled agricultural existence.
- 7.7.14 Within the study area, Neolithic evidence comprises a findspot of three axe heads characteristic of this period found to the south of Lawford and south of Great Holland. The discovery of the finds indicates at least, a presence in the area during this period.

BRONZE AGE

- 7.7.15 Evidence for the Bronze Age in the wider Tendring area can be characterised by Beaker pottery, barrows and cremation cemeteries. A locally distinctive form of pottery and funerary tradition has been recovered from cremation cemeteries at Ardleigh, Brightlingsea, Lodge Farm and Little Bromley (all outside the study area), with cremations being placed between barrows (evident as ring ditches) in large straight sided elaborately decorated bucket urns. Bronze Age burials have also been found eroding from modern cliff faces north of Walton, which would have still been a distance from the coastline during the Bronze Age.
- 7.7.16 A concentration of potential Bronze Age features has been identified around Carrington's Farm and covers an area which extends from the south of the Onshore RLB to the 500 m study area boundary comprising two possible ring ditches both measuring 11 m in diameter. The latter ring ditch is situated within a complex series of undated cropmarks (likely field boundaries, pit and trackway).
- 7.7.17 Finds recovered from within the Onshore RLB include two Bronze Age axe heads and a Bronze Age hoard while a second Middle Bronze Age hoard and further axe heads have been recovered from within the study area.

IRON AGE

- 7.7.18 Evidence for Iron Age activity in the wider area is characterised by dispersed domestic and agricultural settlements, field systems, cremation burials and red hills (salt production). Evidence from sites such as St Osyth (over 5 km to the west of the study area) suggest arable and pastoral farming were practiced, with the lower lying salt marshes being used for grazing.
- 7.7.19 The majority of the recorded Iron Age evidence within the study area consists of artefact finds recorded by the Portable Antiquaries Scheme. There is a particular concentration to the south of Little Bentley, which is a common theme across the periods. This area has been subject to metal detecting, where finds have been properly recorded through the Portable Antiquities Scheme and subsequently added to the HER. There is a concentration of finds from the Iron Age through to the post-medieval, suggesting this could be an area of particular sensitivity, consistent with multiperiod settlement and/or activity.

ROMANO-BRITISH



- 7.7.20 Evidence from the Romano-British period in the wider area suggests a dispersed settlement pattern during this period, with an associated agricultural landscape with localised industries. The Roman town at Colchester (7 km west of the northern extent of the study area) would also have heavily influenced land use, settlement pattern and economy in the area. A number of villa sites have been identified at St Osyth, Little Oakley and Dovercourt.
- 7.7.21 Various Roman roads are recorded within the study area, with a particular concentration at the northern extent of the study area, which is reflective of the influence of the Roman town at Colchester. Sections of the Roman road connecting Colchester to Manningtree cross this area and have been identified partly by aerial photography and extant roads with probable Roman (or earlier) origins, such as Bromley Road. Two other Roman roads are recorded in this area north of Little Bromley. There are two records of undated cropmarks within the vicinity of these roads, both of which also include possible sections of Roman road.
- 7.7.22 Evidence of likely roadside settlement is recorded around Grange Road where two Roman roads intersect. This is represented by a very high concentration of cropmark features indicative of settlement including a double-ditched rectangular enclosure with entrances, a curvilinear enclosure, the roads themselves and various linear features.

ANGLO-SAXON

- 7.7.23 Evidence from the Anglo-Saxon period is generally sparse in the wider area, suggesting either continued occupation or reoccupation of previously abandoned villas and farmsteads. One example being St Osyth, the name of which derives from the dedication of a minster church to Osyth, daughter of a Saxon King. Evidence for Middle Saxon domestic settlement and activity have been recovered from the Clacton area while Later Viking evidence is rare in Essex as a whole, but place name evidence such as Kirkby-le-Soken and Thorpe-le-Soken, are Danish in origin suggesting at least a general presence in the area.
- 7.7.24 The majority of early medieval HER records within the study area are findspots and include items such as horse tack, coins, a sword and a brooch. The finds are fairly widely distributed across the study area with a loose concentration between Great Bromley and Little Bromley.

MEDIEVAL

- 7.7.25 Settlement patterns and activities in the wider area remained dispersed during the Medieval period with villages (centred around churches and greens), hamlets, hall complexes and farmsteads providing settlement foci in an otherwise rural and agricultural landscape. These dispersed settlements were linked across the intervening agricultural land and commons by an extensive network of lanes connecting into the wider road network and roads to larger central markets.



- 7.7.26 Moated sites are a common small-scale settlement type in Essex, but less so in Tendring. The nearest Medieval moated hall is recorded at Gutteridge Hall in Weeley, over 3 km to the west of the study area. A possible moat was recorded within the Onshore RLB amongst other undated cropmarks east of Hannam Hall. Medieval activity is well attested at St Osyth and Great Bentley, where the remains of a windmill were identified and represents another relatively characteristic structure of Medieval Essex. No medieval mills are recorded within the HER data from within the study area, though two Post Medieval mills are recorded.
- 7.7.27 The study area is largely located inland, so there are minimal records relating to coastal trade, though the few sites recorded would have fed into the wider economy during this period. There are presumed landing places recorded along the line of the former Holland River close to the Onshore RLB. They likely represent lanes that linked the Gunfleet estuary to the farms and villages on the higher land, allowing crops and other local produce to be loaded easily onto boats and carried along the river for trade in the wider area and into London. Remote landing places could also be used to avoid customs control and the isolated marshes at Holland earned a reputation for smuggling which carried on until the 17th century after the estuary had been reclaimed. Likewise, some of the quays along Hamford Water earned a similar reputation.

POST-MEDIEVAL

- 7.7.28 Coastal trade continued to grow in importance during the post-medieval period. The port at Manningtree 2 km north of the Onshore RLB thrived throughout the period largely due to its role in the shipping and transport of the area's agricultural produce and its growing role in the malting industry. Previously, the brewing of ale and beer had been predominantly on a small, domestic scale. The post-medieval and modern periods saw the gradual growth of the brewing industry on an industrial scale which generated a thriving malting industry in this part of the county. Brightlingsea continued in existence as a trading port and smaller wharves existed at Beaumont-cum-Moze (Beaumont Quay), St Osyth, Manningtree and elsewhere along the coast.
- 7.7.29 Two postmedieval windmills are recorded within the study area representing characteristic features of the Essex landscape during this period, continuing on from the medieval period. Great Holland Hill mill is a former smock mill, the base of which is still extant.

MODERN

- 7.7.30 During the modern period the aggregates industry grew exponentially in this area and has resulted in significant areas of mineral extraction across the Tendring peninsula since the Second World War (WWII). The nearest occurrence of extraction near the study area is at Ardleigh.
- 7.7.31 Coastal defences continued to be built and decommissioned within the study area during the modern period with the advents of the First and Second World Wars (WWI and WWII). Several WWII pillboxes are located with the southern part of the Site along the foreshore in varying condition. Several former WWII defences also existed within the study area which have since been removed.



7.7.32 An advanced night landing ground is recorded to the south of Beaumont-cum-Moze, 360 m to the north of the Onshore RLB. The 43-acre site served the 39 Squadron Royal Flying Corps who were operating anti-Zeppelin patrols from April 1916 as part of WWI air defences. By August 1916 the site had been returned to agricultural use. In view of the short duration of this landing ground's use, it is very unlikely that any evidence of the airfield survives on or below ground.

UNDATED

7.7.33 The EHER records an extensive series of cropmarks both with the Onshore RLB and study area, that remain undated. The cropmarks, which also feature as part of the National Mapping Programme (NMP) dataset, generally consist of linear features, ditches, field boundaries, enclosures, and ring ditches.

7.7.34 Examples include a large cropmark area to the south and west of Little Bromley Hall. The cropmarks consist of mainly linear features being part of field systems or trackways, in addition to many ring ditches and several enclosures, and a henge which could be of Neolithic or Bronze Age date. An application has been made by Historic England to Schedule this henge due to it being of high heritage significance.

7.7.35 Aerial photographs and LiDAR survey data has been assessed for the Onshore RLB and potential archaeological features have been mapped and described within Appendix A, Volume 5, Annex 7.1: Archaeological Desk-Based Assessment. Each area has been given a reference number (e.g. APS_09) within Appendix A which has been used within the assessment to these potential assets in Section 7.10 and shown on Figures 7.10-7.14.

GEOPHYSICAL SURVEY RESULTS

7.7.36 Geophysical Survey has been completed over 14 areas within the Onshore RLB to date. The results are provided in Volume 5, Annex 7.2: Onshore Geophysical Survey. The results of the areas surveyed have been summarised as they appear from east to west.

7.7.37 Results from Holland Haven North detected a ring ditch within the northern part of the survey area thought to be of archaeological origin. A possible embankment represented by a ditch and bank feature could be part of a water management system associated with the Gunfleet Estuary. Another two parallel ditches are shown to extend into the Gunfleet Estuary area although whether these are of archaeological origin is unclear.

7.7.38 Results from Little Clacton Road did not identify any anomalies that could confidently be interpreted as archaeology, although several areas of possible archaeology have been identified including a possible roundbarrow with associated features. A large possible enclosure or past channel relating to the Holland Brook was identified in the north western part of the survey area and the remains of a possible medieval co-axial field system have been identified.

7.7.39 Survey at Kirby Cross West revealed several features of possible archaeological origin including a rectilinear enclosure and several pits.



- 7.7.40 Areas 15, 17 and 18 did not reveal any features of possible or probable archaeological origin. More recent features such as field boundaries shown on historic maps and an area of increased magnetic response relating to modern agricultural activity were identified.
- 7.7.41 Survey undertaken East of Tendring identified a possible circular ring ditch anomaly with a central feature. This could be prehistoric funerary activity; a barrow with a central burial. In the southern part of the area east of Tendring, a linear anomaly has been found likely to be a ditch or field boundary.
- 7.7.42 In the southern part of Area 12 a section of a linear feature has been identified probably representing a ditch or field boundary. More recent field boundaries shown on historic mapping and an area of increased magnetic response relating to a former pond were also identified.
- 7.7.43 Survey undertaken at Tendring Green North identified a possible ring ditch represented by a semi-circular enclosure and a number of linear anomalies which could be ditches relating to an earlier field layout (not present on historic mapping). Later field boundaries (shown on historic maps) and areas of increased magnetic response were also identified.
- 7.7.44 Area 10 revealed possible archaeology in the form of a semi-circular feature and part of a probable rectilinear enclosure. Other former field boundaries were also identified and some areas of increased magnetic response likely to be associated with a former building and a pond, both shown on historic mapping and modern agricultural practices.
- 7.7.45 Survey results from Area 9 did not reveal any anomalies of possible or probable archaeology. A few areas of increased magnetic response probably relating to modern agricultural practices were identified as well as former field boundaries shown on historic mapping.
- 7.7.46 Within SSA East a rectilinear enclosure with internal divisions and internal circular pit-like features have been identified which could indicate settlement activity or animal husbandry. Similarly, a further rectilinear anomaly with possible kiln has been identified to the north west and could be further evidence of activities of this kind within the area. A number of former field boundaries identified as linear features can be identified on first edition Ordnance Survey mapping and similarly areas of increased magnetic response in the southern part of SSA East are likely to relate to ponds and a former farmstead which are shown on the historic maps.
- 7.7.47 Survey undertaken within Area 4 revealed a rectilinear enclosure with a possible associated kiln which could be evidence for industrial activity in the north western corner of Area 4. Several linear anomalies have been detected across the area which could represent former field systems. In addition a number of penannular anomalies and discrete circular anomalies have been identified further west within Area 4 which could represent ring ditches and evidence for settlement activity.
- 7.7.48 Features of archaeological origin detected within the Little Bromley survey area within SSA West include a Roman Road in the northern part of the survey area. In the southern part of the survey area there is evidence of an enclosure and a possible field system.



DESIGNATED HERITAGE ASSETS

ONSHORE STUDY AREA

7.7.49 The 500 m and 2 km study areas surrounding the Onshore ECC RLB and two OnSS Search Areas (SSA West and SSA East) contain the following designated heritage assets;

- > One Grade I listed building;
- > Two Grade II* listed buildings;
- > 64 Grade II listed buildings;
- > Three scheduled monuments; and
- > Three conservation areas.

7.7.50 In addition, a single undesignated heritage asset was also considered. The cropmark of a henge has been put forward by Historic England to become a scheduled monument. As this asset is considered to be of equivalent heritage significance to a scheduled monument and it may become scheduled during the course of the DCO application, this has been considered as part of this assessment and will be treated as if scheduled.

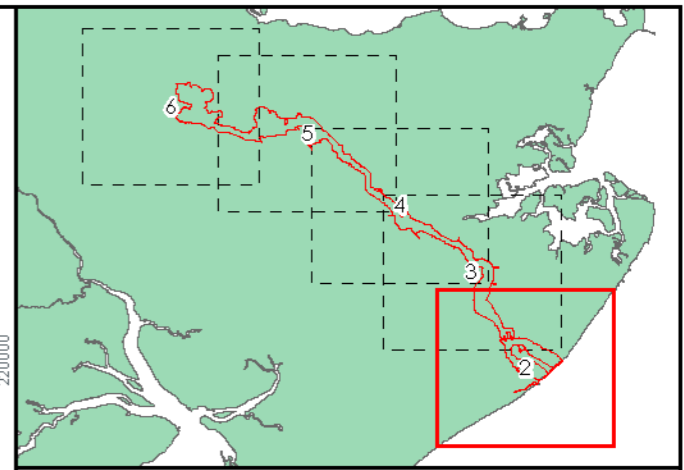
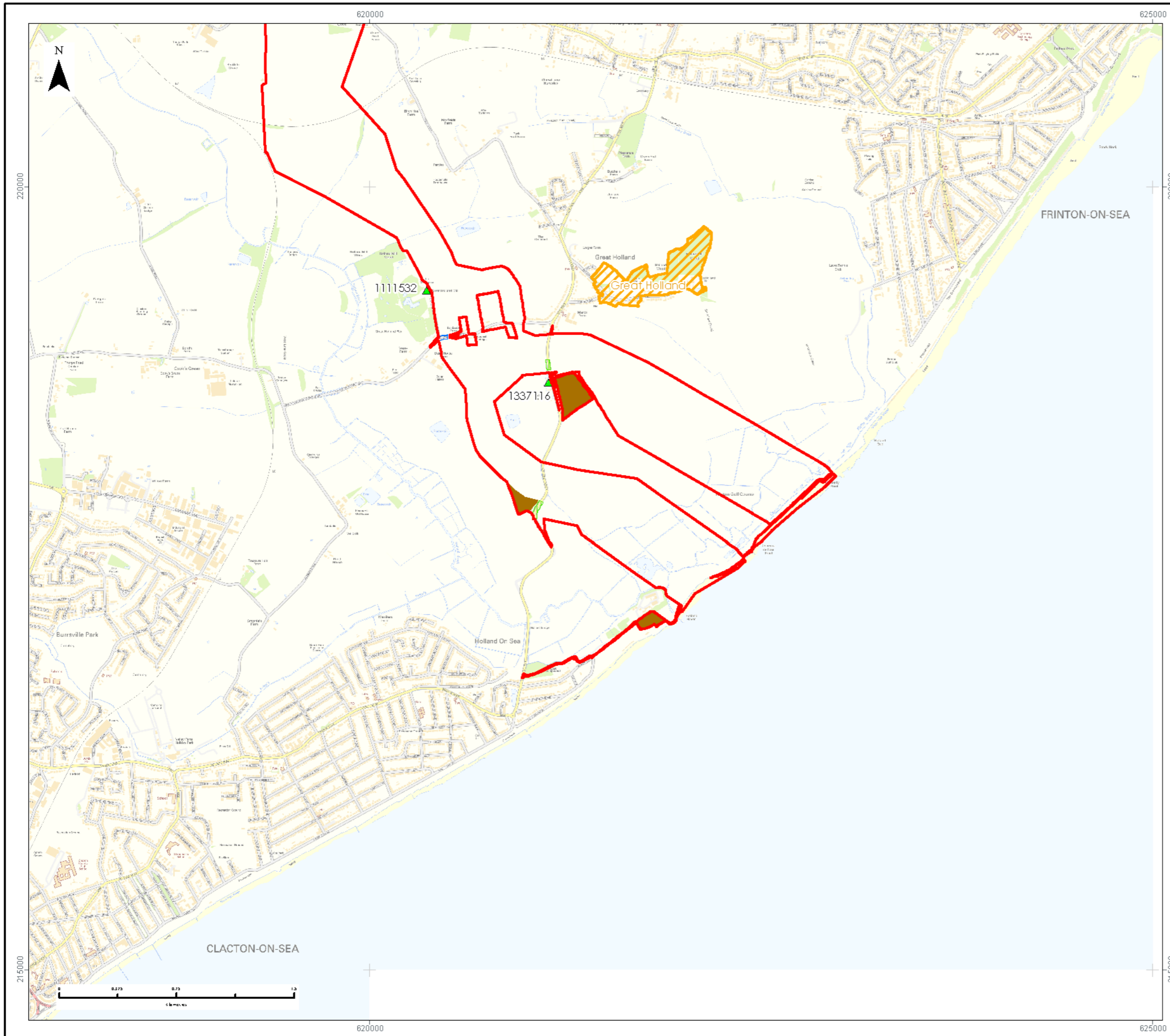
7.7.51 Within the extended buffer around the substation zones between 2 km to 5 km, the following highly graded designated heritage assets have been identified;

- > 14 Grade I listed buildings;
- > 21 Grade II* listed buildings; and
- > Five scheduled monuments.

7.7.52 Following the initial assessment presented within Volume 5, Annex 7.5: GPA3 Exercise and Technical Note (Offshore Array), the following assets have been scoped into detailed assessment within this PEIR chapter for the assessment of effects arising from the Onshore ECC and OnSS;

- > Jennings Farmhouse, Grade II listed building (1111459);
- > Great Holland Mill House, Grade II listed building (1111532);
- > Bounds Farmhouse , Grade II listed building (1147743);
- > Hempstall's Farmhouse, Grade II listed building (1240504);
- > Abbotts Hall, Grade II listed building (1261150);
- > Great Holland Lodge, Grade II listed building (1337116);
- > Braham Hall, Grade II listed building (1337155); and
- > Church of St Mary, Grade II* listed building (1337175).

7.7.53 These assets are shown on Figures 7.2-7.6.



LEGEND

- Onshore Red Line Boundary
- Haul Road Crossings
- Haul Road Access
- Temporary Construction Compounds
- ▲ Grade II Listed Building
- Conservation Areas

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WIND FARM

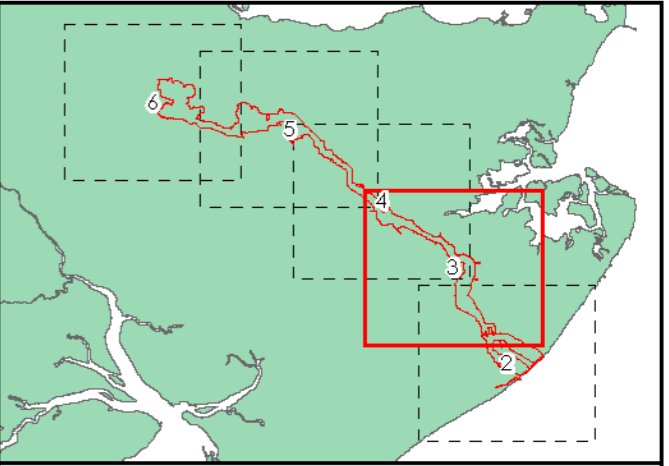
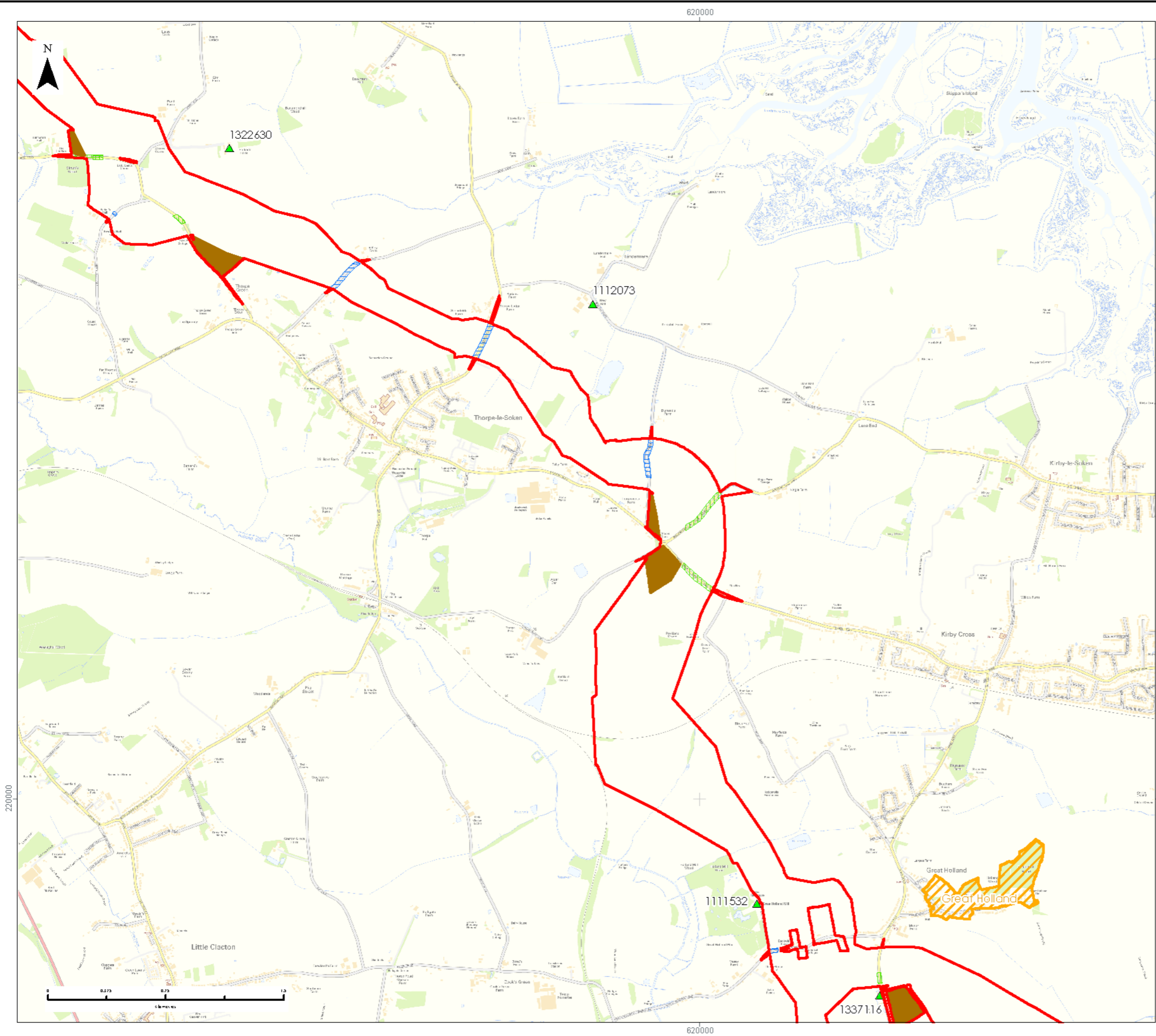
DRAWING TITLE:
Selected Designated Heritage Assets included within PEIR for Onshore ECC and OnSS

VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.2

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

- ▭ Onshore Red Line Boundary
- ▭ Haul Road Crossings
- ▭ Haul Road Access
- ▭ Temporary Construction Compounds
- ▲ Grade II Listed Building
- ▭ Conservation Areas

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

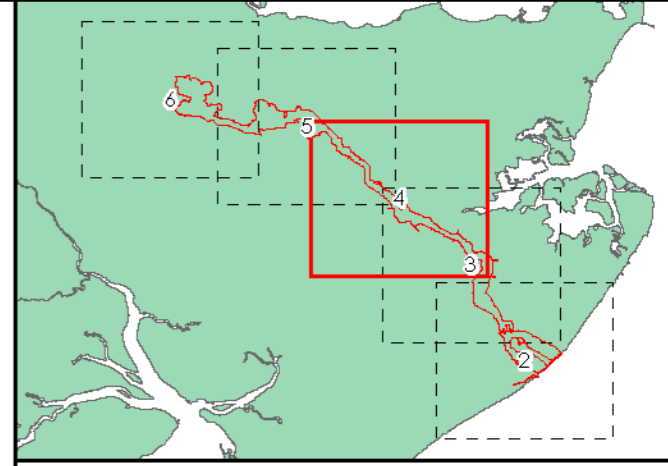
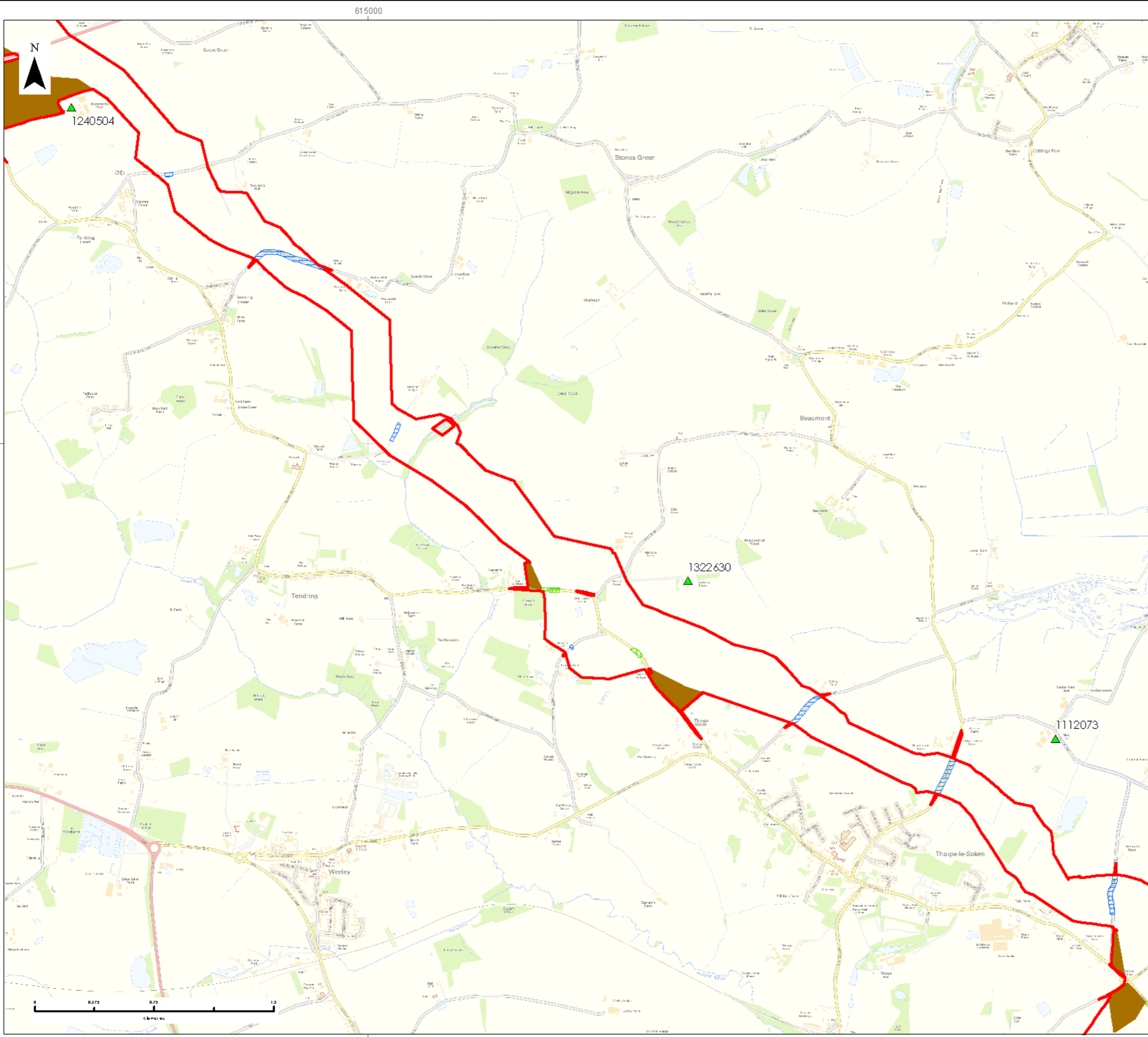
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VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.3

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

- Onshore Red Line Boundary
- Haul Road Crossings
- Haul Road Access
- Temporary Construction Compounds
- ▲ Grade II Listed Building

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

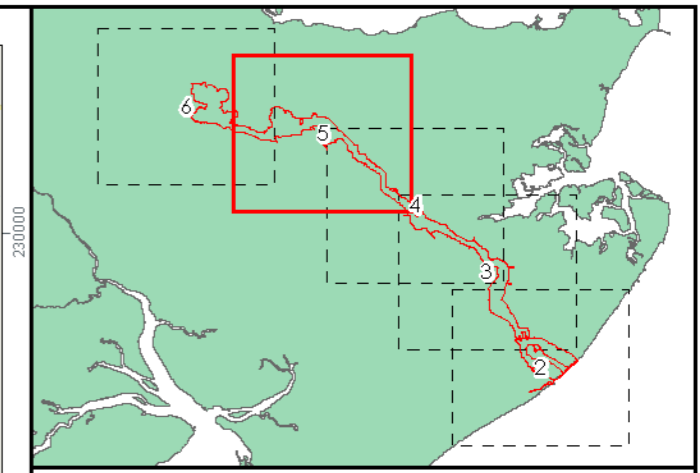
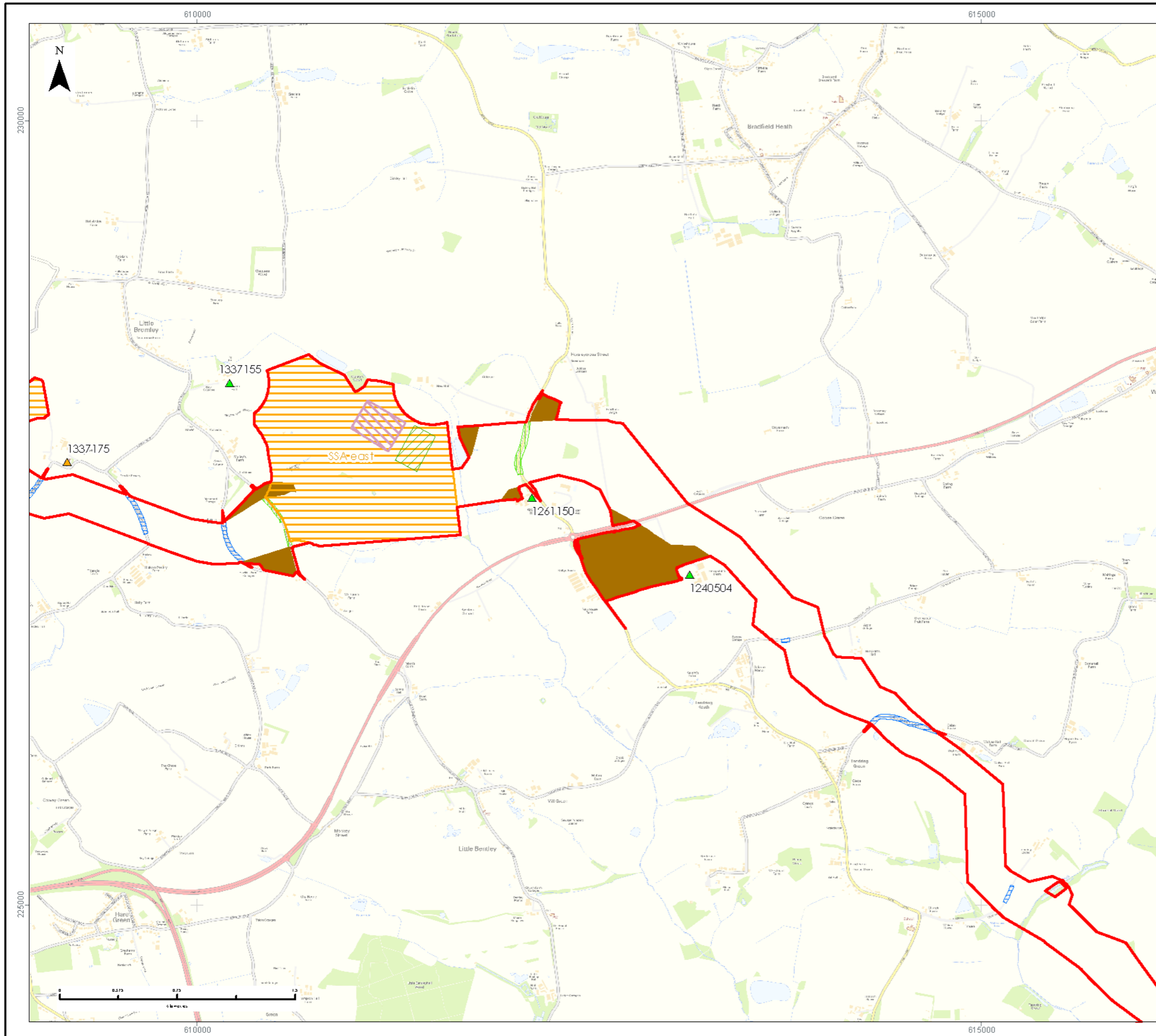
DRAWING TITLE:
Selected Designated Heritage Assets included within PEIR for Onshore ECC and OnSS

VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.4

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

- Onshore Red Line Boundary
- Haul Road Crossings
- Haul Road Access
- Temporary Construction Compounds
- Substation Areas
- Indicative Substation Locations
- Indicative Substation Temporary Construction Compounds
- ▲ Grade II* Listed Building
- ▲ Grade II Listed Building

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

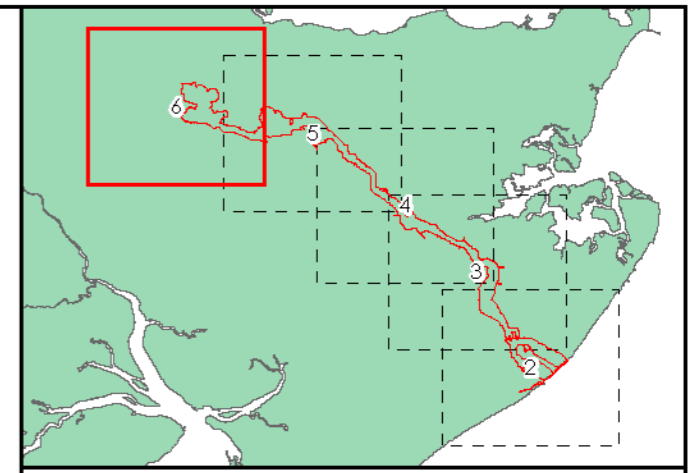
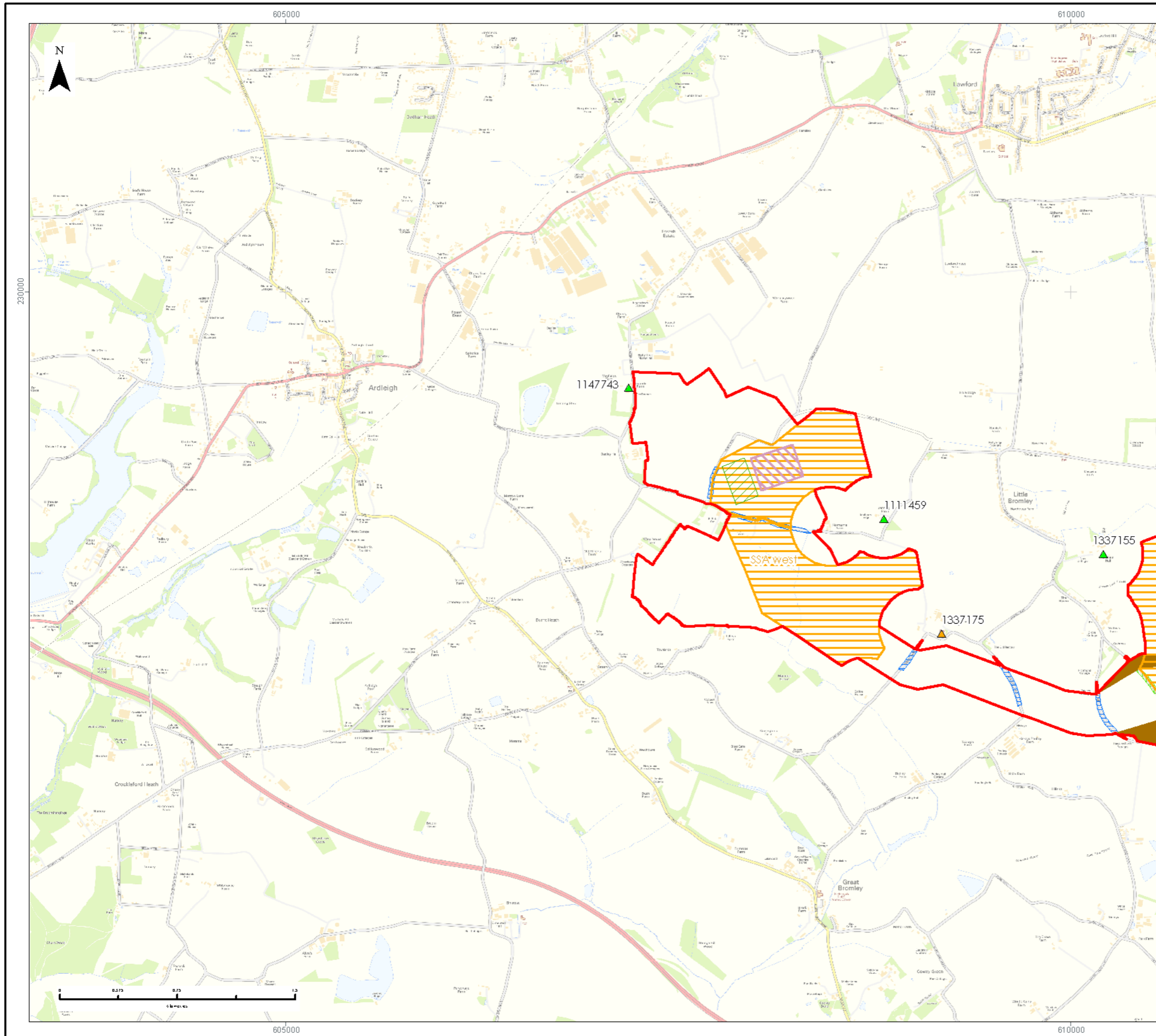
DRAWING TITLE:
Selected Designated Heritage Assets included within PEIR for Onshore ECC and OnSS

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1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.5

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

- Onshore Red Line Boundary
- Haul Road Crossings
- Haul Road Access
- Temporary Construction Compounds
- Substation Areas
- Indicative Substation Locations
- Indicative Substation Temporary Construction Compounds
- ▲ Grade II* Listed Building
- ▲ Grade II Listed Building

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

DRAWING TITLE:
Selected Designated Heritage Assets included within PEIR for Onshore ECC and OnSS

VER	DATE	REMARKS	Drawn	Checked
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DRAWING NUMBER:
Figure 7.6

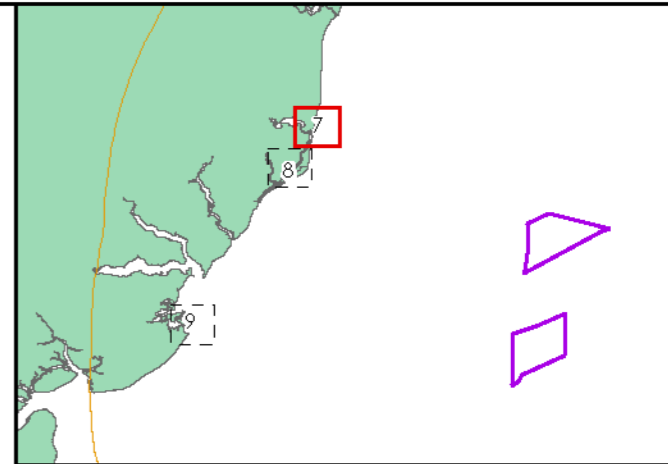
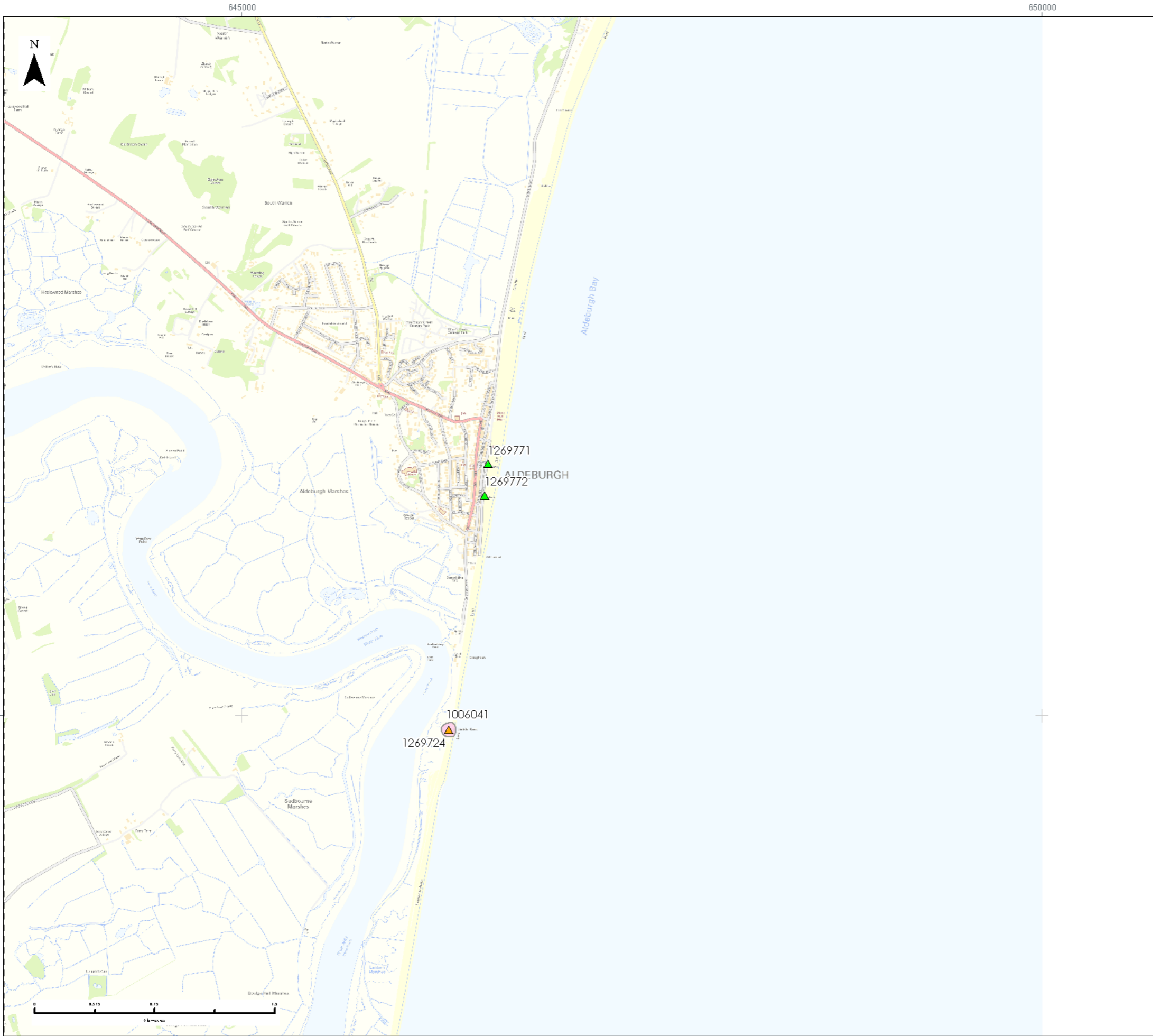
SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





COASTAL STUDY AREA

- 7.7.54 A very large number of assets are located within the 70 km coastal study area, which comprise;
- > 7048 listed buildings;
 - > 200 scheduled monuments;
 - > 19 registered parks and gardens; and
 - > 98 conservation areas.
- 7.7.55 These assets were considered as part of the initial settings assessment (Volume 5, Annex 7.6: GPA3 Exercise and Technical Note (Onshore Project Area)) and defined as part of coastal asset groups. Following this initial assessment, the following assets are included for detailed assessment of potential effects arising from the presence of the operational array;
- > The North Lookout, Aldeburgh (Grade II listed building; 1269771);
 - > The South Lookout, Aldeburgh (Grade II listed building; 1269772);
 - > Martello Tower, Aldeburgh (Grade II* listed building (1269724) and scheduled monument (1006041));
 - > Orford Castle, Orford (Grade I listed building (1030873) and scheduled monument (1014860)); and
 - > Naze Tower, Walton (Grade II* listed building; 1165846).
- 7.7.56 These assets are shown on Figures 7.7-7.9.
- 7.7.57 The coastal study area contains a number of existing operational OSWFs which form part of the baseline to which the VE OSWF will be introduced. These are relevant to the understanding of the existing setting of the heritage assets considered above. The following operational OSWFs are present within the coastal study area;
- > East Anglia ONE (23 km to the north east of the northern VE array area);
 - > Gunfleet Sands I, II and Demonstration (54 km west of the southern VE array area);
 - > London Array (36 km to the west of the southern VE array area);
 - > Thanet OSWF (43 km to the south west of the southern VE array area);
 - > Greater Gabbard (6.5 km west of the northern VE array area and 3.6 km from the southern VE array area); and
 - > Galloper (adjacent to the western boundaries of the northern and southern VE array areas).



