The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 2

Part 4 Offshore Scheme

Appendix 4.7.B, Written Scheme of Investigation

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4.7.B Offshore Written Scheme of Investigation

4.7.B.1 Introduction

Project Background

4.7.B.1.1 Wessex Archaeology was commissioned by National Grid Electricity Transmission plc, hereafter referred to as National Grid, to undertake the marine archaeological assessments required to support the Planning Inspectorate application for the offshore element of the proposed Sea Link Project, hereafter referred to as the Proposed Project.

4.7.B.1.2 In March 2022, following consultation with the relevant Local Planning Authorities in Suffolk and Kent, the Proposed Project was to be considered a Nationally Significant Infrastructure Project (NSIP) defined under Part 3 of the Planning Act 2008 (Ref 7.1).

4.7.B.1.3 This outline offshore archaeological Written Scheme of Investigation (WSI) follows on from a marine archaeological desk-based assessment (**Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**). Both documents are included as appendices in the Preliminary Environmental Information Report (PEIR) (**Volume 1, Part 4, Chapter 7 Marine Archaeology**), as requested by the Planning Inspectorate following review of the Scoping Report for the Proposed Project (Ref 7.2). This outline offshore archaeological WSI forms Control and Management Measure MA01, one of the mitigation measures used to manage impacts that could affect marine archaeological receptors.

4.7.B.1.4 The WSI will be implemented when it has been agreed with the Archaeological Curator(s) via the Regulator and prior to any works commencing on the Proposed Project.

Development Description

4.7.B.1.5 A full description of the Proposed Project is presented in a separate chapter: **Volume 1, Part 1, Chapter 4, Description of the Proposed Project**.

4.7.B.1.6 This WSI will summarise the known and potential marine archaeology receptors within the Offshore Scheme draft Order Limits. Full details regarding this resource are presented in **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**.

Scope of Document

4.7.B.1.7 This outline offshore archaeological WSI sets out the aims of offshore investigations, and the methodologies and standards that will be employed by the Client and Retained Archaeologist to implement the mitigation strategy set out in the PEIR (**Volume 1, Part 4, Chapter 7 Marine Archaeology**). In format and content, it conforms to current best practice outlined in the Joint Nautical Archaeology Policy Committee Code of Practice for Development (Ref 7.3) and the relevant guidance from the Chartered Institute for

Archaeologists (CIfA) (Ref 7.4 - 7.12), as applicable. There is currently no WSI guidance specific to subsea cables and therefore the most relevant offshore guidance will be used, for example, Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13).

4.7.B.1.8 This document will be submitted to the Archaeological Curator(s) for approval, prior to the commencement of any investigative work. If elements of the outline offshore archaeological WSI need to be discussed with relevant external stakeholders, including the Receiver of Wreck or Ministry of Defence, then this should also occur prior to the offshore archaeological WSI being approved. This could include methodologies for recovering and reporting material or development works that could impact a protected site under the Merchant Shipping Act 1995 (Ref 7.14) or the Protection of Military Remains Act 1986 (Ref 7.15).

4.7.B.2 The Archaeological Assessment Areas

Co-Ordinate System

4.7.B.2.1 The datasets used in this assessment have been presented in Universal Transverse Mercator (UTM) Zone 31 North projected from a European Terrestrial Reference System 1989 (ETRS89) datum.

Archaeological Assessment Area (Study Area)

4.7.B.2.2 This archaeological WSI addresses the offshore elements of the current Proposed Project to the Mean High Water Spring (MHWS) mark.

4.7.B.2.3 The boundary of the study area defines the area where any potential impact on marine archaeological receptors may occur. The study area comprises the extent of the Offshore Scheme draft Order Limits as defined by the draft Order Limits shapefile (supplied 28 February 2023), also used in the PEIR assessment (**Volume 1, Part 4, Chapter 7 Marine Archaeology**) (**Figure 4.7.B.1**).

4.7.B.2.4 Marine archaeological sites identified in the geophysical survey data that are located outside the study area, but their linear/polygon extents or their associated mitigation (in the form of Archaeological Exclusion Zones (AESs)), intersect with the study area have also been included in this WSI. Sites that are located extremely close to the boundary of the study area (usually within 5m) have also been included where they could represent buried ferrous material and their dimensions are unknown.

Ecological and Other Constraints

4.7.B.2.5 The coast between Thorpeness and Aldeburgh is designated as an Area of Outstanding Natural Beauty, Site of Special Scientific Interest, a Special Protection Area, a Heritage Coast and a Local Nature Reserve.

4.7.B.2.6 Pegwell Bay is designated as an ecologically protected area. It is a Site of Special Scientific Interest, a National Nature Reserve, a Special Area of Conservation, a Special Protection Area and a Ramsar Site.

4.7.B.3 Aims and Objectives

Aims

4.7.B.3.1 The aim of this archaeological WSI is to put in place the offshore archaeological mitigation as set out in the PEIR chapter relating to marine archaeology (**Volume 1**, **Part 4, Chapter 7 Marine Archaeology**) for agreement in principle with the Archaeological Curator(s), Historic England, via the Regulator, the Marine Management Organisation (MMO) and the respective local authority curatorial bodies that serve Suffolk and Kent.

Objectives

4.7.B.3.2 The objectives of this offshore archaeological WSI are as follows:

- to fulfil the requirements of the Archaeological Curator(s) in respect of archaeological monitoring and mitigation works associated with the Proposed Project;
- to provide the position and extent of Archaeological Exclusion Zones (AEZs) that may be required, and to establish methods for their monitoring, modification and/or removal in the future;
- to ensure that any further geophysical and geotechnical investigations associated with the project are subject to archaeological input, review, recording and sampling;
- to ensure that any Remotely Operated Vehicle (ROV) and/or diver surveys associated with the project are subject to archaeological input and that any relevant data produced is archaeologically assessed;
- to propose measures for the mitigation of unexpected archaeological remains encountered during further survey work or construction work associated with the Proposed Project, in the form of a project-specific Protocol for Archaeological Discoveries;
- to set out methodologies for post-construction monitoring; and
- to establish the reporting and archiving requirements for the archaeological works undertaken during construction and post-construction monitoring.

Addressing Questions from a Maritime Research Agenda

4.7.B.3.3 Data gathered during the pre-construction and construction works have the potential to inform research questions that as those laid out in regional Research Agendas.

4.7.B.3.4 Themes of areas of research from A Maritime Archaeological Research Agenda for England (Ref 7.16) may inform survey designs and will be addressed in the results of any reports and are presented in Table 4.7.B.1.

Table 4.7.B.1: Themes/areas for future research from a maritime Research Agenda

Research Agenda	Theme/Questions
A Maritime Archaeological Research Agenda for England (Ref 7.16)	Palaeolithic: Improve the understanding of the chronology and nature of Pleistocene landscape change (sea level-induces variations in coastal geography and wider palaeoenvironmental fluctuations). Determining the environmental productivity of the Palaeolithic landscape, including now-submerged coastlines and terrestrial areas. Understand the extent to which Palaeolithic populations used coastal and marine resources, and if so, the nature of the adaptation and how it impacts on our understanding of British Palaeolithic population history. Identify whether British Palaeolithic populations were seafarers and, if so, when this began and what strategies/technologies they employed. This will better identify a Palaeolithic maritime network. Identify distinct maritime identities and use of maritime spaces to better understand societies and how space was transformed throughout the Palaeolithic. (researchframeworks.org/maritime/the-palaeolithic/)
	Mesolithic: Better understanding of coastal evolution to better assess the interplay of the coast and Mesolithic societies, and ideally obtained by detailed local sequences. Understand the nature and extent of exploitation of coastal resources and the impact this had on settlement. Improve our understanding of Mesolithic seafaring in England, through direct evidence. The nature and extent of the following marine networks are essential for adding to the European context: extent to which marine mammals move inland and the extent to which the sea facilitates contact between adjacent islands/mainlands. Consider the meaning of maritime identity for Mesolithic communities and their perceptions of maritime space. (researchframeworks.org/maritime/the-mesolithic/)
	Neolithic and Early Bronze Age: Better understanding of coastal evolution relating to relative sea-level change, variation in marine conditions, and the need for integrated sea-level palaeohydrological and environmental modelling work. There are many questions relating to settlement and subsistence which would benefit from further research (activity and settlement in the coastal zone, and the nature of offshore deposits and finds). The research base for vessels is limited. Therefore, seafaring questions relate to being able to predict areas of