LEGEND

- Array Areas
- Offshore Array Coastal Study Area
- ▲ Grade II* Listed Building
- ▲ Grade II Listed Building
- Scheduled Monuments

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

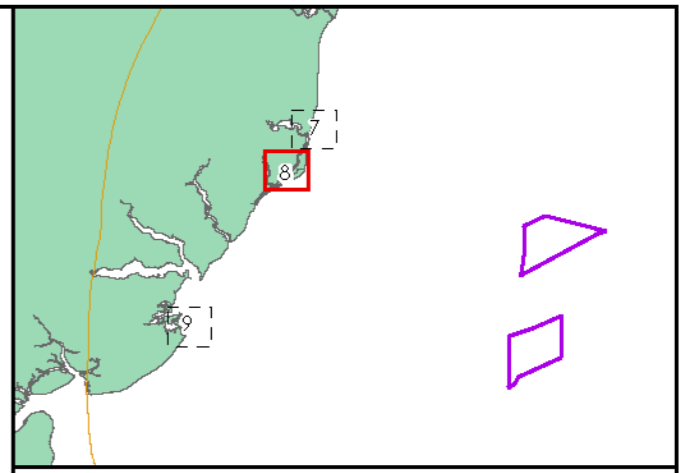
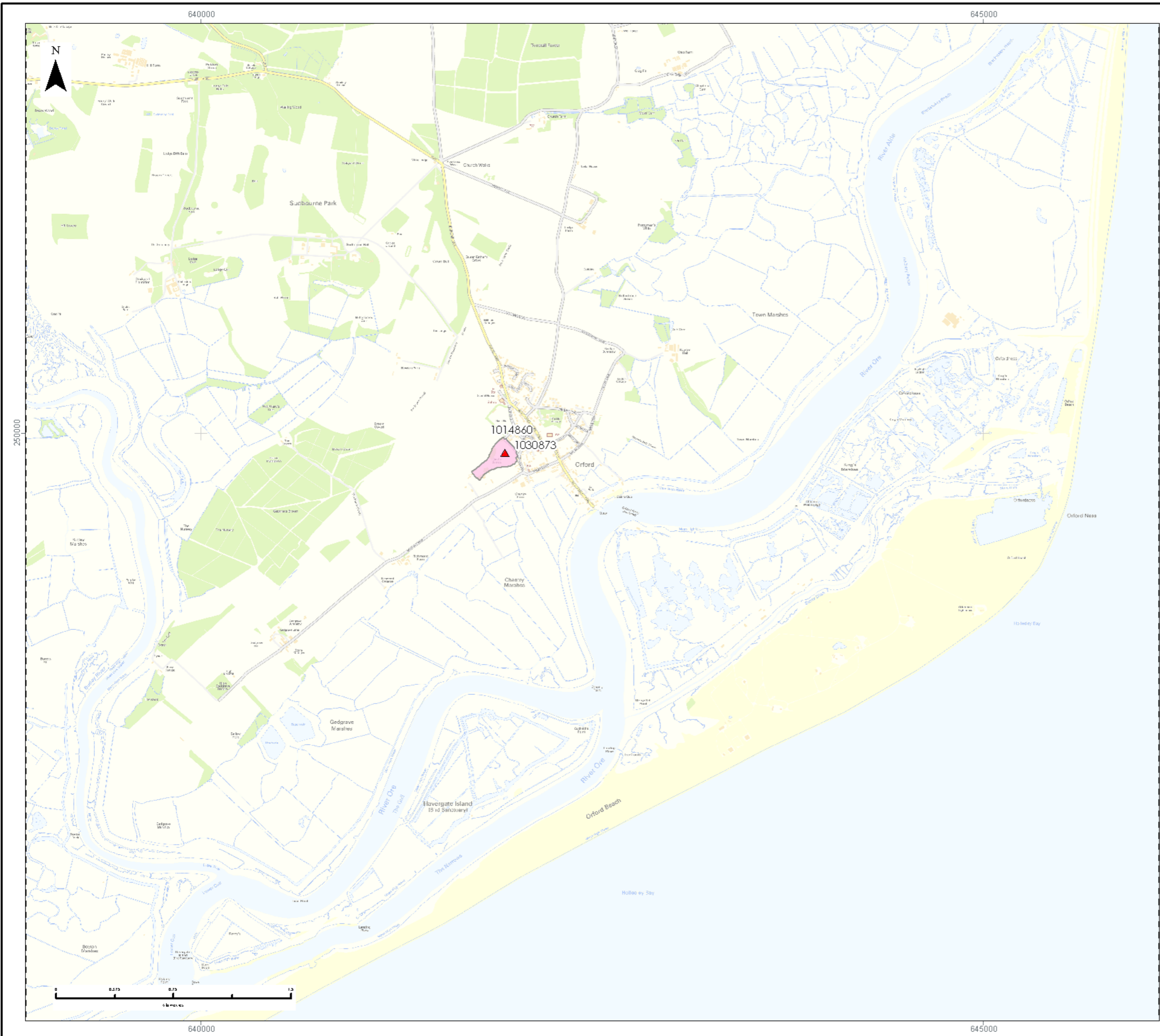
DRAWING TITLE:
Designated Heritage assets included for assessment of the Offshore Array

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DRAWING NUMBER:
Figure 7.7

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

- Array Areas
- Offshore Array Coastal Study Area
- ▲ Grade I Listed Building
- Scheduled Monuments

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

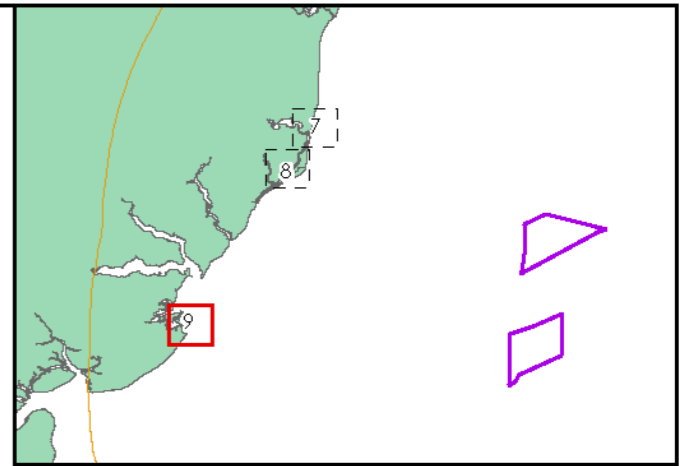
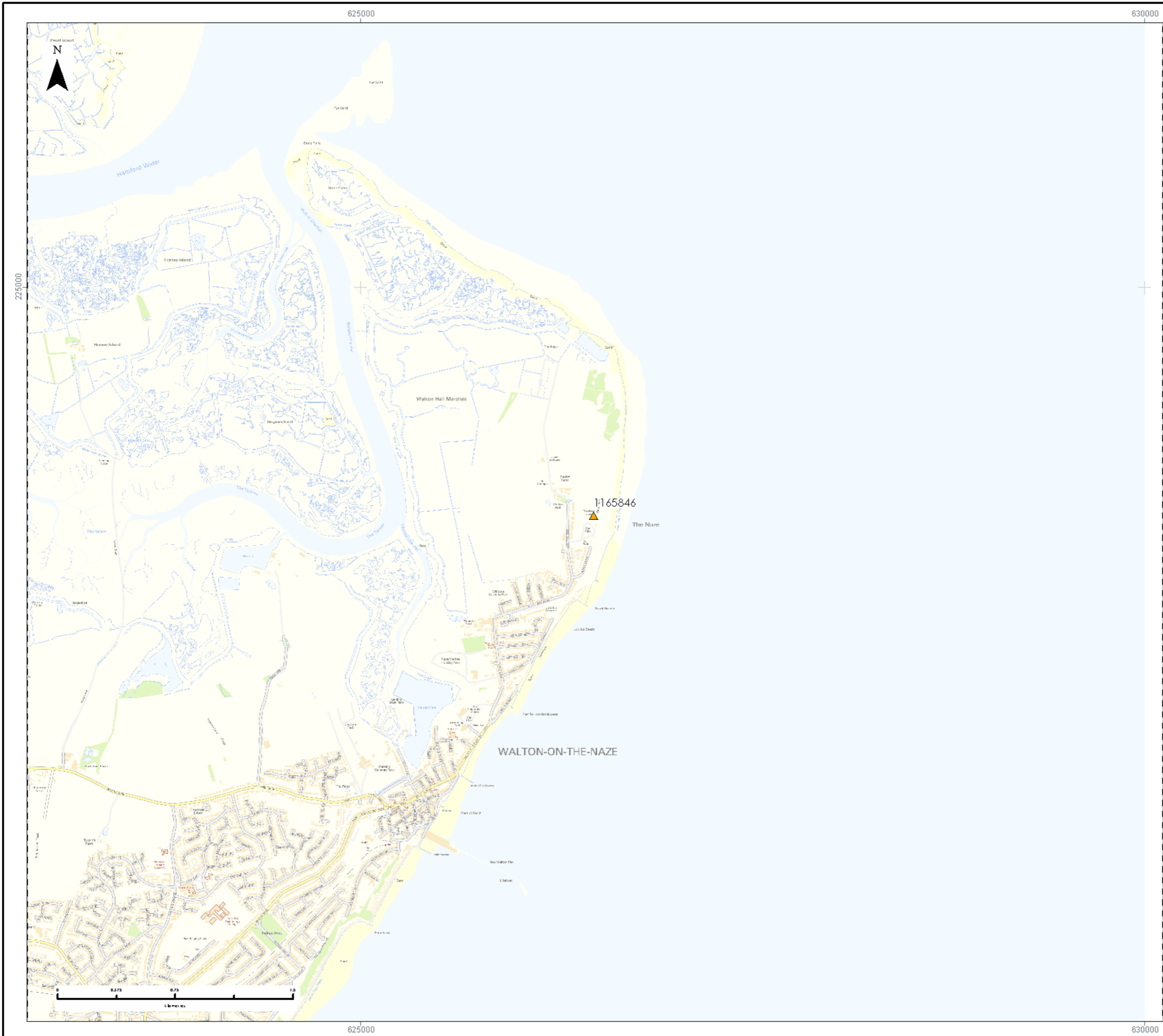
DRAWING TITLE:
Designated Heritage assets included for assessment of the Offshore Array

VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.8

SCALE: 1:25,000	PLOTSIZE: A3	DATUM: OS GB 1936	PROJECTION: BNG
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LEGEND

- Array Areas
- Offshore Array Coastal Study Area
- ▲ Grade II* Listed Building

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

DRAWING TITLE:
Designated Heritage assets included for assessment of the Offshore Array

VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.9

SCALE: 1:25,000	PLOTSIZE: A3	DATUM: OSGB 1936	PROJECTION: BNG
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HISTORIC LANDSCAPE CHARACTER

- 7.7.58 The core of the Tendring District area comprises a plateau of London Clay, with bands of Kesgrave sands and gravels, marking the former line of the River Thames. The fieldscape is characterised by a mix of later enclosure and pre-18th century irregular fields, probably of medieval origin. The area also comprises long thin roadside greens and triangular greens at road junctions. Historically the settlement character is very dispersed and rural.
- 7.7.59 Within Tendring at the northern and eastern flank of Colchester were extensive heaths. These were enclosed in the early 19th century. Ardleigh Reservoir (approximately 3.2 km west of the study area) now forms a major landscape feature within the area. To the south, in the Alresford area (over 5 km to the south of the study area), the landscape is gently undulating. The zone is characterised by extensive areas of meadow pasture along the valleys of the three brooks which drain it and large areas of orchards. The fieldscape comprises a mix of pre-18th century irregular fields and later enclosure of common fields. There are extensive areas of mineral extraction to the south. The landscape is similar to the south-east, around St Osyth, although the fields are noticeably smaller. The valley of the Holland Brook forms a distinct landscape element, characterised by enclosed meadows along the brook and drained tidal marshes. Historically the settlement of the area is markedly dispersed.
- 7.7.60 The coastline is marked by both improved and unimproved coastal marsh. Hamford Water in particular represents a particularly complex landscape of reclaimed marsh, salt-marsh, inter-tidal muds, creeks and islands.
- 7.7.61 A number of historic hedgerows which may be considered to be *important* under the hedgerows regulations have been identified along the route through walkover survey and consultation with historic mapping; these are shown on Figure 6, Volume 5, Annex 7.1: Archaeological Desk-Based Assessment.
- 7.7.62 The Tendring Historic Landscape Characterisation divides the district into areas, with the Onshore ECC and OnSS passing through seven different characterisation zones. Further details and the scoring system applied through the Tendring District Historical Landscape Characterisation Project has been provided within Volume 5, Annex 7.1: Archaeological Desk-Based Assessment and has been used to inform the assessment of effects below.

EVOLUTION OF THE BASELINE

- 7.7.63 The heritage baseline would not evolve as a result of a 'do nothing' scenario. Archaeological assets that are presently within the route corridor would remain in situ albeit subject to ongoing agricultural processes. Similarly, the legibility and integrity of the historic landscape and the heritage significance of designated heritage assets would also remain intact in the absence of the proposed development, assuming no other development takes place.



7.8 KEY PARAMETERS FOR ASSESSMENT

- 7.8.1 There are a large number and wide variety of heritage assets, the heritage significance of which may be affected by VE. Design proposals will be subject to refinement within the detailed design phase, post-consent. Consequently, the effects identified and assessed within Section 7.10-7.12 below represent a worst case scenario for each individual asset. It is not likely, and in some cases not possible, for the worst case to occur to all heritage assets in any case.
- 7.8.2 The requirement to identify worst case scenarios for direct effects within the specified design parameters, effectively requires the assumption to be made that any heritage asset within the Onshore RLB could be affected to the maximum extent possible by the proposed development. Design options, presented through the Rochdale Envelope approach, mean that it would not be possible for the worst case to be realised in every situation, and potentially all worst-case effects could be avoided or reduced from those identified at this stage.
- 7.8.3 In terms of change in the contribution that setting makes to the heritage significance of a heritage asset, factors to be considered are the magnitude of change as influenced by height, proximity and extent of the WTGs layout or other infrastructure as well as composition. Relatively minor changes to design could, in some cases, make substantial differences, to the assessed magnitude of change (i.e. in the degree to which that setting is changed so that there is a loss in the contribution that setting makes to the heritage significance of an asset, with potential for loss to the overall heritage significance of the asset). Conversely large changes in setting can be acceptable where there is no or minimal loss in the contribution of that setting to the heritage significance of the asset, and no consequent reduction in that asset's overall heritage significance, or in the way the asset is appreciated or understood.
- 7.8.4 Where worst case effects are identified within the assessment presented in Sections 7.10-7.12, an explanation is provided of the mechanism by which such effects would arise to allow subsequent assessment to be benchmarked against initial assessments.
- 7.8.5 The maximum design scenarios identified in Table 1.6 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the details provided in the project description chapters Volume 2, Chapter 1: Offshore Project Description and Volume 3, Chapter 1: Onshore Project Description. For the purposes of this assessment, it is assumed that all options for the onshore infrastructure (ECC, OnSS, TCC, HDD (or other trenchless technique) will be used to present a worst case scenario. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on the details within the Project Design Envelope to that assessed here, be taken forward in the final design.

Table 7.6: Maximum design scenario for the project alone.

Potential effect	Maximum adverse scenario assessed	Justification
Construction		



Potential effect	Maximum adverse scenario assessed	Justification
Disturbance or loss of archaeological assets	Site preparation works including installation of temporary access roads, working areas and TCC's	Onshore intrusive construction works can be assumed to disturb or remove any above ground or buried archaeological remains within the construction area. More deeply buried deposits (i.e. deposits of geoarchaeological or palaeoenvironmental heritage significance may be affected by deeper intrusions, such as HDD sites or by OnSS foundation design. It is assumed that all HDD launch and receptor compounds will involve disturbance to the ground surface within the entirety of the compound areas. The same applies to TCC, construction and operational access tracks and OnSS location and construction zones.
	Landfall activities including the Horizontal Directional Drilling (HDD) works, intertidal trenching and exit pit, construction of Transition Joint Bays (TJB), installation of offshore export cables, installation of and jointing to onshore export cables. Landfall activities expected to take around 6 months.	
	Onshore ECC approximately 27 km to take place over an 18 month period. During standard trenched sections the Onshore ECC will be approximately 60m wide. Cabling trench will involve 16 trenches approximately 3.5 m wide and up to 2 m deep using open cut trenching.	
	HDD or other trenchless crossing techniques to be used at crossing points. Drilling compounds or launch and receptor pits to be set up at suitable locations adjacent to each obstacle within the cable corridor. At HDD locations the Onshore ECC will be approximately 180-280 m wide.	
	Joint pits required approximately every 500 m of cable, resulting in a maximum of 216 joint pits (including those at TJBs). These will be up to 13 m long, 5 m wide and 1 m deep.	
	OnSS construction to include OnSS preliminary works, OnSS Access Zone, Cable Corridor Zone, OnSS footprint and OnSS Construction Area. Construction	



Potential effect	Maximum adverse scenario assessed	Justification
	works are anticipated to take place over 27 months.	
Presence of WTGs and onshore infrastructure construction works (so as to cause loss of contribution of setting to heritage significance of an asset)	<p>Construction of WTG 41 jacket foundations.</p> <p>Foundation installation spreads (small group of vessels engaged in same task): 2 small and 2 large</p> <p>Number of vessels per WTG foundation per spread (includes tugs and feeders: 8 small and 8 large</p> <p>Number of foundation installation spread round trips: 71 small and 37 large .</p> <hr/> <p>Construction of up to 41 WTGs. 424m above LAT (Lowest Astronomical Tide) to tip, 360 m rotor diameter, arranged in a N-S grid formation.</p> <p>WTG installation spreads (small group of vessels engaged in same task): 3 small and 3 large</p> <p>Max vessels per WTG installation spread: 5 small and 5 large</p> <p>Total WTG installation vessels 15</p> <p>Number of WTG installation spread round trips: 71 small and 37 large.</p> <hr/> <p>Construction of 2 OSPs, topside 125 m x 100 m x 105 m tall (above LAT- excluding stowed crane, helideck and mast). Location to be confirmed during detailed design post-consent, but likely to be one OSP per array area. OSP foundation installation</p>	<p>The visual presence of the WTGs would initially be very limited but would gradually increase through the construction period to approach those of the operational WTGs.</p> <p>Given the distance from shore and the temporary nature of construction related effects (from presence of vessels moving through the area, cranes etc) offshore construction specific effects are not considered in relation to onshore heritage assets. However, the potential effect of the constructed offshore array has been considered as an operational effect.</p>



Potential effect	Maximum adverse scenario assessed	Justification
	<p>vessels spread round trips: 16 small and 16 large</p> <p>OSP topside installation vessels, spread round trips: 8 small and 8 large.</p> <p>Laying of up to 200 km of inter array cable-peak number of vessels 12.</p> <p>Maximum 35 vessels in the array area at any one time (addition of all maximum numbers unlikely to occur together)</p> <p>Maximum total construction vessels 101</p>	
	<p>Onshore</p> <p>Onshore landfall work: 6 month construction period</p> <p>Onshore ECC: 18 month construction period</p> <p>OnSS: 24 month construction period</p> <p>Total Duration: 48 months</p>	<p>Effects would be greater than operation due to increased visibility of construction plant, vehicle movements and noise, but would reduce towards operational levels gradually over the course of the works. However, effects at any given location would be shorter in duration than those specified for the construction period overall.</p>
Operation		
<p>Presence of operational offshore and onshore infrastructure (so as to cause loss of contribution of setting to heritage significance of an asset)</p>	<p>Up to 41 WTGs- 424 m above Lowest Astronomical Tide (LAT) to tip, 360 m rotor diameter, arranged in a N-S grid formation</p> <p>Up to 2 OSPs, topside 125 m x 100 m x 105 m tall (above LAT-excluding stowed crane, helideck and mast). Location to be confirmed during detailed design post-consent, but likely to be one OSP per array area.</p> <p>Maximum 27 vessels in the array area at any one time</p>	<p>The final built form of the array area (which includes the maximum height, density and coverage of the WTGs and OSPs) which could have an increase ZTV and prominence within views have been adopted for the purposes of this assessment.</p> <p>The potential effect that results from additional WTGs of smaller size (up to 79 WTGs) is considered to be outweighed by the larger height and scale of the 424 m (up to 41 WTGs), with the overall area occupied by WTGs being equal.</p>
	<p>Onshore: 15 m tall buildings across the OnSS zone has been</p>	<p>Effects would be greater due to increased potential visibility of the</p>



Potential effect	Maximum adverse scenario assessed	Justification
	assumed for the maximum design scenario upon a platform measuring 280 m x 210 m.	OnSS. Note that effects would diminish through time as proposed landscaping around the OnSS establishes and matures. The AIS option has been selected for assessment as this has the largest footprint and therefore the greatest potential for operational effects.
Decommissioning		
Removal of visible infrastructure	<p>Offshore: It is anticipated that the proposed WTGs will be removed at the end of the operation period.</p> <p>Onshore: It is anticipated that the OnSS building will be demolished, and all external switchgear/infrastructure removed. Cable ducts for Onshore ECC to be left in situ with cables removed.</p>	Removal of visible elements of infrastructure would effectively reverse any change to setting and remove any adverse effects (if any). Vehicle movements and demolition activity are anticipated to be limited in comparison to construction phase.

7.9 EMBEDDED MITIGATION

- 7.9.1 Mitigation measures that were identified and adopted as part of the evolution of the project design (embedded into the project design) and that are relevant to onshore archaeology and cultural heritage are listed in Table 7.7. General mitigation measures, which would apply to all parts of the project, are set out first. Thereafter, mitigation measures that would apply specifically to onshore archaeology and cultural heritage issues associated with the array, landfall, onshore ECC and OnSS, are described separately. The assessed design to some extent is the result of inherent mitigation, as it takes into account key areas of suspected archaeological sensitivity and seeks to minimise or avoid impact.
- 7.9.2 The embedded mitigation contained within Table 7.7 are mitigation measures or commitments that have been identified and adopted as part of the evolution of the project design of relevance to the topic, these include project design measures, compliance with elements of good practice and use of standard protocols. Where the assessment determined significance effects account for embedded mitigation further measures may be required which are presented as additional mitigation. Table 7.8 presents additional mitigation measures these have been put forward where:
- > An effect is significant in EIA terms, even with embedded mitigation, but additional mitigation measures are available to reduce the level of effect; or
 - > Mitigation has been proposed but has not yet been agreed with regulators/stakeholders or is unproven.



Table 7.7: Embedded mitigation relating to Onshore Cultural Heritage and Archaeology

Project phase	Mitigation measures embedded into the project design
General	
Project Design (Onshore)	Careful routing of the onshore ECC and siting of the substation to avoid key areas of sensitivity. The Onshore RLB has excluded an area to the south of Little Bentley where archaeological remains have been identified which are considered to be of schedulable quality, and which are the subject of a formal proposal for being Scheduled. These remains could become a scheduled monument during the preparation of the DCO application.
Project Design (Offshore)	The northern array area has been reduced from that shown at Scoping which will reduce the number of WTGs present within the space between the existing Galloper OWF, Greater Gabbard OWF and consented East Anglia 2 OWF particularly when viewed from the west between Southwold and Bawdsey.