Research Agenda	Theme/Questions
	high potential for the presence of Neolithic and Early Bronze Age craft and what are the most effective research methods to record and contextualise such discoveries. With regards maritime networks, archaeological science has provided important contributions on the origin of domesticated animals and plants, could techniques be extending to other domesticates or people? Evidence on early maritime networks can be improved by further research into the similarities in monuments in Britain, Ireland and Europe. And why did Britain and Ireland lose connection with Europe after *c.*3500 BC? (researchframeworks.org/maritime/the-neolithic-and-early-bronze-age/)
	Middle Bronze Age and Pre-Roman Iron Age: Further studies are required to understand the specifics of sea-level change and the topography of the coastline, and how environmental conditions changed over these periods and those these changes impacted seafaring. Better understanding maritime settlement and exploitation by researching the distribution and density of settlement and activities on the coast, including seasonal visitations to the coast. There is virtually no primary evidence for seagoing boats or ships from the Middle Bronze Age, Late Bronze Age or Ian Age. The only evidence for shipwrecks is the well-known assemblages of bronze objects from Dover and Salcombe. In this context any new discoveries of ships, parts of ships, possible wrecks or lost cargoes, and representations of vessels are very significant. Due to the extremely scarce evidence for later prehistoric vessels, any interpretation of such evidence needs to be approached with care. Incorporate the specifics of seafaring into interpretations and models of trade and exchange, especially at a regional and local level. (researchframeworks.org/maritime/middle-bronze-age-to-the-end-of-the-pre-roman-iron-age-c-1500-bc-to-ad-50/)
	Roman: Better understanding of the Roman coastline with the development of new regional coastal morphology models, and land reclamation. Harbours, ports and landing places - much past research has focused on a few particular areas and there is a need both to integrate these studies at regional scales and to address other potential sites. The lack of archaeological evidence of vessels is a key issue for this period. Questions about seafaring include: can we identify potential Roman shipwreck sites and associated material, how did seafaring technologies relate to earlier periods, and can Roman practices of seafaring and seafaring routes be better understood?

Research Agenda	Theme/Questions
	With regards maritime identities and perceptions of maritime space, themes include seascapes and identity, shipboard space and identity and religion. (researchframeworks.org/maritime/roman-c-ad-50-to-400/)
	Early medieval: Identify more landing places and nuance the current understanding of them. Those that are still undefined (Sandwich, Fordwich) offer attractive new research targets. Research whether the early beach-markets being defined in Scandinavia and the settlement patterns in the Frisian mudflats provide useful comparative examples. Expand our understanding of seafaring without more well-preserved and well-studied boats (inland and seagoing), perhaps with targeted surveys of potential landing places ethnoarchaeological research and experimental archaeology. (researchframeworks.org/maritime/early-medieval-ad-400-to-1000/)
	High medieval to post-medieval: Questions relating to coastal change include the following themes: environmental change, and coastal management and change. Socio-economic, environmental and political factors had a range of identifiable effects on coastal industries and the maritime landscapes. However, the material evidence of the interplay between these factors requires further study and there is a need for multi- disciplinary approaches to many of these questions. Themes relating to seafaring include: vessel traditions and technology, shipbuilding, gun founding and life on-board. (researchframeworks.org/maritime/high-to-post-medieval-1000-to-1650/)
	Early modern and industrial: Address coastal industries, fisheries, seaborne trade and settlement in combination, at local, regional, and national scales, and examine how these inter-dependent systems were affected by wars, growing international trade, and the social transformations of the period. There is a need to address coastal industries, fisheries, seaborne trade, and settlement in combination, at local, regional, and national scales, and to examine how these inter-dependent systems were affected by wars, growing international trade, and the social transformations of the period. There is a need for more systematic regional and national studies driven by research questions which connect shipbuilding industries and ship/boat design to the social, economic, and political world within which they occurred.

Research Agenda	Theme/Questions
	The theme of maritime identities and perceptions of maritime space is potentially significant to contemporary 'modern' Britain and the questions it raises of transnational identities and migrant communities require further research. (researchframeworks.org/maritime/early-modern-and-industrial-c-1642-to-1850/)
	Modern: Research how high-resolution archaeological studies of sea-level change over the modern period help to improve our overall understanding of the processes involved, and understand the impact on coastal communities of the decline in coastal trade. Better understand how to use wreck sites and associated assemblages to cast light on the lives of those involved in coastal trade. With regards seafaring, what was the impact of the world wars on the shipbuilding industry and communities. Research to what extent coastal defences and dredging has helped to reshape the English coastline. With regards maritime identities and perceptions of maritime space, how have those perceptions changes over the modern period and what impact has our changing relationship to the sea had on our engagement with maritime archaeology of this period. (researchframeworks.org/maritime/modern-1850-to-c-2000/)

4.7.B.4 Roles, Responsibilities and Communication

Schedule

4.7.B.4.1 Mitigation measures required to inform the final engineering design for the Proposed Project must be undertaken, completed and reported in time to inform the design. Any Method Statements produced for works must be submitted to the relevant Archaeological Curator(s) (Historic England for marine works and the respective local authority curatorial bodies that serve Suffolk and Kent for works in the intertidal zone) with sufficient time to receive comments prior to any works commencing.

Client

4.7.B.4.2 The Client will be responsible for implementing this outline offshore archaeological WSI and the mitigation measures, such as AEZs.

4.7.B.4.3 After the Development Consent Order (DCO) has been granted, the Client and/or their representative will commission a Retained Archaeologist during the pre-construction, construction, operation and maintenance and decommissioning phases of the Proposed Project.

4.7.B.4.4 The Client and/or their representative will consult the Retained Archaeologist during the planning stages for any further work.

4.7.B.4.5 The Client and/or their representative will commission Archaeological Method Statements for works that may impact the seabed, prior to such works being undertaken.

4.7.B.4.6 The Client and/or their representative will ensure that the Retained Archaeologist is provided with all relevant project datasets, to ensure that they are in an informed position to advise the project team. This is particularly important between the planning and construction phase, and at any stage if the Retained Archaeologist changes, to ensure consistency.

4.7.B.4.7 The Client and/or their appointed representatives will ensure that recovered material identified as 'wreck' must be reported to the Receiver of Wreck, part of the Maritime Coastguard Agency, within 28 days of discovery. The Client and/or their representative will be responsible for the submission of this report, the legal obligations under the Merchant Shipping Act 1995 (Ref 7.14) and all correspondence. If recovered material is held by the Retained Archaeologist, it is essential they are included in all correspondence with the Receiver of Wreck and are aware of any updates or changes to the finds reports (commonly known as droits) associated with the material. The Client and/or their appointed representatives will be responsible for ensuring the legal obligations associated with the droits are undertaken.

4.7.B.4.8 The Client and/or their appointed representatives, or any archaeological body they may appoint to manage the implementation of the outline offshore archaeological WSI, may seek curatorial advice from the Archaeological Curator(s).

4.7.B.4.9 Interaction with the Archaeological Curator(s) will be administered by the Client and/or their appointed representatives with advice where appropriate through the Retained Archaeologist. Should a new site of archaeological importance be discovered during construction, the Archaeological Curator(s) will be contacted immediately.

4.7.B.4.10 Other offshore archaeological services will be undertaken in the event that they are applicable and agreed in advance with the Client (e.g., archaeological assessments of survey data) and planned and delivered through bespoke Method Statements if required.

4.7.B.4.11 The Client and/or their appointed representatives will ensure that Contractors make project personnel aware of this outline offshore archaeological WSI, any AEZs in force, and the bespoke Protocol for Archaeological Discoveries.

Retained Archaeologist

4.7.B.4.12 The Retained Archaeologist will oversee archaeological mitigation, as required, and will implement the outline offshore archaeological WSI, providing consistency throughout the Proposed Project.

4.7.B.4.13 The Retained Archaeologist, or suitable alternative, will produce Archaeological Method Statements for works, as appropriate.

4.7.B.4.14 The Retained Archaeologist will act as the specialist advisor for any unexpected archaeological discoveries. The Retained Archaeologist will cover the administration of the reporting of discoveries made by the client and/or their representative and will provide immediate actions, including recording, handling and storage, and introduction of measures to prevent or reduce damage if the presence of a significant

archaeological site is suspected. The Retained Archaeologist will ensure any unexpected discoveries of archaeological material are assessed, as per the Protocol (see section 4.7.B.7) and reported to the relevant curators and stakeholders.

4.7.B.4.15 The Retained Archaeologist will produce reports for approval by the Client and/or their representative and the Archaeological Curator(s).

4.7.B.4.16 The Retained Archaeologist will also prepare project archives in consultation with the appropriate repository/museum.

Archaeological Curator(s)

4.7.B.4.17 The Proposed Project is located entirely within the 12nm Territorial Water limit. From the MHWS mark to the 12nm limit, the relevant Archaeological Curator is Historic England's Marine Planning Unit, with specialist advice provided by the Historic England's East of England and South East Science Advisors. The relevant contacts are:

- Christopher Pater, Head of Marine Planning, Historic England. Email: chris.pater@historicengland.org.uk, Tel: 07798 653897;
- Zoe Outram, East of England Science Advisor. Email: zoe.outram@HistoricEngland.org.uk, Tel: 01223 582707; and
- Anne de Vareilles, South East Science Advisor. Email: anne.devareilles@HistoricEngland.org.uk, Tel: 07557 828187.

4.7.B.4.18 Above the Mean Low Water Mark (MLWM), the relevant Archaeological Curators are Suffolk County Council and Kent County Council. The Senior Archaeological Officers at Suffolk County Council Archaeological Service and Kent County Council Archaeological Service will be contacted.

4.7.B.4.19 Method Statements for archaeological works will be submitted to the relevant Archaeological Curator(s) for comment/approval no less than one month prior to the planned commencement of surveys/works, in order to allow for sufficient time for the review and any amendments to be completed and agreed.

Other Key Stakeholders

Receiver of Wreck

4.7.B.4.20 Material identified as 'wreck' that has either been recovered within UK territorial waters or brought into UK territorial waters must be reported to the Receiver of Wreck under the Merchant Shipping Act 1995 (Ref 7.14). The Receiver of Wreck is located within the Maritime Coastguard Agency and works with other government departments and heritage organisations.

4.7.B.4.21 Wreck material is reported to the Receiver of Wreck by completing a 'Report of wreck and salvage' form (MSF 6200), available via their website, or by using their online reporting system.

4.7.B.4.22 The Receiver of Wreck's contact details are as follows:

- The Receiver of Wreck, Maritime & Coastguard Agency, Spring Place, 105 Commercial Road, Southampton, SO15 1EG. Email: row@mcga.gov.uk, Tel: 0203 817 2575.

4.7.B.4.23 Further details about how to manage discoveries of wreck material can be found in Section 4.7.B.9.

Ministry of Defence

4.7.B.4.24 Under the Protection of Military Remains Act 1986 (Ref 7.15), any aircraft that crashed while in military service are automatically protected. Therefore, based on the precautionary principal, all finds, or sites of aircraft should be reported to the Joint Casualty and Compassionate Centre (JCCC) of the Ministry of Defence, unless it can be proven without a doubt that the aircraft material is non-military. In any case, all finds of aircraft material should also be reported to the Receiver of Wreck.

4.7.B.4.25 Further details about how to manage discoveries of aircraft material, including restrictions, licensing, and guidance can be found in Section 4.7.B.9.

Archaeological Contractor(s)

4.7.B.4.26 Archaeological Contractor(s) may be appointed to carry out specific packages of work, for example works beyond the in-house capabilities of the Retained Archaeologist, or additional works, as required. The Archaeological Contractor(s) may be appointed by the Client or their appointed representatives (the Client, the Retained Archaeologist or other contractors/sub-contractors). In these instances, the Archaeological Contractor will ensure that works are specified, planned, undertaken and reported in accordance with this outline offshore archaeological WSI.

Client Contractor(s)

4.7.B.4.27 The responsibility for implementing the outline offshore archaeological WSI rests with the Client and their appointed representatives (including their Contractors).

4.7.B.4.28 All relevant Contractors engaged in the construction of the project shall:

- familiarise themselves with the requirements of the outline offshore archaeological WSI and make them available to all of their staff working on the project (e.g. for Protocol briefings and archaeological input into Archaeological Method Statements);
- communicate with the Retained Archaeologist in the planning stages of any further survey work, to ensure archaeological objectives are included, as appropriate;
- implement a Protocol for Archaeological Discoveries;
- obey legal obligations in respect of ‘wreck’ and ‘treasure’ under the Merchant Shipping Act 1995 (Ref 7.14) and the Treasure Act 1996 (Ref 7.17), respectively;
- obey legal obligations in respect of Protection of Military Remains Act 1986 (Ref 7.15);
- respect constraint maps and AEZs;
- assist and afford access to archaeologists employed by the Client; and
- inform the Retained Archaeologist of any environmental constraint or matter relating to health, safety and welfare of which they are aware that is relevant to the archaeologists’ activities.

Stakeholder Liaison

4.7.B.4.29 The onshore and offshore archaeological resource should be approached seamlessly, particularly in areas of overlap. Therefore, to cover such areas, there should be liaison with stakeholders, including communication between the onshore and offshore Retained Archaeologists, the onshore and offshore Archaeological Curators, academics and other interested parties. This could be particularly important with regards to issues concerning the intertidal/foreshore landfall areas, to ensure a joined-up approach is consistently applied.

4.7.B.5 Archaeological Baseline Summary

Introduction

4.7.B.5.1 The results within this baseline are summarised from the PEIR chapter relating to marine archaeology (**Volume 1, Part 4, Chapter 7 Marine Archaeology**) and its associated technical appendix, **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**. A list of the data sources used to complete this baseline is also presented in these associated documents.

Previous Archaeological Work

4.7.B.5.2 A Scoping Report (Ref 7.2) for the Proposed Project was issued to the Planning Inspectorate (PINS) on 24 October 2022 and a Scoping Opinion (Ref 7.18) was received from the Secretary of State (SoS) on 1 December 2022.

Summary of Known and Potential Archaeological Assets

4.7.B.5.3 The baseline presented below is summarised from the PEIR chapter relating to marine archaeology (**Volume 1, Part 4, Chapter 7 Marine Archaeology**) with further details presented in the Marine Archaeological Technical report, **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**.

Palaeogeographic assessment

4.7.B.5.4 There are no designated or known prehistoric sites within the study area, however, there is potential for archaeological material of this date to exist within the study area (**Figure 4.7.B.2A-H**). Detailed descriptions of the geological and palaeogeographic baselines are also presented in **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**. shows the location of palaeogeographic features.