Table 7.8: Additional mitigation relating to Onshore Cultural Heritage and Archaeology

Project phase	Additional measures
Construction	
Onshore ECC/OnSS	Where practicable archaeological remains of high heritage significance will be avoided and preserved in situ. Preservation in situ is the conservation of an archaeological asset in its original location and is the preferred method of conservation of assets of high or very high heritage significance in accordance with best practice.
Onshore ECC and OnSS	<p>An agreed programme of archaeological investigation work will be put into place to ensure that any heritage assets or deposits of geoarchaeological/ palaeoenvironmental interest that may be present could be identified and recorded. This would be secured as a requirement of the DCO and would be detailed within an Outline Written Scheme of Investigation (WSI) to be prepared in consultation with the Development Control Archaeologist advising Essex County Council (to be approved by Essex County Council).</p> <p>Archaeological investigation and recording would provide a partial mitigation of the loss of archaeological interest and would be less preferable to conservation of a heritage asset in situ (DECC 2011)</p> <p>Archaeological investigation and recording are therefore a partial mitigation that would reduce the magnitude of adverse change to a</p>



Project phase	Additional measures
	degree dependent on the interests that comprise the heritage significance of an individual heritage asset.
Operation	
Onshore ECC	Reinstatement of ECC works, including landscaping such as hedgerows.
OnSS	Retention and restoration of existing screening planting where practicable and the implementation of new/additional planting and/or landscaping. This would be part of a scheme of landscape mitigation secured as a requirement of the DCO. Details of landscape mitigation are set out in Volume 3, Chapter 2 Landscape and Visual Impact Assessment of this PEIR.
Decommissioning	
Onshore ECC/ OnSS	It is assumed that no additional ground disturbance will occur during decommissioning, with no consequent effect on potential archaeological remains. No specific mitigation is therefore proposed. Should new areas of land take be required, then the mitigation measures proposed for construction would be applied i.e. the implementation of an appropriate programme of archaeological work, in accordance with details to be set out in a WSI and agreed with the archaeological advisors at Essex County Council.

7.10 ENVIRONMENTAL ASSESSMENT: CONSTRUCTION PHASE

CONSIDERATION OF ONSHORE ECC AND ONSS AND ASSOCIATED CONSTRUCTION ACTIVITIES

7.10.1 This section considers the potential negative effects of the onshore ECC and OnSS that are likely to occur to the heritage assets during the construction phase. This also includes an assessment of other activities which will take place during the construction phase which could have a direct effect upon archaeological assets such as the temporary construction compounds and temporary construction accesses and haul roads.



DISTURBANCE OR LOSS OF DEPOSITS WITH PALAEOLITHIC POTENTIAL AND PALAEOENVIRONMENTAL DEPOSITS

- 7.10.2 The geoarchaeological desk-based assessment has identified that Pleistocene deposits are likely to be widely present across the route corridor. The Kesgrave sands and gravels, the Anglian Holland Gravel, unmapped post-Anglian fluvial deposits and post-Anglian fluvial deposits of the Holland Brook have potential for Palaeolithic finds. These deposits are considered to be of medium to high heritage significance. Kesgrave sand and gravel was found at 9.2 m below ground level (bgl) in BH203 (although this is likely to vary across the route area). As these deposits are likely to be deeply buried it is likely that these deposits may only be affected through deep excavations at HDD sites and not by the excavations for the Onshore ECC trench. The HDD pits could result in a localised impact of high negative magnitude to deposits of medium to high heritage significance. This would result in a major to moderate adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. Following the implementation of an approved programme of archaeological mitigation this would be reduced to a **minor adverse** effect which is not significant in EIA terms.
- 7.10.3 In the south eastern part of the route there is potential for Holocene alluvium in the area of the Holland Haven Marshes. These deposits may contain peat or organic rich units of palaeoenvironmental potential. Peat and alluvial deposits were recorded in all three of the geotechnical boreholes monitored in April-May 2022 (results presented in Volume 5, Annex 7.4: Archaeological and Geoarchaeological Monitoring of Ground Investigation works). These deposits are considered to be of medium heritage significance. Evidence from the three boreholes records the top of the alluvial deposits to be around 1.2 m bgl at their highest in that area (although this could vary across other parts of the route). Excavations for the Onshore ECC could be up to 2 m in depth and as such these deposits could receive an impact of high negative magnitude. In addition, due to the potentially waterlogged nature of these deposits they may be receptive to effects arising from compression, dewatering or drying out of such deposits from construction activities associated with the Onshore ECC. This could lead to a loss of heritage significance through degradation of these deposits and would be a high negative impact. These impacts upon deposits of medium heritage significance would result in a moderate adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. Through the implementation of an approved programme of archaeological mitigation this could be reduced to a **minor adverse** effect, which is not significant in EIA terms.



- 7.10.4 Construction activities associated with the OnSS have the potential to affect Pleistocene deposits with potential for archaeological remains dating to the palaeolithic (and possibly Mesolithic) period. These deposits could be of medium to high heritage significance. Foundation designs for the OnSS have yet to be finalised but could include piled foundations, the depth of which is currently unconfirmed. This would have an effect of high negative magnitude to deposits of medium to high heritage significance. This would result in a major to moderate adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. Following the implementation of an approved programme of archaeological mitigation this would be reduced to a **minor adverse** effect which is not significant in EIA terms.
- 7.10.5 The effects identified to deposits within palaeolithic and palaeoenvironmental potential can be mitigated via a programme of archaeological recording leading to preservation by record. After mitigation, the residual effect would be **minor adverse**, which is not significant in EIA terms.

DISTURBANCE OR LOSS OF POTENTIAL ARCHAEOLOGICAL ASSETS IDENTIFIED FROM AERIAL PHOTO AND LIDAR ANALYSIS

- 7.10.6 Within APZ_10_LZ (Figure 7.10) former field boundaries from aerial photos and LiDAR data have been identified to date to the post-medieval to modern period as these are visible on historic mapping. These features are considered to be of negligible heritage significance and may receive a high negative magnitude of effect through the construction of the Onshore ECC. This would result in a **negligible** effect that is not significant in EIA terms.
- 7.10.7 Features have been identified within APS_09_LZ (Figure 7.10) from aerial photographs which comprise what is thought to be predominantly field boundaries which overlie earlier features. The field boundary system is thought to date to the post-medieval period and is likely to be of negligible heritage significance. These features would be subject to an effect of high negative magnitude from the Onshore ECC, resulting in a **negligible** effect which is not significant.
- 7.10.8 The earlier features include boundaries, rectangular enclosure, pits and a possible trackway and could be of low to medium heritage significance. These would also be subject to a high negative impact from the construction of the Onshore ECC, resulting in a minor to moderate adverse effect, which would be reduced to a **minor adverse** residual effect following mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.9 Features within APS_14_LZ (Figure 7.10) have been identified as square enclosures likely to be post-medieval field systems visible on pre-1970s OS mapping which are considered to be of negligible heritage significance. These features may receive a high negative magnitude of impact through the construction of the Onshore ECC which would result in a **negligible** effect which is not significant in EIA terms.



- 7.10.10 Within APS_01 and APS_02 to the north of Little Clacton Road, APS_03 and APS_04 to the west of Pork Lane and APS_05, APS-06, APS_07 and APS_08 to the north east, north and west of Thorpe-le-Soken, field boundaries of unknown date have been identified from aerial photographs and LiDAR data (Figure 7.10-11). These are likely to be of negligible to low heritage significance. These lie within the corridor for the Onshore ECC and within one of the TCC's at APS_08 and would be subject to a high negative magnitude of impact. This would result in a **minor adverse to negligible** effect, which is not significant in EIA terms.
- 7.10.11 A possible ring ditch has been identified from aerial photographs and was also labelled as tumulus on historic maps. This may date to the Bronze Age and could be of medium heritage significance. This lies within the Onshore ECC and would be subject to an impact of high negative magnitude, resulting in a moderate adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. Through the implementation of an approved programme of archaeological mitigation measures this could be reduced to a **minor adverse** effect, which is not significant in EIA terms.
- 7.10.12 Field boundaries also recorded within APS_09 are likely to be of low heritage significance and would be subject to an impact of high negative magnitude. This would result in a **minor adverse** effect which is not significant in EIA terms.
- 7.10.13 The southern part of APS_10 has been identified to contain a series of ditches and trackways of unknown date, with two ring ditches located in the northern part of APS_10. The ditches and trackways are likely to be of low to medium heritage significance and would be subject to an impact of high negative magnitude from the construction of the Onshore ECC. This would result in a minor to moderate adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. This would be reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation.
- 7.10.14 The ring ditches are considered to be of high heritage significance and would be subject to an impact of high negative magnitude as a result of the Onshore ECC. This would result in a major adverse effect that could be reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.15 Within APS_11 and APS_14 field systems, field boundaries and ditches of unknown date have been recorded from aerial photographs and LiDAR. These are likely to be of low heritage significance and would be subject to a high negative magnitude of impact as a result of the Onshore ECC. This would result in a **minor adverse** effect which is not significant in EIA terms.



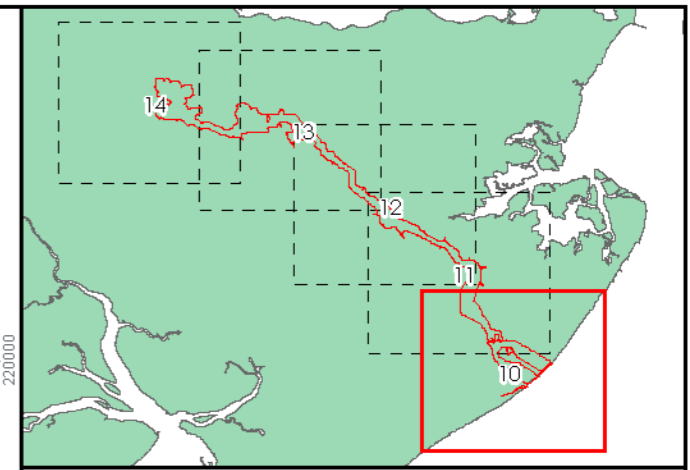
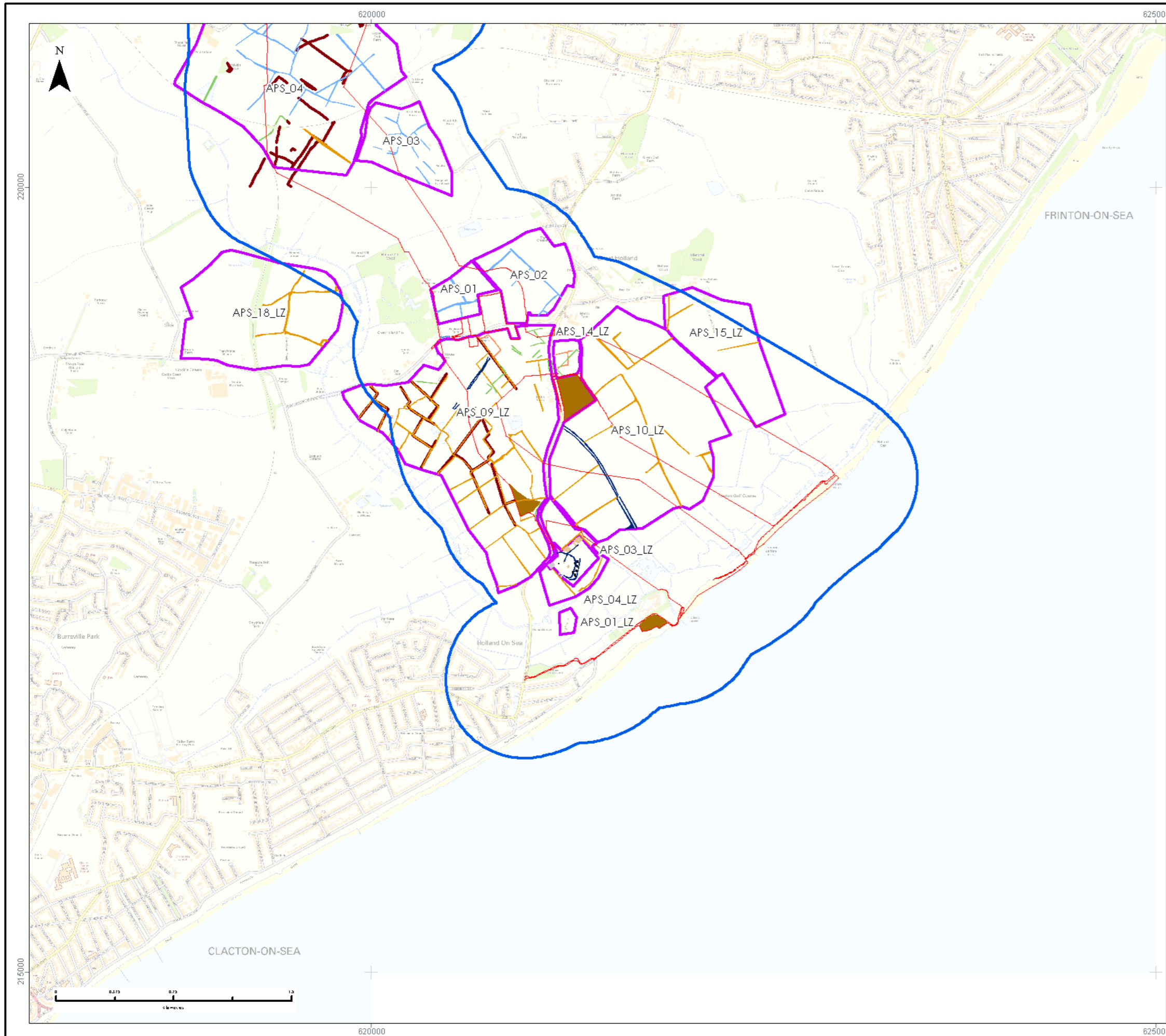
- 7.10.16 Aerial photos and LiDAR have identified a series of enclosures and field systems within APS_20 which are likely to be of low to medium heritage significance. These features lie within the corridor for the Onshore ECC and would be subject to a high negative magnitude of impact, resulting in a moderate to minor adverse effect prior to mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. This would be reduced to a **minor adverse** effect after mitigation.
- 7.10.17 A possible ring ditch has been recorded through the NMP survey, but this was not corroborated through the APS work. Should this feature exist, it could be of medium to high heritage significance and would be subject to a high magnitude of impact as a result of the construction of the Onshore ECC. This would result in a moderate to major adverse effect prior to mitigation, reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.18 Analysis of aerial photos and LiDAR within the substation search area for the proposed SSA East substation has identified an enclosure and a series of ditches and field boundaries in the southern part of the zone. These are likely to be of low to medium heritage significance and may be subject to a high negative magnitude of impact arising from the Onshore ECC dependent upon its route through this search area and the OnSS depending upon its final location.. This would result in a moderate to minor adverse effect, reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. This is not significant in EIA terms.
- 7.10.19 In the northern part of the SSA East OnSS zone features including a field boundaries, possible trackway and road all of unknown date are recorded through NMP survey. These could be of low to medium heritage significance. These features could be affected by the construction of the OnSS, OnSS TCC and Onshore ECC as well as other activities such as landscaping and planting. Adopting a worst-case scenario, this would have a high negative magnitude of impact to possible assets of low to medium heritage significance. This would result in a moderate to minor adverse effect, reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.20 Within APS_12 to the west of SSA East ditches of unknown date have been identified from aerial photos and LiDAR, which are likely to be of low heritage significance. These lie within an area for a TCC and as such will be subject to an impact of high negative magnitude. This would result in a **minor adverse** effect which is not significant.



- 7.10.21 Directly to the north further ditches and a further field boundary were recorded as part of the NMP survey which are likely to be of low to negligible heritage significance. These lie within another TCC and within the corridor for the Onshore ECC and would be subject to an impact of high negative magnitude. This would result in a **minor adverse to negligible** effect, which is not significant in EIA terms.
- 7.10.22 The section of the Onshore ECC between Paynes Lane and the SSA West substation search area contains field systems in the east of the area and ditches and a trackway further west. The ditches and trackway lie to the north of a large number of features including a possible henge, a large number of ring ditches and a series of enclosures and ditches. As these features could be associated with the activity to the south, these could be of low to medium heritage significance. As the ditches, field boundaries and trackway lie within the Onshore ECC corridor would be subject to a high negative magnitude of impact. This would result in a moderate to minor adverse effect prior to mitigation, reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. The residual effect is not significant in EIA terms.
- 7.10.23 Within the southern part of the SSA West OnSS search area, are a series of field boundaries, field systems, curvilinear features and a concentration of linear features in the south of the area possibly forming part of a settlement. These features are likely to be of low to medium heritage significance and may be affected by below ground activities associated with the OnSS, OnSS TCC, Onshore ECC and landscaping/planting. Below ground activities within this area would cause a high negative magnitude of impact to assets of low to medium heritage significance. This would result in a moderate to minor adverse effect prior to mitigation, reducing to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. The residual effect is not significant in EIA terms.
- 7.10.24 In the north eastern part of the SSA West OnSS zone within APS_26, a series of field systems, field boundaries and a roman road have been identified. As this area has been subject to geophysical survey, the roman road and some of the field boundaries immediately to the south of this have been assessed as geophysical anomalies in 7.10.42 below. The remaining field systems that have been identified from the aerial photos are likely to be of low heritage significance. These lie within the area for the Onshore ECC corridor and the OnSS construction zone which would have a high negative magnitude of impact. This would result in a **minor adverse** effect which is not significant in EIA terms.



- 7.10.25 To the north of Grange Road (APS_30) a complex series of features have been identified from aerial photos which include overlapping enclosures, ditches, a double ditched ring ditch and the junction of two sections of roman road. These features are likely to be of medium to high heritage significance and could lie within the Onshore ECC route which would be a high negative magnitude of impact. This would result in a moderate to major adverse effect, reduced to a **minor adverse** effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. The residual effect is not significant in EIA terms.
- 7.10.26 To the west of Grange Road (APS-27) a series of enclosure ditches and a continuation of the roman road from APS_30 have been identified. These features are likely to be of low and moderate significance. These features could be affected by the Onshore ECC as it connects to the EACN Substation which would be an impact of high magnitude. This would result in a moderate and minor adverse effect prior to mitigation, reducing to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. The residual effect is not significant in EIA terms.
- 7.10.27 The effects to the potential features identified from aerial photographs and from LiDAR data that have been identified to receive a minor adverse effect can be mitigated via a programme of archaeological recording leading to preservation by record. After mitigation, the residual effect will be **minor adverse**.



LEGEND

Onshore Red Line Boundary	Ditch
Onshore Archaeological Remains Study Area	Enclosure
Haul Road Crossings	Field System
Haul Road Access	Henge
Temporary Construction Compounds	Pit
APS Site Boundary	Ring Ditch
Anti Aircraft Defence Site	Road
Defence Obstruction	Settlement
Barrow	Structure
Boundary	Trackway
Building	NMP Data

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

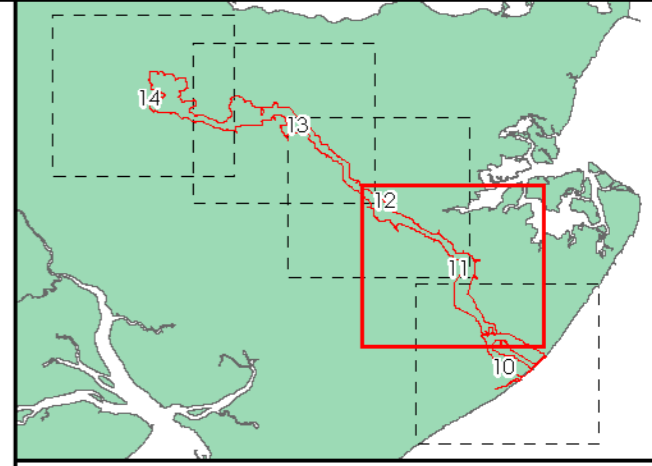
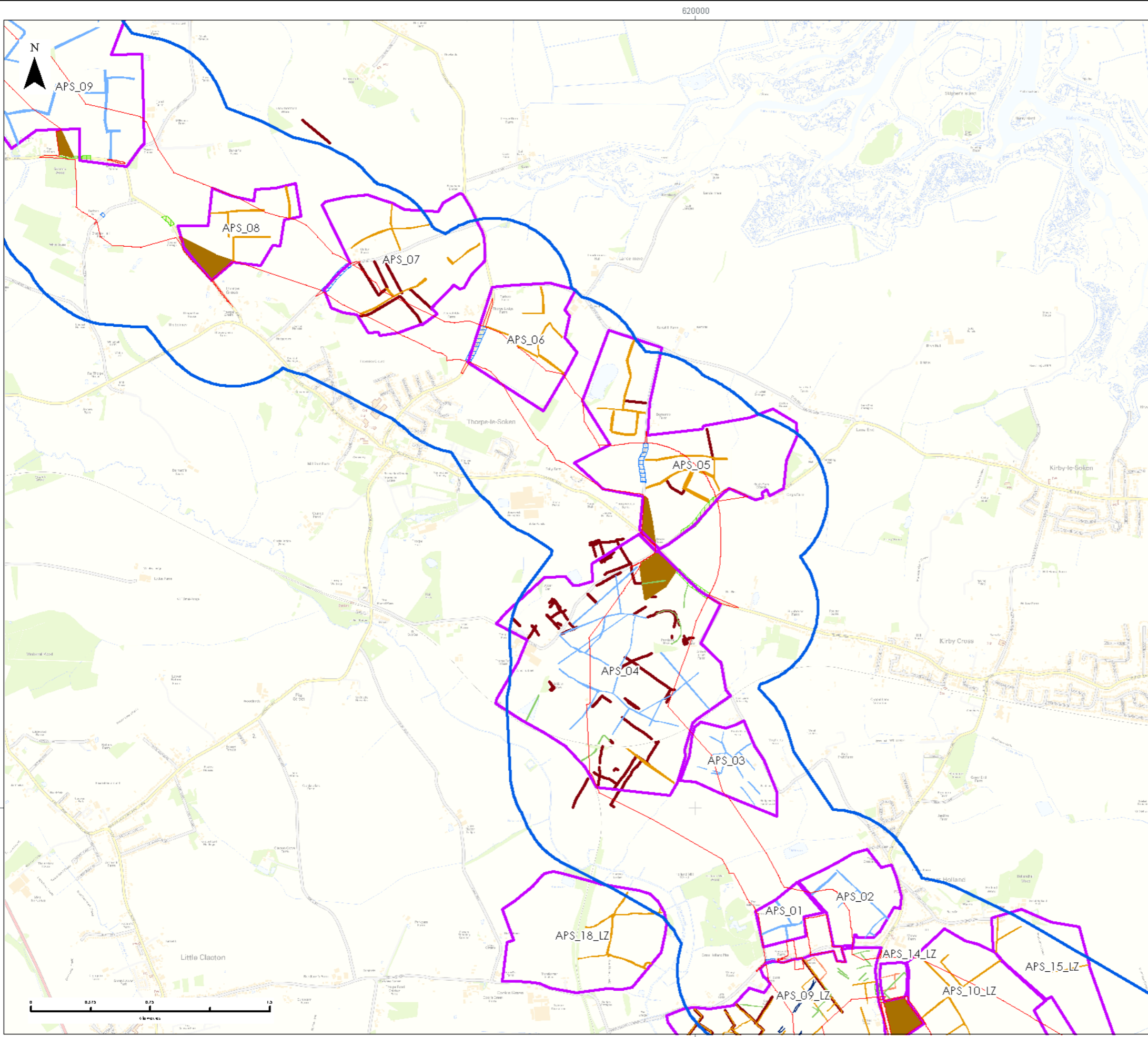
DRAWING TITLE:
National Mapping Programme Data and Archaeological Sites and Features mapped by APS