4.7.B.5.5 The identified geology of the study area has been divided into four distinct units, summarised as:

- Units 1 a - b: solid, pre-Quaternary bedrock not considered to be of archaeological potential;
- Unit 2: Plio-Pleistocene marine deposit pre-dating the earliest known occupation of Britain and therefore not considered to be of archaeological potential;
- Units 3 a - d: Pleistocene and early Holocene sediments visible in SBP data as both buried and underfilled palaeochannels, and cut and fill features containing deposits of sands, gravels, silts, clays and peats. These deposits have the

potential to contain both *in situ* and derived archaeological material, alongside preserved organic remains of potential palaeoenvironmental importance; and

- Unit 4: modern seabed sediment that have the potential to contain re-worked artefacts and may cover wreck sites and other cultural heritage in areas of sufficient thickness.

4.7.B.5.6 Wessex Archaeology undertook a Stage 1 review of 65 geotechnical logs (located within the Offshore Scheme draft Order Limits) and integrated core photographs with the aim of identifying deposits of potential geoarchaeological interest along with recommendations for further geoarchaeological work. The results of the Stage 1 review revealed that peat was recovered in a single vibrocore (close to the Aldeburgh landfall option) and was assigned a high priority status due to its archaeological potential to preserve palaeoenvironmental and dating material. A total of 20 cores were given a medium priority status including several containing alluvium (organic and minerogenic) due to their potential to preserve organic and inorganic microfossils, and another located in a palaeochannel containing non-marine sand. The remaining 44 cores were given a low priority status.

4.7.B.5.7 In summary, the palaeogeographic assessment, supported by the geotechnical review, for the study area identified several features of archaeological potential located within the Unit 3 sediments, comprising 11 channels, one high amplitude reflector, three channel complexes, 11 simple cut and fill features, one complex cut and fill feature and three areas of acoustic blanking have been identified within the study area.

Seabed features

4.7.B.5.8 There are currently no maritime or aviation sites within the study area that are subject to statutory protection.

4.7.B.5.9 A detailed description of the seabed features baselines is presented in **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**. The location of these seabed features are shown on **Figure 4.7.B.3A-T**.

4.7.B.5.10 Within the study area, a total of 722 geophysical anomalies were identified as being of possible archaeological potential and are discriminated as follows:

- 26 A1 features (anthropogenic origin of archaeological interest);
- 295 A2_h features (anomaly of likely anthropogenic origin but of unknown date; may be of archaeological interest or a modern feature);
- 396 A2_l features (anomaly of possible anthropogenic origin but interpretation is uncertain; may be anthropogenic or a natural feature); and
- five A3 records (historic record of possible archaeological interest with no corresponding geophysical anomaly).

4.7.B.5.11 An additional 16 seabed features are also located within the study area beyond the boundary of the geophysical survey area or were not included in the geophysical survey assessment due to the detail in the United Kingdom Hydrographic Office (UKHO) record indicating that the site had not been identified for some time or that the site relates to a modern site.

4.7.B.5.12 The geophysical anomalies and additional 16 records can be further classified by probable type, as follows:

- 13 wrecks;

- 31 debris fields;
- 70 areas of debris;
- 16 areas of seabed disturbance;
- 35 rope/chain;
- one bright reflector;
- 89 dark reflectors;
- 39 mounds;
- two magnetic trends;
- 421 magnetic anomalies;
- 15 recorded wrecks; and
- six obstructions.

Marine potential

4.7.B.5.13 The assessment of potential for the discovery of shipwreck, shipwreck-derived, aircraft and aircraft-derived material within the study area draws on the results of the desk-based research combined with further research of the wider area.

Maritime potential

4.7.B.5.14 There is potential for discoveries of maritime craft from the Mesolithic to the modern period. Post-medieval and modern wrecks, as they were generally made of more substantial material, are more likely to have been discovered through surveys undertaken by the UKHO and others, and thus recorded in the archaeological record. However, there is still potential for the discovery of previously unrecorded wreck sites, particularly of wooden wrecks, broken up wrecks or partially buried wrecks that are more difficult to detect through geophysical survey. Many vessels were lost without a record being made, and sometimes even the records that were created have since been lost (Ref 7.19). Examining the recorded losses provides an indication to the potential for further discoveries.

Aviation potential

4.7.B.5.15 There is potential for 20th century aircraft, particularly in relation to the Second World War. Aircraft crash sites are also difficult to identify through archaeological assessments of geophysical survey, although experience indicates material from the site, such as engines or other material may be recorded as small obstructions or anomalies.

Intertidal features

4.7.B.5.16 There are currently no intertidal sites within the study area that are subject to statutory protection. Within the study area, there are a total of four records relating to archaeological sites and findspots relating to Second World War coastal defence structures, a 19th century rifle range and a findspot for a small circular metal rim.

4.7.B.5.17 A detailed description of the intertidal baseline is presented in **Volume 2, Part 4, Appendix 4.7.A, Marine Archaeological Technical Report**. The location of the intertidal features are shown on **Figure 4.7.B.4**.

4.7.B.5.18 The intertidal area to the MHWS is discussed in more detail in **Volume 1, Part 2, Chapter 4 Cultural Heritage** for Suffolk**,** and **Part 3, Chapter 4 Cultural Heritage,** for Kent.

Historic Seascape Characterisation

4.7.B.5.19 According to LUC's 2107 Historic Seascape Characterisation (HSC): Consolidating the National HSC Database (Ref 7.20), which consolidated the eight existing HSC implementation projects (undertaken between 2008 and 2015) into a single national database, the study area has been characterised as having the following elements:

- reclaimed land (from tidal marsh);
- cultural topography landward (wetland);
- recreation (open ground, wildlife watching);
- reclaimed land (from tidal marsh);
- settlement (urban);
- recreation (parks and gardens; wildlife watching);
- reclaimed land (from tidal marsh);
- fishing (bottom trawling, drift netting, potting);
- maritime safety (buoyage, safety area);
- navigation (wreck hazard, hazardous water, navigation route, shoals and flats, ferry crossing);
- ports and docks (dockyard, harbour);
- recreation (leisure beach, leisure sailing, wildlife watching);
- cultural topography landward (wetland);
- cultural topography marine (palaeochannel);
- energy industry (submarine power cable, renewable energy installation (wind)); and
- telecommunications (submarine telecommunications cable).

4.7.B.6 Potential Impacts

4.7.B.6.1 With regards to marine archaeology, the PEIR (**Volume 1, Part 4, Chapter 7 Marine Archaeology**) has identified the potential effects on marine archaeology, which might occur during the construction, operation and decommissioning phases of the Proposed Project's Offshore Scheme.

4.7.B.6.2 The potential impacts and mitigation measures are summarised further below.

Construction

Direct impacts

4.7.B.6.3 During the construction phase, direct impacts resulting in potential adverse effects upon marine archaeological receptors are those involving contact with the seabed or the removal of seabed sediments. Marine archaeological receptors with height, such as shipwrecks, may also be impacted by activities that occur within the water column.

4.7.B.6.4 There could be permanent physical loss or disturbance of potential seabed receptors on, or in shallow sediments below, the seabed caused by seabed preparation and construction activities. These receptors could include shallowly buried shipwrecks or aircraft crash sites. Areas of particular concern include areas of concentration of A2 anomalies (particularly buried magnetic anomalies with no surface expression).

4.7.B.6.5 There could also be permanent physical loss or disturbance of known and potential palaeogeographic or buried maritime or aviation features from construction works that penetrate the seabed surface, such as trenched marine cable installation.

4.7.B.6.6 In summary, direct impacts may include:

- pre-installation seabed/ground preparation, including pre-lay surveys, cable route clearance, pre-sweeping and UXO clearance;
- trenched marine cable installation, including cable lay and post lay burial, ploughs, jet trenching, mechanical trenching, MFE, CFE and simultaneous cable lay and burial methods;
- external cable protection, including rock placement, concrete mattresses, rock/gravel/sand/grout bags, protection sleeves/cast-iron shells;
- vessel activities, including cable lay vessel, cable burial vessel, guard vessels, support vessels, rock placement vessels that could all cause impact from anchors, and jack-up platforms; and
- trenchless cable installation activities, such as HDD in the intertidal zone.

Indirect impacts

4.7.B.6.7 Indirect impacts occur as a result of changes to hydrodynamic and sedimentary regimes leading to sediment reduction and erosion and scour patterns during construction.

4.7.B.6.8 The Physical Environment assessment undertaken for the PEIR (**Volume 1, Part 4, Chapter 2, Physical Environment**) indicates that the magnitude of impact is expected to be negligible.

Operation and Maintenance

Direct impacts

4.7.B.6.9 Activities undertaken as part of Operation and Maintenance phase (O&M) works have the potential to directly impact marine archaeological receptors on or under the seabed. Direct impacts could include anchors of vessels deployed during periodic overhauls and scheduled or unscheduled O&M, and seabed contact by the legs of jack-up vessels/platforms. In addition, any repaired cable will need to be installed in an

undisturbed area of the seabed and therefore risk of direct impacts to marine archaeological receptors on or under the seabed are similar to those identified during the construction phase.

Indirect impacts

4.7.B.6.10 Indirect impacts could include changes to hydrodynamic and sedimentary regimes from the presence of foundation structures. However, based on the Physical Environment assessment undertaken for the PEIR (**Volume 1, Part 4, Chapter 2, Physical Environment**) these are expected to be not significant.

Decommissioning

Direct impacts

4.7.B.6.11 Activities undertaken as part of decommissioning works could have direct impacts, including where required, the cables and cable protection, anchors of vessels employed for decommissioning, and seabed contact by the legs of jack-up vessels/platforms.

Indirect impacts

4.7.B.6.12 There could be indirect impacts due to changes in hydrodynamic and sedimentary regimes, caused by the removal of cables and cable protection.

4.7.B.7 Mitigation and Scheme of Investigations

Introduction

4.7.B.7.1 With relation to marine archaeology, mitigation measures for the Offshore Scheme have been set out in the PEIR (**Volume 1, Part 4, Chapter 7 Marine Archaeology**). Mitigation measures have been recommended to reduce or prevent impact on marine archaeological receptors, and these typically fall into one of the three categories: embedded measures; control and management measures; and mitigation measures.

4.7.B.7.2 This Scheme of Investigations section sets out how these mitigation measures will be undertaken and implemented. It has been informed by the Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13) and the Historic Environment Guidance for the Offshore Renewable Energy Sector (Ref 7.21), and as well as the standards and guidance listed below, as applicable.

4.7.B.7.3 The Retained Archaeologist will provide input on Contractors' proposed survey Method Statements to ensure data collection is optimised so that it can be used to identify and characterise features of archaeological importance that could be impacted by development works and inform mitigation proposals such as avoidance of wrecks and debris.

Standards and Guidance

4.7.B.7.4 The Method Statements and specifications in this document are based on archaeological best practice and guidance for offshore development. Guidance relating specifically to subsea cable projects does not currently exist, however, since cable

routes are an integral part of offshore wind developments, the guidance above relating to renewable energy and offshore wind farm projects will be utilised for the purposes of this WSI.

4.7.B.7.5 The principal sources (in chronological order) are:

- Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers (Ref 7.22);
- Managing Lithic Scatters: Archaeological Guidance for planning authorities and developers (Ref 7.23);
- Military Aircraft Crash Sites: Archaeological guidance on their significance and future management (Ref 7.24);
- Protocol for reporting finds of archaeological interest (Ref 7.25);
- Code for Practice for Seabed Development (Ref 7.3);
- Historic Environment Guidance for the Offshore Renewable Energy Sector (Ref 7.21);
- Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy (Ref 7.26);
- Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (Ref 7.27);
- Our Seas – A shared resource: High level marine objectives (Ref 7.28);
- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for Renewable Energy Sector (Ref 7.29);
- Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition) (Ref 7.30);
- Ships and Boats: Prehistory to Present - Designation Selection Guide (Ref 7.31);
- Marine geophysics data acquisition, processing and interpretation guidance notes (Ref 7.32);
- Protocol for Archaeological Discoveries: Offshore Renewables Projects (Ref 7.33);
- Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (Ref 7.34);
- Deposit modelling and archaeology: Guidance for mapping buried deposits (Ref 7.35);
- Standard and guidance for historic environment desk-based assessment (CIfA Ref 7.7);
- Standard and guidance for archaeological excavation (Ref 7.8);
- Standard and guidance for archaeological field evaluation (Ref 7.9);
- Standard and guidance for nautical archaeological recording and reconstruction (Ref 7.10);
- Standard and guidance for an archaeological watching brief (Ref 7.11);

- Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13);
- Commercial Renewable Energy Development and the Historic Environment (Ref 7.36); and
- Curating the Palaeolithic (Ref 7.37).

Archaeological Exclusion Zones

4.7.B.7.6 Best practice favours the preservation in situ of archaeological remains as the first option, and therefore the ideal mitigation is avoidance (Ref 7.13), and the principle means used to preserve in situ any features or deposits of potential or known archaeological interest are AEZs. AEZs are placed around discrete sites, or more extensive areas identified by the impact assessment, and prohibit development related activities within their extents, however they do not restrict remote survey work or other activities that do not impact the seabed. The Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13) states that AEZs are formed by establishing a buffer around the known extents of sites for which the available evidence suggests that there could be archaeological material present on the seabed.

4.7.B.7.7 The final development layout will take into account the locations and extents of all AEZs, which will be marked on the Offshore Scheme masterplans. The Client will require its Contractor(s) to conduct all construction activity in such a way as to prevent any impacts, by construction or related works, within any AEZs, and keep records that this can be evidenced, if required.

4.7.B.7.8 Once established, AEZs may be altered (enlarged, reduced, moved or removed) as a result of further archaeological assessment of data or field evaluation, however, the alteration of AEZs will only be undertaken with the agreement of the relevant stakeholders and the Archaeological Curator(s). Furthermore, alteration of AEZs may require additional archaeological assessment of subsequent marine surveys. Further surveys could include geophysical, ROV or diver surveys. To maximise the archaeological benefits of these surveys, any surveys covering AEZs should include archaeological advice in the planning stages. Following any alteration to an AEZ, a new plan giving details of the current AEZs will be drawn up and issued to each relevant party.

4.7.B.7.9 If impacts to sites of archaeological importance within an AEZ cannot be avoided, measures to reduce, remedy or offset disturbance will be agreed with the Archaeological Curator(s) but could include further survey through to complete excavation.

4.7.B.7.10 If it becomes apparent that activities have taken place within any AEZ without prior consent, the party responsible will obtain advice from the Retained Archaeologist in accordance with their obligations with respect to the offshore archaeological WSI, and the AEZ may require monitoring to determine the level and extent of impact.

4.7.B.7.11 For the Proposed Project, 41 sites of archaeological potential have been given AEZs (**Figure 4.7.B.3A-T**). These comprise 26 A1 sites of geophysical anomalies anthropogenic origin of archaeological interest, five A3 historic records of possible archaeological interest with no corresponding geophysical anomaly, and ten additional seabed features that were located beyond the boundary of the geophysical survey area or were not included in the geophysical survey assessment due to the detail in the

UKHO record indicating that the site had not been identified for some time or that the site relates to a modern site.

4.7.B.7.12 For the 13 wrecks identified within the study area, AEZs of 50m around the wreck extents are recommended. For items of debris and debris fields associated with wrecks, AEZs of 25m around their recorded positions or feature extents are recommended. For the six very large magnetic only anomalies that may represent ferrous debris, either buried or with no seabed surface expression, a 50m AEZ around their recorded positions is recommended.

4.7.B.7.13 For the five recorded wrecks, precautionary AEZs of 100m are recommended. Although the wrecks were not identified in any of the geophysical datasets at this time, the UKHO records state that remains have previously been found at their positions, and so the potential remains for associated debris to be present within the vicinity.