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1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.10

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

Onshore Red Line Boundary	Ditch
Onshore Archaeological Remains Study Area	Enclosure
Haul Road Crossings	Field System
Haul Road Access	Henge
Temporary Construction Compounds	Pit
APS Site Boundary	Ring Ditch
Anti Aircraft Defence Site	Road
Defence Obstruction	Settlement
Barrow	Structure
Boundary	Trackway
Building	NMP Data

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

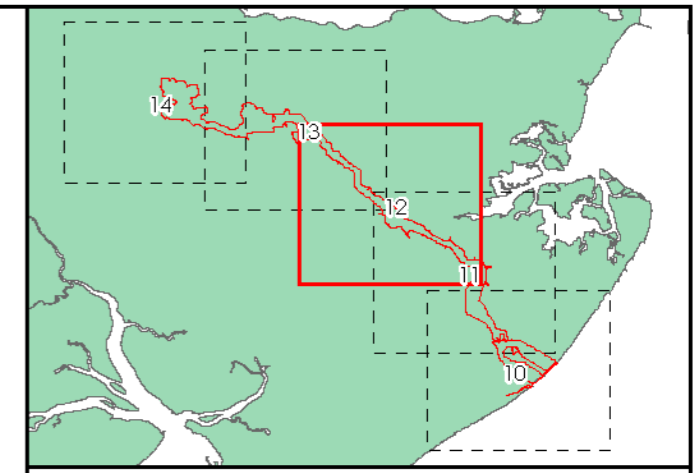
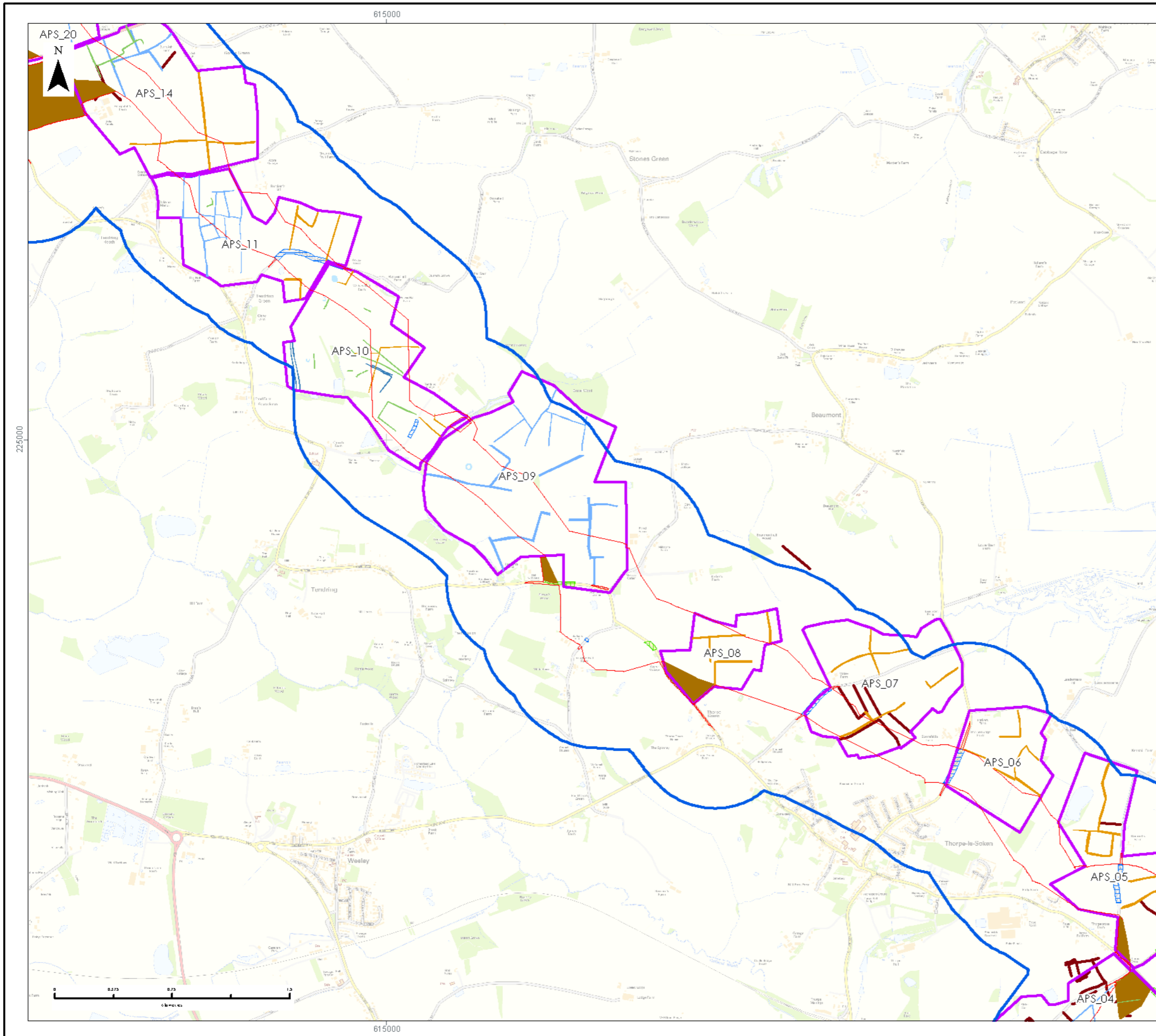
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National Mapping Programme Data and Archaeological Sites and Features mapped by APS

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1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.11

SCALE: 1:25,000 PLOTSIZE: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

Onshore Red Line Boundary	Ditch
Onshore Archaeological Remains Study Area	Enclosure
Haul Road Crossings	Field System
Haul Road Access	Henge
Temporary Construction Compounds	Pit
APS Site Boundary	Ring Ditch
Anti Aircraft Defence Site	Road
Defence Obstruction	Settlement
Barrow	Structure
Boundary	Trackway
Building	NMP Data

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

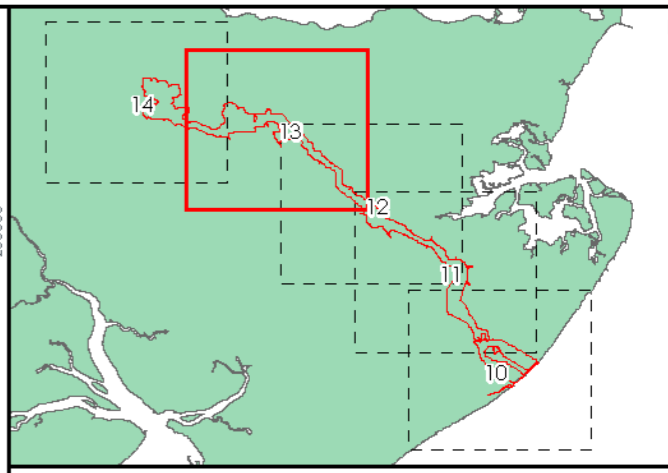
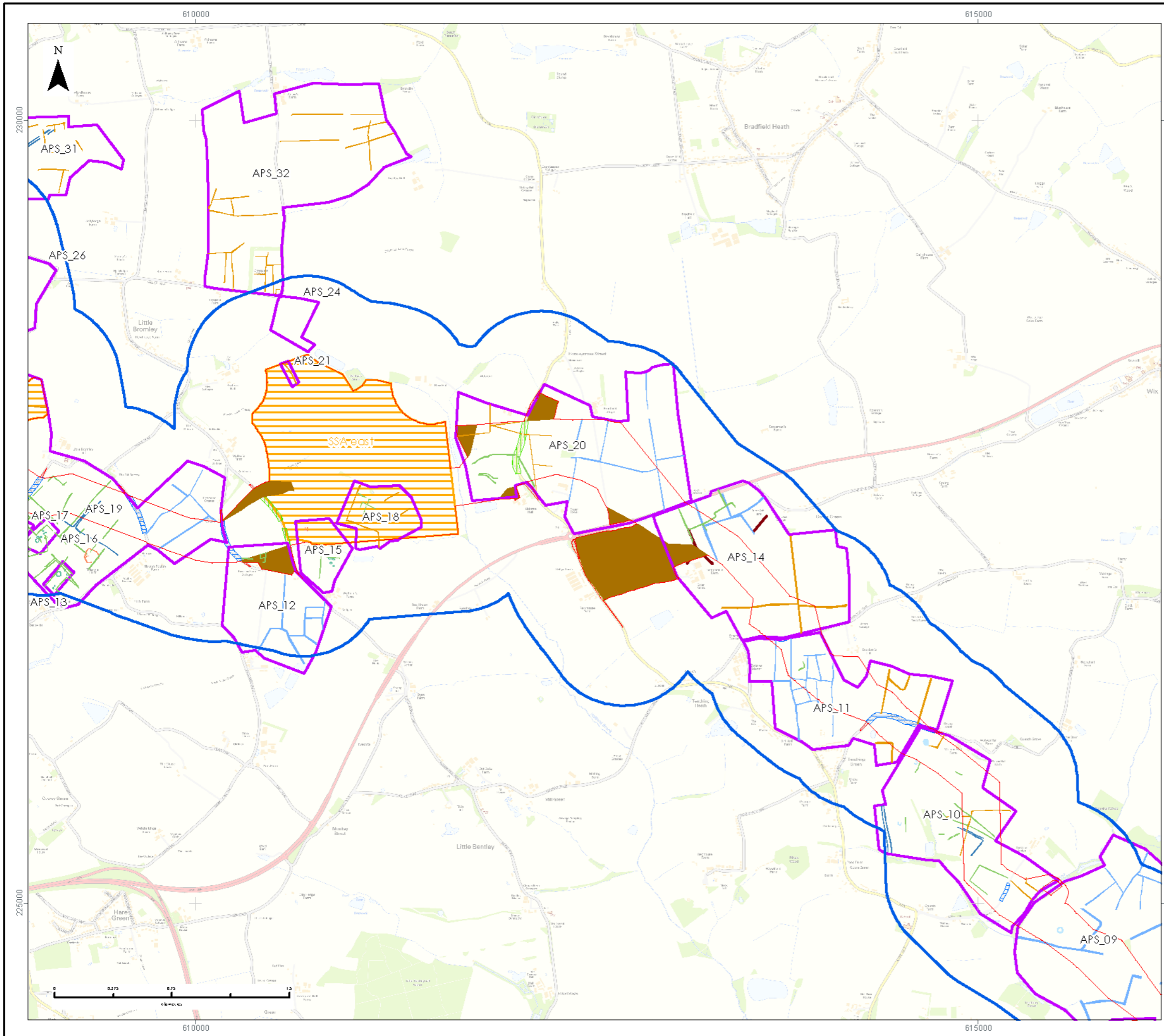
DRAWING TITLE:
National Mapping Programme Data and Archaeological Sites and Features mapped by APS

VER	DATE	REMARKS	Drawn	Checked
1	13/02/2023	For Issue	TP	MK

DRAWING NUMBER:
Figure 7.12

SCALE: 1:25,000	PLOT SIZE: A3	DATUM: OSGB 1936	PROJECTION: BNG
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LEGEND

Onshore Red Line Boundary	Building
Onshore Archaeological Remains Study Area	Ditch
Haul Road Crossings	Enclosure
Haul Road Access	Field System
Temporary Construction Compounds	Henge
Substation Areas	Pit
APS Site Boundary	Ring Ditch
Anti Aircraft Defence Site	Road
Defence Obstruction	Settlement
Barrow	Structure
Boundary	Trackway
	NMP Data

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PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

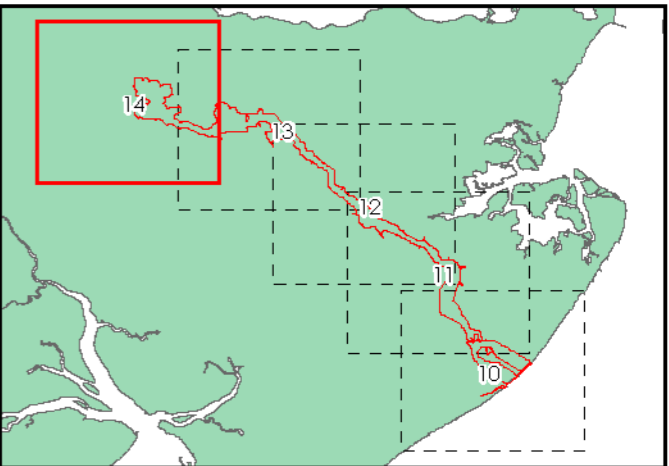
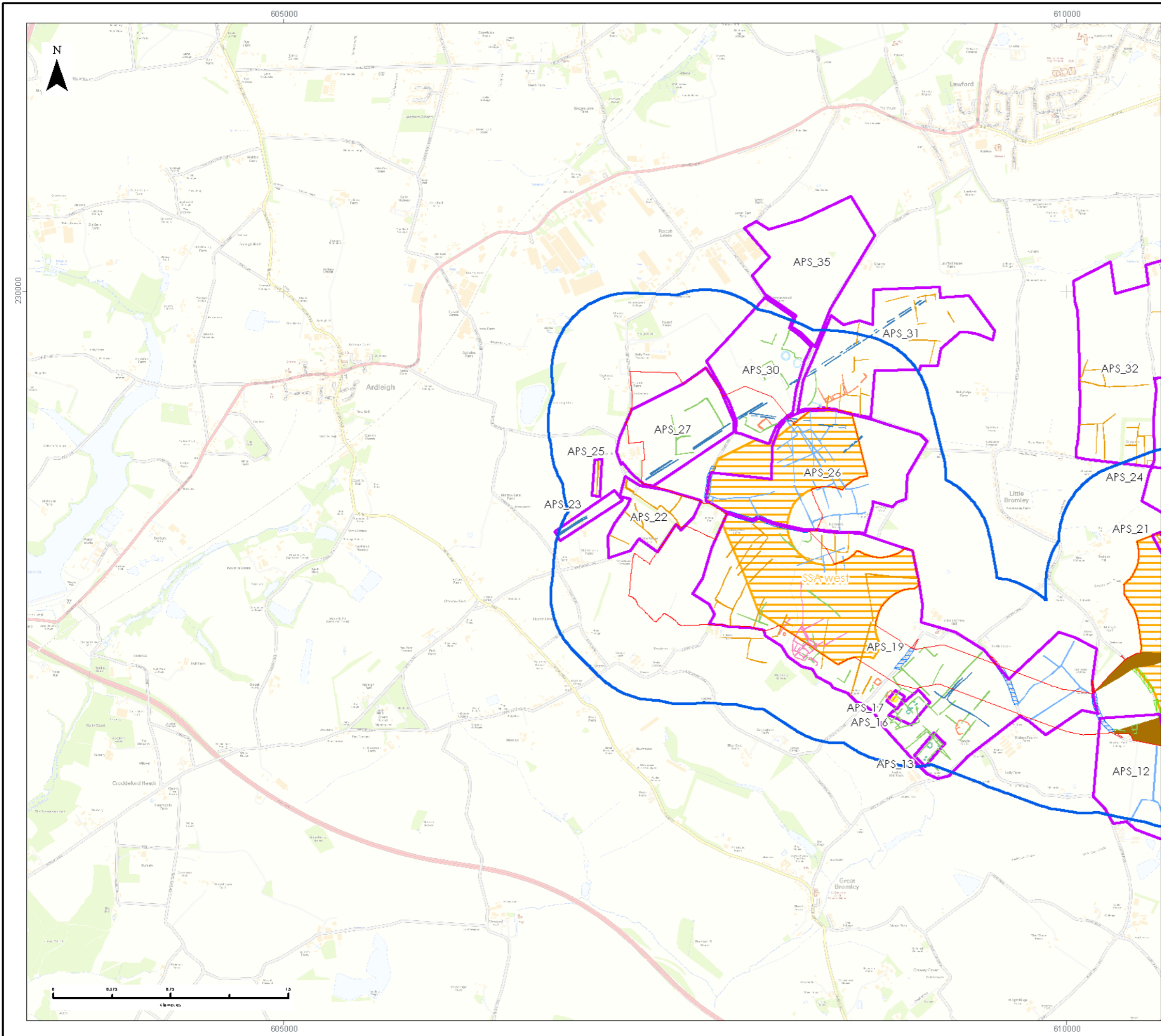
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DRAWING NUMBER:
Figure 7.13

SCALE: 1:25,000 PLOTSHEET: A3 DATUM: OSGB 1936 PROJECTION: BNG





LEGEND

	Onshore Red Line Boundary		Building
	Onshore Archaeological Remains Study Area		Ditch
	Haul Road Crossings		Enclosure
	Haul Road Access		Field System
	Temporary Construction Compounds		Henge
	Substation Areas		Pit
	APS Site Boundary		Ring Ditch
	An ti Aircraft Defence Site		Road
	Defence Obstruction		Settlement
	Barrow		Structure
	Boundary		Trackway

Data Source: Contains Ordnance Survey data © Crown copyright and database right 2022.

PROJECT TITLE:
FIVE ESTUARIES OFFSHORE WINDFARM

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National Mapping Programme Data and Archaeological Sites and Features mapped by APS

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DRAWING NUMBER:
Figure 7.14

SCALE: 1:25,000	PLOT SIZE: A3	DATUM: OS GB 1936	PROJECTION: BNG
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DISTURBANCE OR LOSS OF POTENTIAL ARCHAEOLOGICAL ASSETS IDENTIFIED AS GEOPHYSICAL ANOMALIES

- 7.10.28 Geophysical survey within the route has identified geophysical anomalies of possible and probable archaeological origin. The numbers referred to in this section (e.g. (4000)) correspond to the reference numbers assigned as part of the Geophysical Survey report in the text and on the accompanying figures (Volume 5, Annex 7.2: Onshore Geophysical Survey).
- 7.10.29 At Little Clacton Road is a possible roundhouse or roundbarrow (4000) with associated pit and ditch features (4001) which may relate to prehistoric settlement activity. Similarly at Holland Haven North a probable ring ditch or round barrow (4100) with possible associated Bronze Age activity has been identified. These features could be of medium heritage significance. These assets of possible and probable archaeological origin lie within the route corridor. Adopting a worst case scenario, these assets would be subject to an impact of high negative magnitude associated with the construction of the cable route. This would result in an effect of moderate adverse significance. However, through the implementation of archaeological mitigation this would be reduced to a **minor adverse** residual effect which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.30 At Little Clacton Road other weakly positive linear anomalies have been identified perhaps representing a large enclosure (4003) or possible dwellings (4002). These features could be of low or medium heritage significance and as a worst case scenario would receive a high negative magnitude of effect as a result of the construction of the cable route. This would result in an effect of moderate or minor adverse significance prior to mitigation. Through the implementation of archaeological mitigation this would be reduced to a **minor adverse** effect which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.31 Other discrete pit-like features and linear anomalies have been located across the survey area at Little Clacton Road (4004-4009) and Kirby Cross West. These features are likely to be of low heritage significance and would receive an effect of high negative magnitude. This would result in a minor adverse effect prior to mitigation and would be reduced to a **negligible** residual effect through the implementation of mitigation, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.



- 7.10.32 Further features identified at the Holland Haven North Survey area consist of a possible bank and ditch associated with the Gunfleet Estuary (4102 & 4103). This is likely to be of low heritage significance. As a worst case scenario this would be subject to a high negative magnitude of effect which would result in a minor adverse effect prior to mitigation. This would be reduced to a **negligible** residual effect through the implementation of mitigation, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.33 Two parallel linear features with a curvilinear extension has been identified at Holland Haven North. This could be a trackway or equally relate to modern agricultural activity. The heritage significance of this possible feature is likely to be low and the magnitude of impact would be a high negative effect. This would result in a minor adverse effect prior to mitigation and would be a **minor adverse or negligible** residual effect through the implementation of an approved programme of archaeological mitigation measures. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. This is not significant in EIA terms.
- 7.10.34 An area of geophysical survey was undertaken at Kirby Cross West. Weakly positive rectilinear anomalies were identified forming a possible ditched enclosure (4300). These features are likely to be of low heritage significance. The enclosure is located within the route corridor and as such would receive an impact of high negative magnitude. This would result in a minor adverse effect prior to mitigation, which would be a **minor adverse** residual effect following mitigation measures. This effect is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.35 Survey undertaken east of Tendring identified a circular ring ditch with central feature possibly representing prehistoric funerary activity (4900). This is likely to be of high heritage significance and would receive an impact of high negative magnitude. This would result in a major adverse effect prior to mitigation, which would be reduced to a **minor adverse** residual effect following mitigation measures. This effect is not significant in EIA terms. In the same survey area but located further south a linear anomaly likely to represent a ditch or field boundary (4901) has been identified likely to be of low heritage significance. This would be subject to an effect of high negative magnitude. This would result in a minor adverse effect prior to mitigation which would be a **minor adverse** residual effect following mitigation measures. This is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.



- 7.10.36 In the southern part of Area 12 a linear feature possibly representing a ditch or field boundary has been identified (4800) which is likely to be of low heritage significance. This would be subject to a high adverse impact due to the construction of the Onshore ECC which would result in a minor adverse effect prior to mitigation. This would result in a **minor adverse** residual effect following mitigation measures which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.37 In the Tendring Green north survey area a circular anomaly was identified which could be of low to moderate heritage significance (4700). This would be subject to a high negative adverse effect as a result of the construction of the Onshore ECC. This would result in a minor to moderate adverse effect prior to mitigation. This would be reduced to a **minor adverse** residual effect following mitigation measures which is not significant in EIA terms. Within the same survey area, five linear anomalies (4701, 4702, 4703, 4704 & 4800) have been identified which are likely to be of low heritage significance. These would be subject to a high negative magnitude of effect which would be a minor adverse effect prior to mitigation. This would remain as a **minor adverse** effect following mitigation measures which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.38 Within survey Area 10 a semi-circular enclosure (4600) and part of a possible rectilinear enclosure (4061) have been identified which are likely to be of low to medium heritage significance. This would be subject to a high negative magnitude of effect as a result of the Onshore ECC. This would result in a minor to moderate effect prior to mitigation. This would be reduced to a **minor adverse** effect through the implementation of a programme of archaeological mitigation, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.39 Within SSA East, evidence for possible settlement or animal husbandry was identified as a rectilinear enclosure with a number of internal features (4400-4402) as well as another rectilinear enclosure suggestive of industrial use (4403). To the south east is a small curvilinear feature (4405). These features are likely to be of moderate heritage significance. These could be subject to a high negative magnitude of effect by the construction of the OnSS, OnSS TCC, and Onshore ECC which would result in a moderate effect prior to mitigation. Through the implementation of mitigation measures this would be reduced to a **minor adverse** effect, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.