4.7.B.7.14 The locations and extents of all recommended AEZs are shown in Table 4.7.B.2.

Table 4.7.B.2: Recommended AEZs within the study area.

WA ID	Classification/ Wreck category	Position (ETRS89 UTM31N)		Exclusion zone
		Easting	Northing	
2005	Dangerous wreck	407527	5759249	50m buffer around UKHO position
2006	Dangerous wreck (dead)	407342	5757133	25m buffer around UKHO position
2007	Dangerous wreck	406725	5756364	100m buffer around UKHO position
2008	Dangerous wreck (dead)	406124	5750234	25m buffer around UKHO position
2012	Dangerous wreck	399656	5700989	50m buffer around UKHO position
2015	Dangerous wreck	396319	5687285	100m buffer around UKHO position
2016	Dangerous wreck	396677	5687300	100m buffer around UKHO position
2017	Wreck	396601	5686840	25m buffer around NMHR position
2018	Dangerous wreck	396458	5686181	100m buffer around UKHO position
2020	Wreck (dead)	389200	5685809	25m buffer around UKHO position
7116	Wreck	407157	5779594	50m buffer around current feature extent
7120	Wreck	407875	5778194	50m buffer around current feature extent

WA ID	Classification/ Wreck category	Position (ETRS89 UTM31N)		Exclusion zone
		Easting	Northing	
7173	Wreck	408301	5772170	50m buffer around current feature extent
7174	Debris field	408312	5772193	25m buffer around current feature extent
7176	Wreck	408288	5772083	50m buffer around current feature extent
7177	Debris	408291	5772108	25m buffer around recorded position
7178	Debris field	408294	5772085	25m buffer around current feature extent
7231	Recorded wreck	408207	5764777	100m around recorded position
7232	Wreck	406866	5761733	50m buffer around current feature extent
7241	Recorded wreck	406658	5759338	100m around recorded position
7269	Wreck	406448	5750777	50m buffer around current feature extent
7270	Debris field	406438	5750789	25m buffer around current feature extent
7284	Recorded wreck	407938	5747882	100m around recorded position
7346	Wreck	412020	5733762	50m buffer around current feature extent
7414	Wreck	399938	5701754	50m buffer around current feature extent
7426	Wreck	399876	5700385	50m buffer around current feature extent
7430	Debris field	399891	5700390	25m buffer around current feature extent
7433	Debris	399846	5700382	25m buffer around recorded position
7434	Debris field	399899	5700368	25m buffer around current feature extent
7472	Wreck	400613	5693545	50m buffer around current feature extent
7487	Magnetic	399532	5691524	50m around recorded position
7494	Wreck	398780	5690035	50m buffer around current feature extent

WA ID	Classification/ Wreck category	Position (ETRS89 UTM31N)		Exclusion zone
		Easting	Northing	
7495	Recorded wreck	398693	5689906	100m around recorded position
7500	Recorded wreck	399517	5691466	100m around recorded position
7558	Wreck	396356	5685266	50m buffer around current feature extent
7608	Magnetic	394774	5685247	50m around recorded position
7612	Magnetic	394619	5685125	50m around recorded position
7613	Magnetic	394568	5685116	50m around recorded position
7631	Magnetic	393912	5684931	50m around recorded position
7647	Magnetic	393042	5685011	50m around recorded position
7721	Wreck	389778	5685519	50m buffer around current feature extent

Avoidance and Micro-Siting

4.7.B.7.15 Where possible, cables, legs of jack-up vessels/platforms and anchors of other vessels will be micro-sited to avoid the AEZs and all A2 geophysical anomalies of archaeological potential and all additional seabed features that were located beyond the boundary of the geophysical survey area or were not included in the geophysical survey assessment due to the detail in the UKHO record indicating that the site had not been identified for some time or that the site relates to a modern site (**Figure 4.7.B.3A-T**).

4.7.B.7.16 No AEZs are currently recommended for the A2_h and A2_l anomalies and six of the additional seabed features, and, to facilitate the design of the development scheme, buffers are not currently proposed for any of these anomalies. However, avoidance of these features by micro-siting is recommended if they are proposed to be directly impacted by the Proposed Project in the future.

4.7.B.7.17 It is possible that these anomalies/features could represent material from wreck sites of considerable age and be of higher archaeological value and importance than those already suggested for AEZs, and therefore further AEZs could be instituted if required. However, it is also possible that these anomalies could comprise modern debris of no archaeological significance.

4.7.B.7.18 If there is potential for these anomalies/features to be impacted by the Proposed Project, they will need to be assessed on a case-by-case basis, in order to accurately position the site and effectively confirm its character, in agreement with the Archaeological Curator(s). This will allow an assessment of the anomaly/feature's

relative archaeological value. The methodologies for assessing the features could include further geophysical survey, ROV survey, for example in combination with a UXO survey, or diver survey, and these are discussed in more detail below. Should any further surveys be planned, archaeological advice should be included at the planning stage, to maximise results for archaeological assessment.

4.7.B.7.19 If it is not possible to preserve *in situ* A2 geophysical anomalies or findspots, disturbance will be offset by appropriate and satisfactory measures, also known as 'preservation by record'. In these circumstances, the extent of the further survey required will be determined based on the assessed value or importance of the feature, and through discussions with the Archaeological Curator(s). Further works could include survey, recording and/ or excavation, to any depth likely to be impacted, prior to the impact occurring and will be detailed in a specific Method Statement. The impact of the development, if and where appropriate, may also be remedied by restabilising sites that have already been destabilised but not destroyed, or by offsetting damage to a site by detailed analysis and safeguarding of otherwise comparable sites elsewhere.

4.7.B.7.20 Information gathered through further survey or other archaeological works must be disseminated, for example through reporting.

Protocol for Archaeological Discoveries

4.7.B.7.21 A project-specific Protocol for Archaeological Discoveries will be established to support the reporting of unexpected archaeological material during the lifetime of the Proposed Project.

4.7.B.7.22 A Protocol does not replace the process of archaeological assessment and evaluation, but rather acts as a safety net in the event of unexpected discoveries during the course of development works (Ref 7.13).

4.7.B.7.23 The Protocol can be implemented in conjunction with many types of proposed works and is designed to operate when it is not practical or safe for an archaeologist to be present. Works that may require an archaeological protocol include geotechnical surveys, UXO surveys, pre-lay grapnel runs, clearance works, construction, O&M, decommissioning, or any other works with the potential for the discovery of material on the seabed and/or recovery of material to the surface. Method Statements relating to these activities should include provision for reporting discoveries through a Protocol.

4.7.B.7.24 The aim of a Protocol for Archaeological Discoveries is to reduce any adverse effects of the development on the historic environment by enabling people working on the development to report archaeological discoveries in a manner that is both convenient to their everyday work and effective with regard to the requirements of the Archaeological Curator(s).

4.7.B.7.25 Any discoveries by Project Staff are reported to a Site Champion on their vessel or site (usually the senior person on-board or on site). The Site Champion could be a UXO specialist, Vessel Master, a Construction Foreman, or any other person in a position to control the immediate works. The Site Champion then reports to the Nominated Contact, who has been formally identified by the Client and/or their representative to co-ordinate the implementation of the Protocol. The Nominated Contact will in turn inform the Retained Archaeologist and the Client 's Project Manager(s).

4.7.B.7.26 The Retained Archaeologist will in turn liaise with the Nominated Contact, the Client and/or their representative, the Archaeological Curator(s) and others, as necessary.