- 7.10.40 Survey undertaken within Area 4 revealed a rectilinear enclosure with a possible associated kiln which may be representative of industrial activity (4300). This could be of low to moderate heritage significance and would be subject to a high negative magnitude of effect due to the construction of the Onshore ECC. This would result in a minor to moderate effect prior to mitigation. This would be reduced to a **minor adverse** effect following mitigation measures, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.41 Several linear anomalies (4301-4309) have also been identified across Area 4 which are likely to be of low heritage significance and would be subject to a high negative magnitude of effect. This would result in a minor adverse effect prior to mitigation and would remain as a **minor adverse** effect. This is not significant in EIA terms. Several penannular anomalies with possible associated discrete features (4311 & 4312) and a group of subcircular anomalies (4310) have also been detected within Area 4 which may be of low to moderate heritage significance. These would be subject to a high negative magnitude of effect which would be an effect of minor to moderate significance prior to mitigation. Following mitigation this would be reduced to a **minor adverse** effect, which is not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.42 Geophysical survey undertaken within the area for substation option SSA West near to Little Bromley, identified geophysical anomalies relating to a roman road aligned east-west through the north of the area. Two parallel negative linear anomalies indicate the verges of the roman road through this area (4200). The roman road could be of medium to high heritage significance. The potential roman road lies within SSA West and as such could be impacted by the construction of the OnSS, works within the OnSS TCC and/or planting or landscaping associated with the OnSS. Below ground works upon the roman road/roadside ditches would be an impact of high negative magnitude upon a heritage asset of medium or high heritage significance, which would result in a major or moderate adverse effect. This would be reduced to a **minor adverse** residual effect through the implementation of an approved programme of archaeological mitigation and would be not significant in EIA terms. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application.
- 7.10.43 A possible rectangular enclosure located north west of the roman road within SSA West is likely to be of low heritage significance. Below ground works such as the construction of the OnSS, landscaping and planting in this area could have an impact of high negative magnitude to a feature of low heritage significance. This would result in a **minor adverse** effect which is not significant in EIA terms.



- 7.10.44 A series of possible field boundaries have been identified in the area to the south of the roman road, forming two separate field systems (4202-4205 & 4206-4210). These features are likely to be of low heritage significance. These features lie within SSA West and as such could be subject to below ground works associated with the construction of the OnSS, the OnSS TCC, Onshore ECC, planting and landscaping within SSA West. Below ground works associated with the construction of the Onshore ECC, OnSS, planting and landscaping would be an impact of high negative magnitude to assets of low heritage significance. This would result in a **minor adverse** effect, which is not significant in EIA terms.
- 7.10.45 At the southern extent of the area for SSA West, a series of linear anomalies thought to represent a former field system have been identified (4211-4213) as well as a discrete circular anomaly (4216). These are expected to be of low heritage significance. Due to their position within SSA West these features could be subject to below ground activities associated with the OnSS, OnSS TCC, Onshore ECC and landscaping and planting. Below ground works to these features would be an impact of high negative magnitude. This would result in a **minor adverse** effect, which is not significant in EIA terms.
- 7.10.46 To the south east of 4213 is a possible Romano-British enclosure (4214-4215), the work completed by APS has identified this as being part of a settlement which extends further to the south. In addition to the north east is a possible curvilinear feature (4217). These features may be of low to medium heritage significance. This area is proposed as part of SSA West and as such could be subject to below ground activities arising from the construction of the OnSS, OnSS TCC, Onshore ECC and landscaping/planting. As such an impact of high adverse magnitude may occur. This would result in a moderate to minor adverse effect prior to mitigation, reduced to a **minor adverse** residual effect through the implementation of mitigation. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. The residual effect is not significant in EIA terms.
- 7.10.47 To the west of SSA East a curvilinear anomaly and pit-like feature have been identified close to an area where an increased magnetic response has been detected. The curvilinear and pit-like anomaly may be of low heritage significance and may be subject to effects of high negative magnitude associated with the Onshore ECC. The would result in a **minor adverse** effect which is not significant in EIA terms.
- 7.10.48 Some of the field boundaries identified as part of the geophysical survey, can also be seen on historic mapping, across the geophysical survey areas. These are likely to be of post-medieval or modern date and as such are likely to be of negligible heritage significance. These may be subject to impacts of high negative magnitude through the construction of the OnSS and Onshore ECC and as such could receive a **negligible effect**, which is not significant in EIA terms.



7.10.49 The features that have been identified through geophysical survey to receive a minor adverse effect can be mitigated through archaeological investigation and recording leading to preservation by record. The types of mitigation measures to be applied are set out above in Table 7.8 and would be detailed within an Outline Written Scheme of Investigation to be submitted with the DCO application. After mitigation the residual effect would be **minor adverse** which is not significant in EIA terms.

DISTURBANCE OR LOSS OF EXTANT PILLBOXES

7.10.50 Two extant pillboxes have been recorded on the EHER and were confirmed through the site walkover. One pillbox is built into the sea wall and another lies just beyond the sea wall north of Holland on Sea, both of which are within the Onshore RLB. The structures are Type 22 pillboxes, which are a relatively common type and as such are considered to be of low heritage significance. These structures would be avoided as part of the works within the Onshore landfall zone and as such no adverse effects to these structures will occur.

DISTURBANCE OR LOSS OF AT PRESENT UNKNOWN ARCHAEOLOGICAL REMAINS

7.10.51 The Onshore ECC and OnSS have the potential for as yet undiscovered archaeological remains which are currently of unknown date and heritage significance. In particular there is potential for remains relating to the Bronze Age and Romano-British periods to exist within the Onshore RLB but also archaeological remains for other periods could be found. As the form, nature, date and heritage significance of such remains is currently unknown, the significance of effect is also unknown. However, based upon the evidence gathered for the baseline, and using professional judgement based upon past experience of similar remains, some inferences can be made. Potential for as yet unknown archaeological remains could date to the Bronze Age, Iron Age or Romano-British periods, with some potential for medieval and post-medieval use of the landscape. Bronze Age activity relating to funerary activity, settlement, other activity could be of medium heritage significance. There is a possibility that Iron Age settlement or use of the landscape could also be found and remains of this date could be of low or medium heritage significance if present. Evidence for Romano-British roadside settlement, other settlement or use of the landscape is also likely to be of low to medium heritage significance. Evidence for medieval or post-medieval use of the landscape is likely to be of low heritage significance.

7.10.52 Construction activities are likely to cause damage or destruction of such remains, removing their evidential value. This is an impact of high negative magnitude of impact upon assets with low to medium heritage significance. The effect of this is assessed as a minor to moderate adverse effect. Through the implementation of the mitigation measures described in Table 7.8 and below, the effect would be reduced to a **minor adverse** effect which is not significant in EIA terms.



MITIGATION

- 7.10.53 Mitigation measures proposed to minimise the potential adverse effects to buried archaeological remains resulting from the construction phase will be achieved through preservation by record. Preservation by record will consist of an approved programme of archaeological fieldwork and recording which will lead to the creation of an archaeological archive so that the remains can be preserved by record for future generations. Fieldwork recording may vary across the Onshore ECC and OnSS locations depending upon the archaeological resource but may include watching brief, trial trenching, test pitting, purposive geoarchaeological boreholes, strip map and sample investigation or formal excavation as appropriate. Additional non-intrusive survey may also be undertaken. A programme of post-fieldwork assessment and analysis of the archive generated by fieldwork will be agreed, leading to publication and dissemination of the results of that work and the creation and deposition of a project archive in a suitable receiving museum or other body.
- 7.10.54 Details of archaeological fieldwork will be set out in a Written Scheme of Investigation (WSI) and agreed with the Development Control Archaeologists at Essex County Council. The WSI(s) will detail method, areas, techniques to be applied as well as programme in the context of the post-consent, pre-construction period.
- 7.10.55 Where moderate and minor negative effects are reported above during the construction phase, the application of mitigation will reduce these effects to the residual effects given above for each asset and summarised in Table 7.11: Summary of effects for Archaeology and Cultural Heritage.
- 7.10.56 The implementation of a programme of archaeological work (including post-excavation assessment, publication and archive deposition) as set out in any agreed Written Scheme or Schemes of Investigation will be secured as a requirement of the DCO.

DIRECT EFFECTS TO POTENTIAL HISTORIC HEDGEROWS DURING CONSTRUCTION

- 7.10.57 There are a small number of historic hedgerows which may be considered to be important under the Hedgerow Regulations 1997 (as amended 2002). These are shown in Figure 6 of Volume 5, Annex 7.1: Archaeological Desk-Based Assessment. Three sections of hedgerow are aligned within the Onshore ECC and another two at the SSA West OnSS option. It is possible that sections of the hedgerow may need to be removed for the construction of the Onshore ECC and would be subject to a medium negative effect. Those within the OnSS area (SSA West) may be able to be retained although as the design has not been finalised, as a worst case scenario it is assumed that these would be removed and would be subject to a medium negative effect. The historic hedgerows are considered to be of low heritage significance representing boundary features of typically local importance. This would result in a minor adverse effect prior to mitigation.



MITIGATION

7.10.58 Mitigation is proposed in the form of compensatory planting, and replacement as appropriate. If required archaeological monitoring will also be undertaken during the removal of the affected hedgerow sections to ensure that associated features (e.g. banks/ditches) are recorded. Implementation of this programme of work will lead to minimal loss of the current historic character of the area, with any loss of associated archaeological remains mitigated by preservation by record. The residual effect is assessed as **negligible** which is not significant in EIA terms.

INDIRECT EFFECTS UPON HERITAGE SIGNIFICANCE DURING CONSTRUCTION

7.10.59 Indirect effects during the construction phase could arise from activities such as construction traffic, flashing lights on moving vehicles, noise and dust created by construction activities. The description of the asset, its setting and significance are provided in Volume 5, Annex 7.6: GPA3 Exercise and Technical Note (Onshore Project Area); a summary is provided for each asset below.

GREAT HOLLAND MILL HOUSE, GRADE II LISTED BUILDING (1111532)

7.10.60 Great Holland Mill House is located adjacent to the Onshore RLB within which the Onshore ECC will be located. The asset is Grade II listed and is of high heritage significance. The immediate setting of the house consists of the mill complex within which it sits, which includes a courtyard, mill base, storage buildings, ranges and granary. The wider setting of the asset comprises the agricultural land which surrounds it on the northern and eastern sides. The mill building is separated from the agricultural land by a mid height wall although this does not restrict visibility between the two. On the eastern side is an area of woodland, a nature reserve.

7.10.61 The heritage significance of the asset is principally derived from its architectural interest as an early to mid-19th century mill house. The associated structures in particular the remains of the mill and the granary contribute to both the historic and architectural interests of the house in understanding the building as part of a working mill complex and its role as the domestic part of this rural industry. In this way its immediate setting contributes to the heritage significance of the asset. The wider agricultural setting makes a smaller contribution to heritage significance but does represent land that is likely to have been associated with the mill and may have provided the some of the corn for the milling activities here. Whilst this is not directly related to the function of the house itself, it does aid the understanding of the mill complex as a whole.

7.10.62 The construction of the Onshore ECC could take place within the immediate surroundings of the asset as the Onshore RLB is adjacent to the boundary wall of the mill complex. Access for construction traffic will be taken via Mill Lane junction which leads to the farmhouse and continue adjacent to the boundary of Great Holland Mill House. Other construction activities such as the excavation of the cut and cover trench, flashing lights on moving plant, noise and dust will take place within the Onshore RLB within the setting of the asset. Such effects would be short term and temporary during the construction phase. The magnitude of impact of these activities is assessed as low negative, upon an asset of high heritage significance, resulting in a temporary **minor adverse** effect. This is not significant in EIA terms.



HEMPSTALL'S FARMHOUSE, GRADE II LISTED BUILDING (1240504)

- 7.10.63 Hempstalls Farmhouse is a 17th century or earlier building and is Grade II listed and of high heritage significance which lies 50 m from the Onshore RLB. The house is set back from the main roads and lies within a farmstead which forms the immediate setting of the asset. The farmhouse is accessed via a farm track and is surrounded by agricultural fields which form the wider setting of the asset.
- 7.10.64 The heritage significance of the asset is drawn from its architectural interest as an example of a 17th century farmhouse with surviving architectural details and its historic interest as part of a working farm from the 17th century onwards. It is within the immediate setting of the asset that the architectural details of the building can best be appreciated. The historic interest is derived from the role of the farmhouse as the domestic part of the farmstead and this can be best understood from the area surrounding the house itself and within the farmstead. The isolation of the farmstead from any other buildings and its distance from the surrounding main roads enhance the way in which the rural function and character of the building are appreciated from its wider surroundings. The continued use of the surrounding land for agriculture also enhances the appreciation of the complex as a rural farmstead.
- 7.10.65 A TCC will be located adjacent to the farmstead and be located either side of the track way through which the farmstead is accessed. The TCC will cover a large area of the associated farmland to the north west of the farmhouse. The Onshore ECC will be located in the fields to the north east of the farmstead. Effects arising from plant and vehicle movement within the TCC, storage of materials in the TCC, excavations for the Onshore ECC, flashing lights on moving vehicles, noise and dust will have a temporary effect of low negative magnitude. The asset is of high heritage significance and these activities will result in a temporary **minor adverse** effect, which is not significant in EIA terms.

ABBOTTS HALL, GRADE II LISTED BUILDING (1261150)

- 7.10.66 Abbots Hall dates to the 17th century or earlier and is a Grade II listed building of high heritage significance. The Onshore RLB lies adjacent to Abbots Hall to the north and west. The asset lies within a complex of farm buildings, although does lie separately from them to the north. The front façade of the farmhouse faces toward the main road although it is well screened by mature trees. To its north east and west are areas of gardens and to the south and south west is the driveway and the agricultural buildings which are considered to form its immediate setting. Beyond the farmstead are agricultural fields and three reservoirs which form its wider setting.
- 7.10.67 The heritage significance of the asset is largely drawn from its architectural interest as a 17th and 18th century farmhouse. The house has some historic interest due to its age, but is not connected with any notable architect or family. It is from within its immediate setting that the architectural details and age of the house can be realised; its immediate setting contributes to its heritage significance through the appreciation of the architectural and historic interests. The wider surroundings make a smaller contribution in that the agricultural surroundings reinforce the understanding of the house as part of a farmstead complex, being the domestic area of a working farm, which allow the understanding of its historic interest.



7.10.68 A TCC is proposed in the area immediately adjacent to the farmstead in the corner of the field closest to it. Another TCC is located in the opposite corner of this field and construction access will be taken from Clacton Road to the north of the asset. The construction for the Onshore ECC will also take place within the fields to the north east and north west of the asset. The effects arising from the TCCs and access could include storage of vehicles and materials, flashing lights on moving vehicles, construction vehicles using Clacton Road, noise and dust. These activities could have a low negative magnitude of impact on an asset of high heritage significance. This would result in a temporary **minor adverse** effect, which is not significant in EIA terms.

GREAT HOLLAND LODGE, GRADE II LISTED BUILDING (1337116)

7.10.69 Great Holland Lodge is an early 19th century timber framed house which is Grade II listed and of high heritage significance. The setting of the asset consists of its immediate surroundings which include the adjacent farmstead and its surrounding agricultural landscape which form its wider setting. The house is associated with the farmstead but intentionally separated from it, making a distinction between the working area and the domestic area.

7.10.70 The heritage significance of the asset is principally derived from its architectural interest, as a well preserved and attractive example of a 19th century house with associated farm. Architectural details such as the chimney stacks, the two storey bay windows, choice of brickwork and pediment provide the architectural interest of the building and are best appreciated from the immediate surroundings of the asset. The house has some historic interest associated with its adjacent farmstead which can be seen on historic maps from 1874. The house is not known to be associated with any notable architect or family. The house draws some of its heritage significance from its wider agricultural surroundings which assist in the appreciation of the historic interests of the house and its domestic role, distinct from the adjacent working farmstead. The house fronts the main road with views across the road to the surrounding farmland.

7.10.71 A TCC will be located on the opposite side of the road to Great Holland Lodge with a haul road and entrance for construction vehicles located to the immediate north east of the asset. Effects from construction traffic, noise, dust, storage of vehicles and materials, and flashing lights on moving plant could have an impact of low negative magnitude. This impact to an asset of high heritage significance would result in a temporary **minor adverse** effect, which is not significant in EIA terms.



CHURCH OF ST MARY, GRADE II* LISTED BUILDING (1337175)

7.10.72 Church of St Mary is the parish church of Little Bromley and has its origins in the 12th century. The church is Grade II* listed and is of high heritage significance. The church lies at a bend in Spratts Lane. Little Bromley is a relatively dispersed settlement and as such the church lies within a relatively isolated position; its nearest neighbours being the rectory over 300 m away and agricultural buildings 70 m to the north. The agricultural buildings are on the site of the farmstead associated with former Little Bromley Hall which no longer exists above ground. The Hall sat adjacent to the church, as shown on historic mapping and it is likely that the church was constructed as part of the original manor. This plot is now a vacant grassed area. The immediate setting of the asset consists of the churchyard, the area of the former Little Bromley Hall and its associated farmstead. The wider setting comprises the surrounding agricultural land and extends to the associated rectory.

7.10.73 The heritage significance of the asset is derived from its architectural interest representing ecclesiastical architecture from the 12th-19th centuries through extensions, alterations and repairs. The church also has historic interest through its connections to the now lost Little Bromley Hall, monuments to notable local people (the Risbie family in 1700s- perhaps the owners of the hall at this time) and local craftspeople such as the iron foundry and bell foundry. The church also likely has some archaeological interest due to its age, former parts of the church and also its churchyard. Some archaeological interest could be derived through its connection to buried remains associated with the adjacent Little Bromley Hall. The immediate and wider setting of the asset does make some contribution to heritage significance, as its agricultural surroundings point to its former connections to Little Bromley Manor and the tower is a local landmark within an otherwise undeveloped area. These aid the understanding of the church as part of a historic rural manor and allow the appreciation of the architectural details and age of the church.

7.10.74 The construction for the Onshore ECC will take place in the field to the immediate south of the Church. This field has no extant boundary at its northern edge closest to the church and as such the works will not be screened by any existing boundary. Construction effects arising from this could include dust, noise, flashing lights on moving plant and excavations associated with the Onshore ECC. This effect would be temporary and are considered to be of low negative magnitude. The asset is of high heritage significance and therefore this would result in a temporary **minor adverse** effect, which is not significant in EIA terms.

7.11 ENVIRONMENTAL ASSESSMENT: OPERATIONAL PHASE

ONSHORE ECC AND ONSS (DIRECT EFFECTS)

DISTURBANCE OR LOSS OF ARCHAEOLOGICAL ASSETS DURING OPERATIONAL PHASE

7.11.1 It is not anticipated that the operational phase will have any direct physical effects to any archaeological assets within the Onshore RLB. The effects to archaeological sites identified as sensitive receptors during the construction phase will have been mitigated prior to and during that phase and no further effects during the operational phase are envisaged.



DIRECT EFFECTS TO POTENTIAL HISTORIC HEDGEROWS DURING OPERATIONAL PHASE

7.11.2 It is not anticipated that the operational phase will have any direct physical effects to historic hedgerows within the Onshore RLB. The effects to historic hedgerows will have taken place during the construction phase and mitigated during that phase and no further effects during the operational phase are envisaged.

INDIRECT EFFECTS UPON HERITAGE SIGNIFICANCE DURING OPERATIONAL PHASE- ONSS

7.11.3 Indirect effects during the operational phase would not occur from the Onshore ECC as this will be below ground and areas affected during the construction phase will be returned to their former use. The following section considers potential effects on the heritage significance of assets during the operational phase arising from the continuing presence of the OnSS within their settings. Effects relating to the Offshore WTGs upon the heritage significance of onshore heritage assets are considered separately below in Paragraphs 7.11.23-7.11.52.

JENNINGS FARMHOUSE, GRADE II LISTED BUILDING (1111459)

7.11.4 Jennings Farmhouse is located 250 m from the Onshore RLB at its closest point and is situated to the east of the indicative SSA West OnSS option. The farmhouse is Grade II listed and is of high heritage significance. The setting of the farmhouse comprises its domestic garden which makes a positive contribution to its heritage significance. Another residential property lies to the west of Jennings Farmhouse within its setting but this makes a neutral contribution to heritage significance. The wider agricultural surroundings also form part of the setting of the asset and contribute positively to it.

7.11.5 The heritage significance of the asset is drawn from its architectural interest as a 17th century farmhouse with original features. It has some historic interest due to its age but is not known to have been connected to any notable family or architect. Its architectural interest is best appreciated from within its immediate setting, its domestic gardens. This aids the understanding of the asset as a domestic dwelling. The farmhouse no longer has an associated farm and as such the ability to appreciate its original purpose as part of a working farmstead has been diminished. Consequently, the wider agricultural surroundings make a smaller contribution to its heritage significance.

7.11.6 The OnSS would be situated within the wider surroundings of the asset which contribute to the ways in which the asset is appreciated. Viewpoint 4, Figure 10c (Volume 6, Annex 10.2: Viewpoint Assessment) shows the visualisation of the OnSS from Ardleigh Road the north of Jennings Farm. The presence of the OnSS will change the wider setting of the asset by introducing an industrial form into its surroundings. The magnitude of impact is expected to be low negative magnitude, in that the architectural interest of the asset is unchanged and still appreciable. The contribution made by the wider rural setting will be reduced as a result of the erosion of that rural setting represented by the final built form of the OnSS. A low negative effect to the asset of high heritage significance will result in a **minor adverse** effect, which is not significant in EIA terms.



BOUNDS FARMHOUSE, GRADE II LISTED BUILDING (1147743)

- 7.11.7 Bounds Farmhouse is thought to date to the 17th/ 18th century. The Onshore RLB lies opposite the house on the other side of Hungerdown Lane. The setting of the farmhouse is defined by its isolated position, situated within a domestic garden with agricultural buildings to the north. Beyond this, the house is surrounded by open agricultural fields to its east and south, however solar farm developments have been constructed immediately to the west and north of the farmhouse, although the solar farm developments are not appreciable when experiencing the asset from Hungerdown Lane.
- 7.11.8 The heritage significance of the asset is drawn from its architectural interest as a farmhouse from at least the 17th century. This is best appreciated from within the immediate surroundings of the asset, that is, from its domestic garden and around the adjacent farmstead. The small rural lane and isolated position also contribute to its setting providing a quiet and rural character to the area. The wider surroundings also contribute although the areas now converted for use as solar farm make a neutral contribution to heritage significance
- 7.11.9 The indicative location for the SSA West OnSS would lie 900 m to the south east separated from the asset by agricultural fields and Grange Road. Whilst the operational OnSS will be an addition to the rural surroundings of the farmhouse, its presence is not considered to reduce the contribution that the rural surroundings make to the heritage significance of the asset as the agricultural fields which lie closer and are more likely to have a historical functional association with the farm and will remain unaffected. In addition, the rural surroundings of the asset are not intact through the development of solar farms to the west and north of the asset. The appreciation of the architectural and historic interests will not be affected by the OnSS (whether visible or not) and as such the magnitude of the impact is assessed as negligible. A negligible impact to an asset of high heritage significance will result in a **negligible** effect, which is not significant in EIA terms.

ABBOTTS HALL, GRADE II LISTED BUILDING (1261150)

- 7.11.10 Abbots Hall dates to the 17th century or earlier and is a Grade II listed building of high heritage significance. The Onshore RLB lies adjacent to Abbots Hall to the north and west. The setting and significance of Abbots Hall is described above in paragraph 7.10.65-7.10.67.



7.11.11 The indicative location for the OnSS option SSA East will be located 800 m to the north west of the asset within its agricultural surroundings. The landscape is flat and there is little to no existing screening in the form of field boundaries. Viewpoint 4, Figure 4c shows the visualisation of the OnSS from a position located to just to the north of Abbots Hall from Clacton Road. Whilst the operational OnSS will be an addition to the rural surroundings of the hall, its presence is not considered to reduce the contribution that the rural surroundings make to the heritage significance of the asset as the agricultural fields which lie closer and are more likely to have a historical functional association with the farm will remain unaffected. The appreciation of the architectural detailing and historic interests as part of a working farm will not be affected by the presence of the OnSS within the landscape and as such the magnitude of the impact is assessed as negligible. A negligible impact to an asset of high heritage significance will result in a **negligible** effect, which is not significant in EIA terms.

BRAHAM HALL, GRADE II LISTED BUILDING (1337155)

7.11.12 Braham Hall is a 16th or 17th century house with later alterations. The house lies 250 m from the Onshore RLB and 1.1kmm from the indicative OnSS option (SSA East). The house is Grade II listed and is of high heritage significance.

7.11.13 The heritage significance of the asset is derived from its architectural interest as a 16th/17th century house with surviving architectural features of those periods. It has some historic interest due to its age but it is not known to be connected to any notable family or architect. The immediate setting of the house consists of the farmstead complex but is distinct from the working areas of the farm. The house lies to the south of the driveway within its own domestic gardens with the working parts of the farm located to the north of the driveway. The gardens and farmstead form the immediate setting of the asset.

7.11.14 The immediate setting of the asset contributes to its heritage significance as it is within its immediate surroundings particularly from the domestic gardens that the architectural and historic interests can be best appreciated. The farmstead and surrounding farmland aid the understanding of the house as the domestic area of a working farm and allow its architectural details to be appreciated. The wider setting is formed of farmland and is in a relatively isolated position away from the main road, accessed by a long driveway. The architectural interests are not readily appreciable from the wider surroundings of the asset. However, they do allow the appreciation of the historic form of the farmstead to be appreciated and the functional connection to the surrounding rural land.

7.11.15 The completed OnSS option SSA East would be located 1.1 km to the east of the asset, based upon its indicative location. Whilst the operational indicative OnSS will lie within the wider agricultural surroundings of the asset which contribute to its heritage significance at a distance of 1.1 km the OnSS is not thought to reduce the contribution that the wider surroundings make to the heritage significance of the asset. As such the effect is considered to be of negligible magnitude to an asset of high heritage significance resulting in a **negligible** effect which is not significant in EIA terms.



CHURCH OF ST MARY, GRADE II* LISTED BUILDING (1337175)

- 7.11.16 Church of St Mary is the parish church of Little Bromley and has its origins in the 12th century. The church is Grade II* listed and is of high heritage significance. The setting and heritage significance of Church of St Mary is described in paragraph 7.10.71-7.10.73.
- 7.11.17 The indicative operational OnSS option SSA West, 1.4 km to the north east of the church, will lie within the wider surroundings of the asset. The isolated position of the church is an important aspect of its setting which contributes to its heritage significance. The presence of the indicative OnSS will change the wider surroundings of the asset and may affect the historic interests of the church, through the understanding of the church, constructed as part of Little Bromley Manor, a rural manor away from any settlement. The architectural interests of the building will remain unaffected. The magnitude of the impact is expected to be low negative upon an asset of high heritage significance resulting in a **minor adverse** effect, which is not significant in EIA terms.

HISTORIC LANDSCAPE CHARACTER

- 7.11.18 The Essex Historic Landscape Characterisation of the areas within the OnSS are currently characterised simply as 'Boundary Loss' as being as a result of changes to agricultural practices in the 20th century. These fields represent widespread removal of internal field boundaries to make way for larger agricultural machinery in the 20th century. Whilst the remaining boundaries will date to earlier enclosure, the removal of the internal division affect the time depth and legibility of the earlier enclosure in the current landscape.
- 7.11.19 The detailed characterisation carried out for the Tendring District characterises the SSA East OnSS area as a fieldscape of ancient origin comprising irregular enclosure, with some later enclosure of the former heathlands and greens. There has been moderate post-1950 boundary loss throughout the zone. Through the scoring system developed by Tendring District this character area scores relatively highly and overall is considered to be of low heritage significance.
- 7.11.20 The SSA West OnSS is divided through the middle with the northern section part of Historic Environment Characterisation Zone 13.2 (Essex County Council & Tendring District Council 2008) characterised as a mixture of later enclosure by agreement and irregular fields of ancient origin. Post 1950s boundary loss has been moderate. The southern section is within zone 12.3 characterised as fieldscape of largely of ancient origin and irregular, but with moderate loss of field boundaries since the 1950s. These areas also score relatively highly on the district level scoring system and as such are considered to be of low heritage significance.
- 7.11.21 The presence of either option of the operational OnSS within this landscape will result in a change to this historic landscape from agricultural to industrial. The Essex Broad characterisation type ('boundary loss') is common across Essex (26% of the county) and the heritage significance of these characters is considered to be of low heritage significance. This change is considered to have a negligible impact to this character type overall. This would result in a **negligible effect** to the historic landscape character type which is not significant in EIA terms.



INDIRECT EFFECTS UPON HERITAGE SIGNIFICANCE DURING OPERATIONAL PHASE-OFFSHORE ARRAY

7.11.22 A number of heritage assets have been selected for assessment with respect to whether their heritage significance could be affected through development of the VE WTGs within their settings. The selection of assets is based on consultee responses to scoping and later engagement, as well on the basis of a scoping exercise in accordance with the GPA3 methodology set out in Historic England Guidance (Historic England 2017). This initial scoping exercise was conducted with a view to determining which of these assets would be subject to assessment and is reported in Volume 5, Annex 7.5: GPA3 Exercise and Technical Note (Offshore Array). Further assessment of selected sites is reported below, in respect of the final built and operational form of the development, as this represents the worst case scenario. It is considered that, due to distance from the coast, construction works will have limited visibility, and given their temporary nature, are not anticipated to cause any likely significant effects.

NORTH LOOKOUT, ALDEBURGH, GRADE II LISTED (1269771)

7.11.23 The North Lookout dates to 1850 and was built as a pilot station with a single storey lifeboat station added in the 20th century. Both the north and south lookout's (south lookout considered separately below) were built as commercial enterprises either to rescue or plunder ships that fell into difficulty on the treacherous Essex coast. Located only 200 m apart the towers were in competition with each other. Other lookout towers were situated along this coastline but the two at Aldeburgh are the last surviving examples. The North Lookout is a four-storey square tower with decorative yellow and red brickwork and a pyramidal roof. The single storey coastguard station is white rendered with a grey slate roof.

7.11.24 The seafront setting of the North Lookout Tower is important to the asset as its primary function was to be able to see ships in distress as they navigated the waters of the east coast. The commercial aspect relied on this visibility out to sea and being able to respond quickly. The height of the building and its position at the sea front enabled this visibility.

7.11.25 The heritage significance of the asset is derived from its architectural interest, as a rare survival of a building of this type. Interestingly, its architectural form is very different from the south lookout tower adding to its distinctiveness. The building has survived well after being taken over in the 20th century by the RNLI and added to by the extension at ground level. The retention of the function of the tower as a lookout adds to its heritage significance. The architectural interest of the asset is best appreciated in its immediate surroundings along the promenade at Aldeburgh. It also has some group value with the south lookout in terms of history and function, even though they are distinct from one another in form. The asset has historic interest as it relates to the history of Aldeburgh as a thriving fishing village as the lookouts needed to be staffed by pilots with local knowledge who were familiar with the waters which surrounded the Aldeburgh coast. The immediate setting enhances the historic interest of the asset through the understanding of the tower to the local community and historic fishing village. The wider coastal setting with extensive coastal and maritime views enhance the historic interest as it relates to the primary function of the tower.



- 7.11.26 The proposed VE WTGs will lie at a considerable distance from the lookout tower at a distance of approximately 38 km. The northern extent of the existing arrays at Galloper and Greater Gabbard Windfarms are only very faintly visible in clear conditions due to the distance of 30 km when looking south east. The northern VE WTGs could be visible at distance, in the gap between the East Anglia 2 (consented but not yet operational) and Galloper and Greater Gabbard WTGs in clear conditions, as shown on the wireline for VP6 (Volume 2, Chapter 3: Marine Water and Sediment Quality, Viewpoint 6). The remainder of the array will be sited behind the existing Galloper and Greater Gabbard array albeit at an increased height so may be visible above/behind the existing array.
- 7.11.27 The introduction of the VE WTGs within the wider coastal setting and views out to sea from the North Lookout will be an addition to this view within which existing WTGs are already faintly visible. The VE WTGs will not affect the ways in which the architectural interests are appreciated from the immediate setting, as the immediate setting of the asset will not be changed. The historic interests of the asset will also be preserved.
- 7.11.28 The view out to sea is important to the asset historically and currently however, the presence of WTGs within this view will not affect the understanding of the asset as a lookout post as these views will still be available. The effect is considered to be of negligible magnitude as the introduction of the WTGs will not impact upon the availability of this view which is what contributes most in terms of its setting. A negligible magnitude of impact upon an asset of high heritage significance would result in a **negligible** effect to the heritage significance overall. This effect is not significant in EIA terms and as such a no mitigation is proposed or considered necessary.

SOUTH LOOKOUT, ALDEBURGH, GRADE II LISTED (1269772)

- 7.11.29 The south lookout at Aldeburgh was built in the mid 19th century and is a three storey tower with rendered and colourwashed brick exterior. On the southern side the tower has an iron spiral staircase on the outside with a door at the top floor. On the eastern face (towards the sea) is a cantilevered viewing gallery. The tower has a pyramidal roof and a single storey building at the ground floor. The use of the tower as a lookout ceased in 1989 and after a period of disuse has been converted into an art gallery.
- 7.11.30 The seafront setting of the south lookout tower is important to the asset as its primary function was to be able to see ships in distress as they navigated the waters of the east coast. The visibility out to sea was critical to being able to respond quickly. The height of the building and its position at the sea front enabled this visibility.



- 7.11.31 The asset draws its heritage significance from its architectural interest provided by its unusual form particularly with the cantilevered viewing platform and external staircase and rendered exterior which differentiate this from the northern tower. The tower is a rare survival of this type which adds to its interest and also has some group value with the northern tower. The architectural interest is best appreciated from the immediate surroundings of the asset from the promenade. The historic interest of the asset stems from its association with the historic village and the rescue missions launched from here. The lookouts needed to be staffed by pilots with local knowledge who were familiar with the waters which surrounded the Aldeburgh coast adding to the historic interest. The immediate setting enhances the historic interest of the asset through the understanding of the tower to the local community and historic fishing village. The wider coastal setting and views out to sea enhance the historic interest as it relates to the primary function of the tower. The southern tower also has historic interest from its use by local writer Sir Laurens van de Post who used the middle room to write about his adventures in Africa from the mid 1950s onwards.
- 7.11.32 The proposed VE WTGs will lie at a considerable distance from the lookout tower at a distance of approximately 38 km. The northern extent of the existing arrays at Galloper and Greater Gabbard Windfarms are only very faintly visible in clear conditions due to a distance of 30 km when looking south east. The northern VE WTGs could be visible at distance, in the gap between the East Anglia TWO (consented but not yet operational) and Galloper and Greater Gabbard WTGs in clear conditions, as shown on the wireline for VP6. The remainder of the array will sit behind the existing Galloper and Greater Gabbard array albeit at an increased height so may be visible above/behind the existing array.
- 7.11.33 The introduction of the WTGs within the wider coastal setting and views out to sea from the South Lookout will be an addition to this view within which existing WTGs are already visible. The VE WTGs will not affect the ways in which the architectural interests are appreciated from the immediate setting. As the building is now used as an art gallery, the views out to sea, whilst they may provide some artistic inspiration, play less of a role in the understanding of the asset as a lookout post as this is not as readily appreciable as it once was. Through the change of use of the building the historic interest is not as easily appreciated and as such the sea view makes less of a contribution to its historic interest. In addition, the availability of this historically important sea view will be preserved and can still be appreciated. As the addition of the VE WTGs will not affect the architectural interest, where this asset draws most of its heritage significance, the effect is considered to be of negligible magnitude upon an asset of high heritage significance resulting in a **negligible** effect. This effect is not significant in EIA terms and as such a no mitigation is proposed or considered necessary.



MARTELLO TOWER, ALDEBURGH, SCHEDULED MONUMENT (1006041) AND GRADE II* LISTED (1269724)

- 7.11.34 The Martello Tower at Aldeburgh is the northernmost tower of the group of Martello towers constructed along the east coast between St Osyth in the south and Aldeburgh in the north. The tower is unique in being quatrefoil, consisting of four of the usual east coast towers merged into one. It has been suggested that this position may have originally been proposed for the site of a redoubt but that this was abandoned due to the costs involved. The tower was built to support a battery of five guns and access was (and still is) provided by the first floor. The property has been converted into a holiday rental.
- 7.11.35 The tower lies away from the village at Aldeburgh situated 1.1 km to the south, on a spit of land between the sea to the east and the Home Reach of the River Alde to the west. The tower lies in an isolated position at the end of a track with no other structures nearby making this stand out within an otherwise relatively low lying coastal/estuarine environment. The position of the tower at the thinnest point along the coastal spit, with the sea on one side and the river on the other, furthers the isolation of the structure.
- 7.11.36 The tower is significant for its military architecture and is Grade II* listed for its unusual quatrefoil form. The tower has survived well, although erosion has damaged the seaward side of the moat and glacis wall. Internal alterations will have taken place to convert the building to a holiday rental. The architectural interests are best experienced from the immediate surroundings of the tower, where its size and the strength of the structure can be best appreciated. The historic interest of the asset lies in its purpose as part of a series of small coastal artillery forts to counter the threat of invasion posed by Napoleon in the early 19th century. The towers were built along the east coast and the south coast and only 18 of the original 29 are known to survive and as such these are considered to be rare structure. The towers have group value with one another being built around the same time as part of a defensive response to a specific threat. The towers link forts, redoubts and other coastal batteries and were constructed as a key part of the defense of Britain. Seaward views would have been key to the defensive purpose of the tower in identifying an approaching enemy fleet and as such the views out to sea from the tower aid the appreciation of the historic interests of the tower.
- 7.11.37 The VE array area is proposed approximately 38 km from the Martello Tower at its closest point. The existing northern extents of the Greater Gabbard and Galloper WTGs are faintly visible in clear conditions. It is possible that the northern extent of the VE WTGs will be visible in the gap between the existing arrays and the consented East Anglia 2, with the remainder of the WTGs seen behind Galloper and Greater Gabbard. The wireline for VP6 shows the extent to which the VE WTGs will be seen in the context of the existing (Greater Gabbard and Galloper) and consented (East Anglia 2) WTGs (Volume 2, Chapter 3: Marine Water and Sediment Quality, VP 6).



7.11.38 The proposed array will introduce additional WTGs into views from the tower at distance. Due to the distances involved the WTGs will not compete with the structure in terms of its size or sense of isolation. Distant views of the WTGs in conjunction with the tower will not affect the appreciation of the military design of the structure. Although the structure does have group value with the other Martello towers along this coast, the tower at Aldeburgh is set apart from the rest at a distance of 15 km to the next closest example and as such the proposed WTGs will not affect the relationship between the tower and the other examples located further south. As the asset is of the highest sensitivity the introduction of the array will be an addition to a view that contributes to the historic interest of the asset in the positioning of the tower at this location for defensive purposes. Importantly, the presence of the WTGs in long distance views will not affect the availability of this view which is how the military use of the tower is best understood. In addition, the ability to understand its defensive location, its relationship along the coast to other contemporary defensive structures and continuing ability to have long distance views out to sea will not be affected. The ability to appreciate the architectural arrangement of the tower in terms of defense and its strategic location will not be affected by the WTGs, even where these may be visible in distant views. As such an effect of low negative magnitude is assessed to an asset of high heritage significance resulting in a **negligible** effect. This effect is not significant and as such no mitigation is proposed or considered necessary.

ORFORD CASTLE, ORFORD, SCHEDULED MONUMENT (1014860) AND GRADE I LISTED (1030873)

7.11.39 Orford castle is a tower keep castle built as a fortified residence. This type of castle is rare nationally and only five medieval castles are known from Norfolk and Suffolk. Orford Castle is thought to be one of the earliest polygonal tower keeps in Britain originally constructed in the later part of the 12th century. The keep is of three stories and rises to a height of 27 m. At the top of the south eastern turret is a reinforced concrete structure thought to have been installed as a WWII lookout post.

7.11.40 The setting of the castle consists of its position adjacent to the River Ore, the coastal marshes and the sea beyond this. The tower allows views over both the river and the sea which would have been important for defensive purposes. The immediate surroundings comprise the earthworks associated with the castle and the later village beyond this. The setting of the asset contributes to these interests by providing views out to sea which would warn of an approaching enemy fleet. The dominance of the castle within the local landscape illustrates its original function which was symbolic as well as military and administrative.

7.11.41 The castle derives its heritage significance from its architectural interest as a well preserved example of a polygonal tower keep with few later alterations. This is thought to be one of the earliest polygonal towers of a type of castle that is rare nationally; both of these factors add to its architectural interest. The survival of the internal and external features of the castle aid the understanding of the way of life for the inhabitants of the castle. It is from within the immediate setting of the asset, from within and surrounding the castle that its architectural interests can be best appreciated. Its wider surroundings allow the dominance of the castle within the local landscape to be appreciated, exemplified by the shape and height of the tower. The light colour of the brickwork also helps the tower to stand out within the landscape.



- 7.11.42 The castle has historic interest as it was built during the reign of Henry II between 1165-73. This type of royal castle was usually held by a local constable appointed by the crown to uphold the Kings authority locally. The castle also served as a coastal defense when Orford was a flourishing harbour town in the medieval period. The castle remained a centre of military and administrative power in the 12th and 13th centuries but started to decline in importance in 14th century. Historical documents detailing the construction of the castle, the costs and inhabitants of the castle and their connections to events in history survive which add to the historic interests of the castle. The castle can be appreciated from the setting of the asset, particularly the relationship between the village and the castle being the administrative centre. The power of King and the local administration is reinforced by the dominance of the tower over the village. The original purpose of the castle from a military perspective was to quash local rebellion in 1173, later to defend the harbour at Orford and finally it was used as a lookout post during WWII. Views towards the wider surroundings both out to sea and inland would have been important to observing an approaching enemy by sea or by land.
- 7.11.43 The castle has some archaeological interest provided by its surrounding extant earthworks comprising two enclosing defensive ditches with bank and a smaller counterscarp bank beyond. Evidence for walls and towers which would have surrounded the keep are likely to exist below ground as well as a quarry used to provide the stone to build the castle in the 12th century.
- 7.11.44 Orford Castle lies 41 km from the array area at its closest point and geographically it sits opposite the gap between the East Anglia 2 array (consented) and the Greater Gabbard and Galloper arrays (operational). As such the northern extent of the VE array could be visible within this gap in the clearest conditions. VP7 was taken from the parapet of Orford Castle overlooking the river, coastal marshes and out to sea and the existing WTGs can be seen to be very faintly visible on the horizon (Volume 2, Chapter 3: Marine Water and Sediment Quality, Viewpoint 7).
- 7.11.45 Both the immediate and wider setting of the asset are considered to contribute to its heritage significance. The presence of the WTGs within the wider seascape is not considered to affect the ways in which the architectural interests of the castle are appreciated as distant views of the WTGs will not prevent the appreciation of the design of the castle nor will the WTGs compete with the dominance of the structure in the landscape due to distance. The ability to appreciate the architectural arrangement of the castle in terms of defense and habitability, as well as its strategic location will not be affected by the WTGs, even where these may be visible in distant views. The archaeological interest will not be affected by the proposed WTGs. Additionally, the historic interest will also be preserved. The understanding of the role of the castle in administration to the village and the appreciation of the structure as a royal castle will not be affected. The elements of historic interest that rely on views out to sea such as the protection of the harbour in the medieval period and the WWII lookout post, will introduce additional WTGs into this view at a distance of 41 km, although the presence of the WTGs will not interrupt or obscure any views but will be an addition to it.



7.11.46 Orford Castle is of high heritage significance and the magnitude of the impact arising from the presence of the WTGs and effect that this could have on the appreciation of that single element of the historic interest of the castle is considered to be negligible. This would result in a **negligible** effect which is not significant in EIA terms.

NAZE TOWER, WALTON, GRADE II* LISTED (1165846)

7.11.47 The tower was built as a navigation mark for ships travelling in and out of the port of Harwich in 1720. The tower has eight floors and is just over 26 m tall and lies to the north of Walton, on the Naze, a headland which projects into the north sea. During the threat of Napoleonic invasion, it was used as a lookout post and beacon. It was later used by the Royal Navy to practice manoeuvres out at sea using signaling flags. In WWI it was used as a lookout post over the Orwell estuary with sentry boxes added on two elevations and later became a radar tower during WWII with operators stationed within the tower and a chain home radar dish positioned on the roof. In the second part of the 20th century the tower has been used for communications by the American airforce in the cold war and later the police, port authority and coastguard.

7.11.48 The setting of the asset comprises its immediate surroundings within a relatively isolated position upon the headland with the seaside resort located further south. It is situated at the clifftop surrounded by a grassed area used as a picnic area. Its wider setting consists of its coastal position as a navigation point and wider sea views in particular to the port of Harwich located 7 km to the north which was a consideration in its original design and function. The tower is a prominent feature within the landscape, which is enhanced by its position on the highest point in this landscape and also by the projection of the headland into the sea and can be seen as far north as Felixstowe.