Provision will be made by the Client and/or their representative, in accordance with the Protocol, for the prompt reporting/recording to the Archaeological Curator(s) of archaeological remains encountered or suspected during the works. If the find is recovered and constitutes 'wreck' within the terms of the Merchant Shipping Act 1995 (Ref 7.13), then the Retained Archaeologist will compile a Report of Wreck and Salvage to be signed by the Client and sent to the Receiver of Wreck within 28 days of recovery. Should a find comprise material suspected to be from an aircraft lost while in military service, both the Receiver of Wreck and the JCCC of the Ministry of Defence will be notified by the Client as advised by the Retained Archaeologist, as the material will still be considered 'wreck' under the Merchant Shipping Act 1995 (Ref 7.14) but could also be protected under the Protection of Military Remains Act 1986 (Ref 7.15). With regards recovery of 'wreck', the Client and/or their representative will be responsible for the legal obligations under the Merchant Shipping Act 1995 (Ref 7.14) and all correspondence with the Receiver of Wreck. If recovered material is held by the Retained Archaeologist, it is essential they are included in all correspondence with the Receiver of Wreck and are aware of any updates or changes to the reports (commonly known as droits) associated with the material.

4.7.B.7.27 For discoveries of high archaeological importance, call-out investigations could be instituted, following discussions with the Archaeological Curator(s).

4.7.B.7.28 As the Protocol is designed to operate when an archaeologist is not present, it is recognised that for the Protocol to be effective, participants (such as the Nominated Contact, Site Champions and Project Staff) should receive Protocol Awareness training from the Retained Archaeologist or appropriate alternative. Project Staff involved with the following works in particular should undergo training: UXO survey(s), pre-lay grapnel runs, clearance works, and any other works with potential for the discovery of material on the seabed and/or recovery of material to the surface. This will ensure that staff are familiar with the Proposed Project's Protocol for Archaeological Discoveries, are able to recognise finds of archaeological potential, understand how to record them, and are aware of the reporting process.

4.7.B.7.29 Protocol Awareness talks can be undertaken by the Retained Archaeologist for all relevant staff, through short 'Toolbox Talks', and hard copies of the Protocol can be made available for use on-board vessels. The relevant staff on applicable pre-construction, construction, O&M and decommissioning vessels will be informed of the Protocol, details of the find types that may be of archaeological interest, and the potential importance of any archaeological material encountered. The Client and/or their representative should ensure that all staff are aware of any areas considered to be of archaeological sensitivity and should be informed to exercise due vigilance during any works in these areas.

4.7.B.7.30 Full contact details for all relevant parties will be held by the Retained Archaeologist.

4.7.B.7.31 Should any sensitive sites come to light, management plans will be put in place, through consultation with the Archaeological Curator, as additional information is gathered as required.

Method Statements

4.7.B.7.32 This outline offshore archaeological WSI provides a framework for further archaeological investigations for the Proposed Project. All works will be undertaken in accordance with the methodology set out within this outline offshore archaeological

WSI and in compliance with the standards outlined by the CIfA (Ref 7.4 - 7.11), excepting where they are superseded by statements made below.

4.7.B.7.33 Detailed Archaeological Method Statements will be produced, as required, for further archaeological works. Each Archaeological Method Statement will correspond to a package of works, for example, archaeological assessment of marine geophysical data, archaeological assessment of ROV data from the UXO survey, and archaeological investigation using divers and/or ROVs.

4.7.B.7.34 Method Statements will provide details about:

- form of commission and contractual relationship with the Client;
- relation between the Method Statement, the outline offshore archaeological WSI and the license condition(s);
- context in terms of relevant construction works;
- specific objectives of archaeological works;
- extent of investigation;
- investigation methodology
- anticipated post-investigation actions, including processing, assessment and analysis of finds and samples;
- reporting;
- timetable;
- monitoring arrangements; and
- health, safety and welfare.

4.7.B.7.35 Method Statements will be provided to the Client for comment. On receipt of comments from the Client, the Retained Archaeologist will produce a final Method Statement addressing these comments.

4.7.B.7.36 Method Statements will be submitted to the Archaeological Curator(s) for approval and will include provision for the relevant Archaeological Curator(s) to monitor the progress of the archaeological works, as appropriate, be that through site visits or meetings with the Client, the Contractor(s), and the Retained Archaeologist.

Marine Geophysical Investigations

4.7.B.7.37 It is expected that further geophysical surveys will be undertaken in areas that have not been surveyed thus far and potentially for pre-construction clearance/unexploded ordnance (UXO) surveys. The Client will allow for archaeological involvement in the planning and review of any further geophysical surveys related to UXO and/or any further geophysical investigations relating to archaeological assessment.

4.7.B.7.38 For all aspects of marine geophysical investigations, the Client will adhere to applicable standards and guidance. For example, geophysical surveys will be undertaken in line with Marine Geophysics Data Acquisition, Processing and Interpretation (Ref 7.32) and Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13).

4.7.B.7.39 The specifications of any proposed marine geophysical survey whose primary aim is non-archaeological (i.e., UXO, engineering or environmental) will be subject to advice from the Retained Archaeologist to ensure that archaeological input is provided at the planning stage and to enable archaeological considerations to be taken into account without compromising the primary objective of the survey. The additional archaeological input will comprise advice from an appropriately qualified marine archaeologist on the following points:

- available details of sites and/or anomalies identified in the desk-based technical report and archaeological assessment of geophysical survey data (**Volume 2, Part 4, Appendix 4.7.A marine Archaeological Technical Report**);
- archaeological potential of areas where no existing sites and/or anomalies are yet known;
- methodologies, including geophysical survey equipment specifications and proposed acquisition settings, survey line spacing, and orientation of lines and cross lines;
- proposed geophysical data deliverable types and file formats; and
- requirements for post-processing, interpreting, and archiving resulting data.

4.7.B.7.40 Consideration will also be given to having an archaeologist or geophysicist with appropriate archaeological experience on-board during the acquisition of data. The on-board representative responsible for archaeology will advise on the suitability for archaeological purposes of the data being acquired and be able to propose, through communication with the Retained Archaeologist, minor changes to the survey method, settings, etc., to optimise archaeological results and thereby minimise the need to repeat surveys.

4.7.B.7.41 Should any surveys be carried out primarily for archaeological purposes, the specification should be prepared by a suitably qualified archaeologist or marine geophysicist. In addition, the survey should be carried out by a survey company with appropriate archaeological expertise and include geophysicists with appropriate expertise on-board, if required.

4.7.B.7.42 For bathymetry data gathered and assessed for non-archaeological purposes (for example as part of a UXO survey or boulder/obstruction clearance), the raw bathymetry data must be retained and made accessible to the Retained Archaeologist, should anomalies subsequently be determined to be of archaeological interest.

4.7.B.7.43 The results of further geophysical interpretation will be compiled as an Archaeological Report by the Retained Archaeologist, consistent with the provisions on reporting within this archaeological WSI.

Marine Geoarchaeological Investigations

4.7.B.7.44 Within the Offshore Scheme draft Order Limits, sixty-five cores were collected by MMT in September 2021, however, all cores recommended for the next stage of geoarchaeological recording were targeted and used for engineering lab testing prior to their geoarchaeological analysis. The Stage 1 review recommended that a Stage 2 geoarchaeological recording be undertaken of a sample of cores to describe the sequences recovered and undertake a deposit modelling (if suitable) and interpret the depositional environment (if possible). Eight cores, including the one high potential

core and seven of medium potential, were identified and recommended for the Stage 2 review, located within the Offshore Scheme draft Order Limits.

4.7.B.7.45 Although parts of these cores still exist, Wessex Archaeology's geoarchaeologists believed there was little potential for the next stage of recording of these samples as it is assumed that they will have since been at least partly destroyed, disturbed or bagged, losing any stratigraphic context or dating opportunity.

4.7.B.7.46 Additional geoarchaeological surveys have been agreed with Historic England and are planned for Summer 2023. Vibrocores that were originally assessed as being of high or medium priority following the Stage 1 review and were recommended for Stage 2 assessment will be targeted in a further geotechnical survey to allow for the Stage 2 assessment to be undertaken (following a repeated Stage 1 review). The results will be used to inform the ES. The survey will also include vibrocores from additional areas of the Offshore Scheme draft Order Limits that were not included in the original geoarchaeological survey.