7.11.49 The Naze Tower has architectural interest as a well preserved example of a navigation tower dating from the early 18th century. It is octagonal in shape and constructed from a plum colour brick with three reducing stages. The architectural interest is best appreciated from within its immediate surroundings. The relative isolation of the tower means that views towards the tower from the immediate surroundings are uninterrupted and can be viewed either close up or from a distance within the nature reserve that surrounds it to put it into its coastal context. The historic interests of the asset are derived from the many uses that it has had since 1720, most of which have involved its use for navigation to guide ships around the headland itself but also as a marker for ships heading to the ports at Harwich and Felixstowe. Views from the sea towards the asset contribute to this part of its historic interest. The tower has been used as a lookout post on several occasions throughout its history for defensive purposes. Views from the asset looking out to sea would have been a key element in the defence of this part of the coastline. For both of these reasons the seascape is considered to contribute to the appreciation of the historic interests as a navigation point and as a defensive lookout post.



- 7.11.50 Geographically Naze Tower is situated opposite the gap between the two VE array areas, at a distance of 53 km at its closest point. The wireline prepared for the viewpoint from the naze clifftop (VP12) shows that some of the WTGs will be positioned within this gap with the remainder being seen behind the existing arrays at Galloper and Greater Gabbard. However due to the distance of 53 km between the Naze Tower and the existing arrays these were not visible either during the site visit nor upon the Viewpoint photograph (Volume 2, Chapter 3: Marine Water and Sediment Quality, Viewpoint 12).
- 7.11.51 The proposed WTGs positioned within the wider setting will not affect the appreciation of the octagonal design and height of the tower nor will they compete with the visual prominence of the tower in this landscape. As such the architectural interests of the tower will remain intact. The understanding of part of the historic interests relies on the wider surroundings and relationship between the asset and the sea faring vessels. The proposed WTGs will not interrupt or obscure any key views out to sea, nor affect the availability of these views. Modern sea faring vessels will still be visible within views out to sea and, at times, are exceptionally prominent due to their size colour and movement within that view. The existing WTGs lie closer to the coast than the proposed (although the proposed WTGs will be larger in scale) and these are not readily perceptible from the tower, as such the proposed WTGs are not considered to affect the understanding of the historic interests nor the heritage significance overall. The effect is assessed as being of negligible magnitude upon an asset of high heritage significance. This would result in a **negligible** effect which is not significant in EIA terms.

7.12 ENVIRONMENTAL ASSESSMENT: DECOMMISSIONING

ONSHORE ECC AND ONSS

DISTURBANCE TO ARCHAEOLOGICAL ASSETS DURING DECOMMISSIONING

- 7.12.1 For the purposes of the MDS for the PEIR it is assumed that all infrastructure will be completely removed as part of the decommissioning. It is not anticipated that the below ground effects of the decommissioning phase will extend beyond the footprint of the area required during the construction phase. As such there are not expected to be any additional effects to below ground archaeological remains as a result of the removal of the export cables and landfall infrastructure. No negative direct effects are anticipated during the decommissioning phase as any intrusive works will be restricted to areas which have already been disturbed during the construction phase. No mitigation is proposed or considered necessary.

DIRECT EFFECTS TO HISTORIC HEDGEROWS DURING DECOMMISSIONING

- 7.12.2 It is anticipated that to facilitate the decommissioning of the export cables that sections of historic hedgerows will need to be removed. These sections are those which will have already been reinstated as mitigation for construction effects, with any required archaeological mitigation having already been carried out. No additional archaeological impact is anticipated, and hedgerows will again be reinstated. No impact is therefore predicted, and no mitigation is proposed or considered necessary.



INDIRECT EFFECTS UPON HERITAGE SIGNIFICANCE DURING DECOMMISSIONING OF ONSHORE INFRASTRUCTURE

- 7.12.3 Indirect impacts during the decommissioning phase could arise from activities such as construction traffic, flashing lights on moving vehicles, noise and dust created by activities associated with the removal of the export cable (ducts to be left in situ) and demolition of the OnSS. These impacts are expected to be temporary and short term only lasting only for the decommissioning programme, and are not considered to give rise to any significant indirect effect.
- 7.12.4 The decommissioning and demolition of the OnSS would restore the setting of onshore heritage assets (assuming all other factors remain the same) as visually intrusive elements of the scheme would be removed. No mitigation is proposed or considered necessary.

OFFSHORE ARRAY

INDIRECT EFFECTS UPON HERITAGE SIGNIFICANCE DURING DECOMMISSIONING OF OFFSHORE ARRAY

- 7.12.5 The decommissioning of the array and the removal of the WTGs would have the effect of reversing any impacts upon heritage significance identified as arising from the presence of the WTGs during operation (assuming no other effects have taken place in the interim). No negative effect on the settings and hence heritage significance of any heritage assets is predicted to occur from decommissioning. No mitigation is proposed or considered necessary.

7.13 ENVIRONMENTAL ASSESSMENT: CUMULATIVE EFFECTS

- 7.13.1 The cumulative effects assessment as set out in this chapter has been undertaken in accordance with the methodology provided in Volume 1, Annex 3.1: Cumulative Effects Assessment Methodology.
- 7.13.2 The projects and plans selected as relevant to the assessment of impacts to onshore archaeology and cultural heritage are based upon an initial screening exercise undertaken on a long list. Each project, plan or activity has been considered and scoped in or out on the basis of effect–receptor pathway, data confidence and the temporal and spatial scales involved. For the purposes of assessing the impact of the VE on Onshore Archaeology and Cultural Heritage in the region, the cumulative effect assessment technical note submitted through the EIA Evidence Plan and forming Technical Annex 1.3.1 of this PEIR screened in a number of projects and plans as presented in Table 7.9.
- 7.13.3 In assessing the potential cumulative impacts for VE, it is important to bear in mind that projects, predominantly currently ‘proposed’ may or may not be, ultimately taken forward for development. To build in some consideration of certainty (or uncertainty) the projects and plans were allocated into ‘Tiers’ reflecting their current status within the planning and development process. They are outlined here in Table 7.9.



Table 7.9: Description of Tiers of other developments considered for cumulative effect assessment.

Tiers	Development Stage
Tier 1	Projects under construction.
	Permitted applications, whether under the Planning Act 2008 or other regimes, but not yet implemented.
	Submitted applications, whether under the Planning Act 2008 or other regimes, but not yet determined.
Tier 2	Projects on the Planning Inspectorate's Programme of Projects where a Scoping Report has been submitted.
	Projects under the Planning Act 2008 where a PEIR has been submitted for consultation.
Tier 3	Projects on the Planning Inspectorate's Programme of Projects where a Scoping Report has not been submitted.
	Identified in the relevant Development Plan (and emerging Development Plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents/ approvals, where such development is reasonably likely to come forward.

Table 7.10: Projects considered within the Onshore Archaeology and Cultural Heritage cumulative effect assessment.

Development type	Project	Status	Data confidence assessment/ phase	Tier
Offshore Wind Farm	North Falls	Pre-consent	High- application to be submitted in 2023	Tier 2
Offshore Wind Farm	East Anglia ONE North	Approved	High	Tier 1
Offshore Wind Farm	East Anglia TWO	Approved	High	Tier 1
Electricity Transmission	East Anglia Green Connection Node	Pre-consent	High- application to be submitted in 2024	Tier 2



Development type	Project	Status	Data confidence assessment/ phase	Tier
21/02070FUL Battery Energy Storage System	Construction and Operation of a 50MW Battery Energy Storage System	Approved	Medium	Tier 1
21/00393/EIA Scoping for Solar array	Proposed solar energy scheme	Pre-consent	Medium	Tier 2
22/01047/ Industrial units	Proposed industrial units, access and landscaping	Awaiting decision	Medium	Tier 2
21/01058 Utilities	Removal of OHPL burying cable underground	Approved	Medium	Tier 1
21/02027 Residential	Retirement housing	Awaiting decision	Medium	Tier 2
20/00179 Residential	50 Residential dwellings	Approved	Medium	Tier 1
18/01244 Residential	10 Apartments, parking and landscaping	Approved	Medium	Tier 1
17/01988 Residential	Retirement housing	Approved	Medium	Tier 1
20/01130 Residential	122 residential dwelling	Awaiting decision	Medium	Tier 2
22/01042/ DETAIL Commercial	8 commercial units with access and landscaping	Approved	Medium	Tier 1

7.13.4 Table 7.10 presents the scenarios whereby VE and the other projects listed in Table 7.9 could potentially result in cumulative direct effects.



Table 7.11: Cumulative MDS.

Impact	Scenario	Justification
Direct effects on heritage assets	Assess committed development that would impact discrete heritage assets or groups of heritage assets that would also be affected during the construction phase of VE	Disturbance of heritage assets or groups of heritage assets by other development would present an increased magnitude of change
Indirect effects on setting and views to/of designated heritage assets, causing a reduction in the contribution of setting to the heritage significance of heritage assets	Assess committed development that would impact on the settings and views to/from selected designated and non-designated heritage assets during the construction, operation and decommissioning phases of VE	Construction and operation of other development alongside VE may result in cumulative effects on the settings and views to/from the heritage assets and represent a worst-case

CUMULATIVE DIRECT EFFECTS

ONSHORE ECC AND ONSS

- 7.13.5 The North Falls OWF will follow the same or a very similar onshore ECC to that proposed for VE. The proposed Onshore ECC's are likely to be aligned adjacent to one another and as such have the potential to have direct effects on the same types or related archaeological deposits. Similarly, both projects (VE and North Falls OWF) are considering similar areas for the location of the OnSS, although final choices are yet to be made. Two substations located within the same area have the potential to have direct effects on the same types of deposits or related deposits within their footprint and construction areas. In addition, the proposed search area for the EACN Substation overlaps and is adjacent to the western boundary of the RLB at SSA West. This has the potential to have direct effects on the same types or related archaeological deposits as those within the SSA West Substation option. The cumulative effect of the North Falls Onshore ECC and OnSS and the EACN Substation will have a high negative magnitude of impact to assets of low to high heritage significance. This would result in a major to minor adverse effect prior to mitigation. Following the implementation of an approved programme of mitigation through preservation by record or preservation in situ, a minor adverse or negligible effect to buried archaeological remains is assessed.
- 7.13.6 No other proposed onshore development has been identified that has the potential to give rise to cumulative negative direct effects on below ground archaeological remains that may exist within the Onshore ECC or OnSS. Similarly, no related groups of below ground archaeological assets or deposits of the same type are expected to be affected by the cumulative developments.



CUMULATIVE INDIRECT EFFECTS

ONSHORE ECC AND ONSS

- 7.13.7 A number of developments within 5km of the Onshore ECC and OnSS have been considered (as per Table 1.8) for the assessment of indirect cumulative effects arising from the construction and operation of the Onshore ECC and OnSS. As effects arising from the Onshore ECC in the construction phase will be temporary and do not continue into the operational phase, no significant cumulative effects with other developments in the vicinity have been identified.
- 7.13.8 The operational VE OnSS is not considered to give rise to any significant effects when considered in combination with the surrounding cumulative schemes with the exception of the North Falls OnSS. The small number of minor adverse effects identified above will not be increased to a moderate or major effect to their heritage significance through the construction of the other developments. The location for the North Falls OnSS has yet to be confirmed but it is likely to be within the near vicinity of the VE OnSS. Whilst there would be an increase in the change to the setting of the heritage assets which have been identified as receiving either a minor adverse or negligible effect as a result of the VE OnSS, this is not considered to constitute such a change as to cause a significant effect to the heritage significance of these assets.
- 7.13.9 The VE SSA West option could lie adjacent or close to the proposed EACN Substation resulting in two substations within the settings of the surrounding heritage assets. Whilst this would result in an increase in the change to the setting of the heritage assets which have been identified as receiving either a minor adverse or negligible effect as a result of the VE OnSS, this is not considered to constitute such a change to cause a significant effect to the heritage significance of these assets.

OFFSHORE ARRAY

- 7.13.10 Consideration has been given to the potential for cumulative effects of VE in combination with operational, consented and planned development of a similar type, where overlapping areas of influence may lead to combined or enhanced effects on the heritage significance of specific heritage assets through development within their setting.
- 7.13.11 For purposes of this assessment, a review of potential cumulative development as identified in the 50 km study area for the Seascape, Landscape and Visual Impact Assessment was undertaken. East Anglia ONE North and East Anglia TWO have been consented but are not yet operational and North Falls OWF is at the planning stage. The operational arrays have been referred to in the assessment text presented in respect of assets/asset groups discussed earlier in this Chapter, where necessary, and are not otherwise separately considered.



7.13.12 The VE WTGs are to be located behind the operational Greater Gabbard and Galloper OWFs, and also behind the North Falls OWF (should this be consented) when viewed from the coast. Therefore, the WTGs will always be seen in the context of (and behind and at a greater distance than) the existing and planned WTGs. Only when looking out to sea from the Aldeburgh/Orford area would there be a small gap between the existing arrays and the East Anglia Two array where the VE WTGs would be visible within the gap between the two. However, the gap is unlikely to be so large that the VE WTGs would be seen in isolation, the other arrays would also be seen in this view adjacent to the VE WTGs. It should be noted that the proposed VE WTGs will be larger than the existing WTGs but also at a greater distance from the coastline than the Great Gabbard and Galloper arrays (and North Falls should this be consented) and as such their scale will decrease with distance. Whilst the VE WTGs will form an addition to views both behind and between the operational and planned WTGs at a long distance, this is not considered to be harmful in cumulative terms. In no case are the VE WTGs considered to cause additional or cumulative harm to the specific heritage interests or value of any asset, in such a way that the heritage significance of the asset is reduced, or the ability to appreciate and understand that interest diminished.

7.14 INTER-RELATIONSHIPS

7.14.1 The inter-related effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and decommissioning of VE on the same receptor, or group of receptors. Such inter-related effects include both:

- > Project lifetime effects: i.e. those arising throughout more than one phase of the project (construction, operation and decommissioning) to interact to potentially create a more significant effect on a receptor than if just one phase were assessed in isolation; and
- > Receptor led effects: assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor (or group). Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

7.14.2 Effects to onshore archaeology and cultural heritage are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual project phase.

7.15 TRANSBOUNDARY EFFECTS

7.15.1 Transboundary effects to onshore archaeological and cultural heritage assets are not anticipated.

7.16 SUMMARY OF EFFECTS

7.16.1 Table 7.11 provides a summary of all potential effects of VE upon onshore heritage assets with mitigation measures that could be employed to reduce these effects.

7.16.2 Significant effects to buried archaeological remains were identified where these are predicted to be of medium or high heritage significance, prior to mitigation. However, following the implementation of an approved programme of mitigation measures through preservation by record or preservation in situ (if appropriate), no significant residual effects are anticipated (reduced to a minor adverse effect).



7.16.3 No significant indirect effects have been identified arising from the change to setting affecting the heritage interests which make up the heritage significance of an asset. Assessment has been made of both the onshore infrastructure and the operational array and minor and negligible effects have been assessed. As these effects are not significant, no mitigation has been proposed or is considered necessary.

Table 7.12: Summary of effects for Archaeology and Cultural Heritage.

Description of effect	Effect	Additional mitigation measures	Residual impact
Construction			
Direct effect to deposits with Palaeolithic potential	High negative Magnitude Medium to High heritage significance	Preservation by Record	Minor adverse
Direct effect to deposits with Palaeoenvironmental potential	High negative magnitude Medium heritage significance	Preservation by Record	Minor adverse
Direct effect to potential archaeological assets identified from Aerial Photo and LiDAR analysis	High negative magnitude Low to high heritage significance	Preservation by Record	Minor adverse
Direct effects to geophysical anomalies	High negative magnitude Low to high heritage significance	Preservation by record	Minor adverse
Direct effects to unknown archaeological remains	High negative magnitude Unknown heritage significance	Preservation by record	Unknown (likely minor adverse effect)
Direct effect to potential historic hedgerows	Medium negative magnitude Low heritage significance	Minimise hedgerow removal as far as possible and reinstate following completion of the construction phase	Negligible



Description of effect	Effect	Additional mitigation measures	Residual impact
Indirect effect- Great Holland Mill House	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect- Hempstalls Farmhouse	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect- Abbotts Hall	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect- Great Holland Lodge	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect- Church of St Mary	Low negative magnitude High heritage significance	None proposed	Minor adverse
Operation			
Direct effect to potential archaeological remains	No impact	None proposed	No effect predicted
Direct effect to potential historic hedgerows	No impact	None proposed	No effect predicted
Indirect effect- Jennings Farmhouse	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect- Bounds Farmhouse	Negligible magnitude High Heritage significance	None proposed	Negligible



Description of effect	Effect	Additional mitigation measures	Residual impact
Indirect effect-Abbotts Hall	Negligible magnitude High Heritage significance	None proposed	Negligible
Indirect effect-Braham Hall	Negligible magnitude High Heritage significance	None proposed	Negligible
Indirect effect-Church of St Mary	Low negative magnitude High heritage significance	None proposed	Minor adverse
Indirect effect to Historic Landscape Character	Negligible magnitude Low heritage significance	None proposed	Negligible
Indirect effect-North Lookout, Aldeburgh	Low negative magnitude High heritage significance	None proposed	Negligible
Indirect effect-South Lookout, Aldeburgh	Negligible magnitude High Heritage significance	None proposed	Negligible
Indirect effect-Martello Tower, Aldeburgh	Low negative magnitude High heritage significance	None proposed	Negligible
Indirect effect-Orford Castle	Negligible magnitude High Heritage significance	None proposed	Negligible
Indirect effect-Naze Tower, Walton	Negligible magnitude High Heritage significance	None proposed	Negligible
Decommissioning			
Disturbance to potential archaeological assets	No impact	None proposed	No effect predicted



Description of effect	Effect	Additional mitigation measures	Residual impact
Direct effects to potential historic hedgerows	No impact	None proposed	No effect predicted
Indirect effect to Historic Landscape Character	No impact	None proposed	No effect predicted
Indirect effect to heritage significance through change within setting (onshore and offshore infrastructure)	No impact	None proposed	No effect predicted
Cumulative effects			
No cumulative effects reported			

7.17 NEXT STEPS

7.17.1 The following steps will be undertaken to progress the onshore archaeology and cultural heritage from PEIR stage to DCO application stage;

- > Further consultation on the need for additional cultural heritage specific view points;
- > Completion of the walkover survey (subject to access and constraints) and an additional walkover survey of the foreshore/inter-tidal zone within the RLB (subject to conditions);
- > Archaeological and geoarchaeological monitoring of future geotechnical works, if such works are required for engineering purposes;
- > Completion of the geophysical survey of the Onshore Project Area, subject to access, constraints, site conditions and suitable survey areas;
- > Completion of archaeological trial trench and geoarchaeological test pit evaluation works within the SSA West Area, subject to landowner access agreements.
- > Production of Outline WSI to set out approach to assessment and mitigation

7.18 REFERENCES

Ancient Monuments and Archaeological Areas Act 1979.
<https://www.legislation.gov.uk/ukpga/1979/46>



APS 2022a. *North Falls Offshore Wind Farm Onshore Cable Corridors and Substation Options Assessment Report: Assessment of airborne and satellite remote sensing data and map regression analysis for archaeology*. Unpublished report

APS2022b. *North Falls Offshore Wind Farm Onshore Project Components: Assessment of Aerial Imagery for Archaeology*. Unpublished report

ClfA 2014. *Code of Conduct*. Reading, University of Reading.

ClfA 2020 *Standard and guidance for historic environment desk-based assessment*. Reading, University of Reading.

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

Department of Energy and Climate Change, 2011. *National Policy Statement for Renewable Energy Infrastructure (EN-3)*.

Department of Energy and Climate Change, 2011. *National Policy Statement for Electricity Networks Infrastructure (EN-5)*.

Department for Business, Energy & Industrial Strategy, 2021. *Draft Overarching National Policy Statement for Energy (EN-1)*. Draft- Unadopted.

Department for Business, Energy & Industrial Strategy, 2021. *Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Draft- Unadopted.

Department for Business, Energy & Industrial Strategy, 2021. *Draft National Policy Statement for Electricity Networks Infrastructure (EN-5)*. Draft- Unadopted.

Department for Culture Media and Sport (DCMS) 2013. *Scheduled Monuments and nationally important but non-scheduled monuments*.

English Heritage 2008. *Research and Conservation Framework for the British Palaeolithic. The Prehistoric Society/English Heritage*, April 2008.

Essex County Council and Historic England 2003. *National Mapping Programme Essex: Management Report*.

Essex County Council and Historic England 2011. *Essex Historic Landscape Characterisation Project (HLC)*. Archaeology Data Service. York.

Essex County Council 2014. *Essex Historic Grazing Marsh Project*.

Essex County Council 2015. *Tendring District Protected Lanes Assessment*.

Essex County Council and Historic England 2015. *Managing the Essex Pleistocene*.



- The Hedgerows Regulations 1997. Available at:
<https://www.legislation.gov.uk/ukxi/1997/1160/contents/made>
- Historic England 2015a. *The Historic Environment in Local Plans. Historic Environment Good Practice Advice in Planning: 1*. Swindon.
- Historic England 2015b. *Making Significance in Decision-Taking in the Historic Environment. Historic Environment Good Practice Advice in Planning: 2*. Swindon
- Historic England 2015c. *Geoarchaeology, Using Earth Sciences to Understand the Archaeological Record*. Swindon.
- Historic England 2016. *Preserving Archaeological Remains, Decision Taking for Sites under Development*. Swindon.
- Historic England 2017a. *The Setting of Heritage Assets (2nd Edition). Historic Environment Good Practice Advice in Planning: 3*. Swindon
- Historic England 2017b. *Understanding Place. Historic Area Assessments*. Swindon
- Historic England 2019. *Statements of Heritage Significance: Analysing Significance in Heritage Assets*. Swindon
- IEMA, IHBC and ClfA 2021. *Principles of Cultural Heritage Impact Assessment in the UK*.
- Ministry of Housing, Communities and Local Government (MHCLG) 2021. National Planning Policy Framework.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf
- National Heritage Act 1983. <http://www.legislation.gov.uk/ukpga/1983/47/contents>
- Planning (Listed Buildings and Conservation Areas) Act 1990.
<https://www.legislation.gov.uk/ukpga/1990/9/contents>
- Royal HaskoningDHV 2021. *Cable Landfall Search Area – Historic Environment Desk-Based (Baseline) Assessment (DBA)*. Unpublished report.
- Royal HaskoningDHV 2022. *Onshore Cable Corridors and Onshore Substation Zone – Historic Environment Desk-Based (Baseline) Assessment (DBA)*. Unpublished report.
- Tendring District Council and Essex County Council 2008. *Tendring District Historic Environment Characterisation Project*.
- Tendring District Council and Essex County Council 2009. *Tendring Geodiversity Characterisation Report*.



Tendring District Council 2021. *Tendring District Local Plan 2013-2033 and Beyond: Section 1 North Essex Authorities' Shared Strategic Section 1 Plan*

Tendring District Council 2022. *Tendring District Local Plan 2013-2033 and Beyond: Section 2.*

Town and Country Planning Act 1990.

<https://www.legislation.gov.uk/ukpga/1990/8/contents>.



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