4.7.B.7.47 The Retained Archaeologist will work with, and communicate early on with, the Geotechnical Contractor to ensure that vibrocores will be recovered and stored correctly prior to archaeological assessment first. This process will be recorded in the Method Statement.

4.7.B.7.48 Method statements will include clear provisions for the development of a collection, retention and storage strategy for cores, to allow for analysis to take place. It will be recommended for cores to be collected using light-proof sleeves, and that cores must be stored and split under light-safe (dark) laboratory conditions, in order to promote the preservation of the integrity of deposits of a certain age.

4.7.B.7.49 If boreholes and/or vibrocores are going to be assessed on-board the survey vessel, Historic England has advised that consideration be made for an archaeologist to be on-board during the geotechnical survey. If geotechnical material will not be assessed on-board, but rather be recovered to lab facilities for assessment on shore, the presence of an archaeologist on-board during acquisition would not be required, however an archaeologist should be present in the lab when the cores are split.

4.7.B.7.50 Table 4.7.B.3 shows the location of the eight vibrocores located within the Offshore Scheme draft Order Limits that will be retargeted in the next geoarchaeological survey campaign in Summer 2023.

Table 4.7.B.3: Location of original vibrocores to be repeated.

Hole ID	Position (ETRS89 UTM31N)		Geoarchaeological priority
	Easting (m)	Northing (m)	
748-NAT-NB-VC-S6-005	408108	5777807	High
748-NAT-NB-VC-021	406062	5757786	Medium
748-NAT-NB-VC-022	405615	5755807	Medium
748-NAT-NB-VC-046A	407234	5725168	Medium
748-NAT-NB-VC-050	404873	5718438	Medium
748-NAT-NB-VC-055A	401331	5711276	Medium
748-NAT-NB-VC-061	399727	5701283	Medium

Hole ID	Position (ETRS89 UTM31N)		Geoarchaeological priority
	Easting (m)	Northing (m)	
748-NAT-NB-VC-062A	399606	5699519	Medium

4.7.B.7.51 It is important to note that despite the identification of a single unit of high potential, there are complex landscape characteristics that will need to be explored and understood in more detail across the proposed development area. Geotechnical survey results should provide adequate levels of information for a palaeogeographic assessment and deposit model. This will enable a detailed understanding of the significance of the recorded deposits, and past landscapes, which will lead to a coherent and comprehensive understanding of the stratigraphy of the area. If relevant, the results of survey and the deposit model should be combined with the results of any onshore geotechnical work to ensure a seamless approach.

4.7.B.7.52 Should any additional sampling (e.g., by vibrocore, borehole, etc.) be planned, the Retained Archaeologist should be consulted during the sample site selection process to identify any sample locations of particularly high archaeological potential. There should be an appropriate level of liaison at the planning stage to review the potential for data to be gathered in a manner that is beneficial to both the initial intent and archaeological investigations, without compromising the original intention of the survey.

4.7.B.7.53 If further work is recommended by the Retained Archaeologist, the relevant Historic England Science Advisor must be contacted to discuss the scope and evidential value of such works. Any resulting core logs from geotechnical sampling should be made available for geoarchaeological assessment by the Retained Archaeologist.

4.7.B.7.54 Any works planned in the intertidal zone should ensure that both onshore and offshore Archaeological Curators are consulted. Offshore and onshore geoarchaeological teams will need to liaise closely to ensure that mitigation is designed where it is most effective to obtain the best results. Results of any terrestrial, offshore and intertidal investigations will be shared between the offshore and onshore teams. Should results provide sufficient information, a deposit model including both offshore and onshore results could be developed to illustrate the interface of the distribution of underlying sediments of archaeological potential, which would enable an assessment of the extent of linkages between the offshore and onshore deposits.

4.7.B.7.55 To help frame marine geoarchaeological investigations, Wessex Archaeology has developed a five-stage approach, encompassing different levels of investigation appropriate to the results obtained at each stage, accompanied by formal reporting of the results obtained at the level achieved (Table 4.7.B.4).

Table 4.7.B.4: Geoarchaeological programme of analysis.

Stage	Method	Description
1	Assessment	A desk-based archaeological assessment of the borehole and CPT logs generated by geotechnical contractors aims to establish the likely presence of horizons of archaeological interest and broadly characterise them, as a basis for deciding whether and what Stage 2 archaeological recording is required. The Stage 1 report will state the scale of Stage 2 work proposed.
2	Geoarchaeological Recording	Archaeological recording of selected retained or new core samples should be undertaken. This will entail the splitting of the cores, with half of each core being cleaned and recorded. The Stage 2 report will state the results of the archaeological recording and will indicate whether any Stage 3 work is warranted.
3	Sampling and Assessment	Dependent upon the results of Stage 2, sub-sampling and palaeoenvironmental assessment (pollen, diatoms and foraminifera) may be required. Subsamples will be taken from one core-half, with the other core-half retained intact for further sub-sampling, should it be required. Assessment will comprise laboratory analysis of the samples to a level sufficient to enable the value of the palaeoenvironmental material surviving within the cores to be identified. Subsamples will also be taken and retained at this stage in case radiocarbon dating is required during Stage 4. The Stage 3 report will set out the results of each laboratory assessment together with an outline of the archaeological implications of the combined results and will indicate whether any Stage 4 work is warranted.
4	Analysis and Dating	Full analysis of pollen, diatoms and/or foraminifera assessed during Stage 3 will be undertaken. Typically, Stage 4 will be supported by radiocarbon dating of suitable subsamples. Stage 4 will result in an account of the successive environments within the coring area, a model of environmental change over time, and an outline of the archaeological implications of the analysis.
5	Final Report	If required Stage 5 will comprise the production of a final report of the results of the previous phases of work for publication in an appropriate journal. This report will be compiled after the final phase of archaeological work, whichever phase that is.

4.7.B.7.56 Cores that have the potential for archaeological assessment and/or been selected for archaeological assessment should be split in half prior to any further sampling to

enable further analysis if required and where it doesn't compromise the original intention of the survey. More detail about geoarchaeological assessment can be found in Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13).

4.7.B.7.57 Further recommendations can be provided should any further stages of geoarchaeological assessment be deemed necessary, through to Stage 5, if required. Corresponding reporting will be undertaken in line with this WSI.

Archaeological assessment of UXO ROV survey data gathered for non-archaeological purposes

4.7.B.7.58 It is expected that a UXO survey may be undertaken to assess the potential for UXO material on and/or under the seabed within the Offshore Scheme area. The UXO survey will include high resolution geophysical survey, ROV video survey and potentially diver survey. With regards to any geophysical survey, the marine geophysical investigations section above should also be referred to.

4.7.B.7.59 The Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13) states that the Client should seek archaeological input at the planning stages of any proposed diver/ROV surveys undertaken primarily for engineering, ecological, or other purposes, in order to maximise the potential benefits. If appropriate, a separate Method Statement could be produced, in order to maximise the survey results for archaeological assessment.

4.7.B.7.60 Archaeological advice will include:

- details of AEZs within the Offshore Scheme draft Order Limits. Should there be any potential for impact, these should be incorporated into the survey for the purposes of archaeological review;
- details of the A2 geophysical anomalies and additional seabed features within the Offshore Scheme draft Order Limits. Should there be any potential for impact, these should be incorporated into the survey for the purposes of archaeological review;
- the archaeological potential of areas where no existing sites and/or anomalies are yet known;
- the type and level of ROV/diver positioning, video/still recording to be utilised;
- the use of laser siting to provide a scale for seabed features; and
- the provision of clear guidance on the types of sites and finds that are to be reported and recorded, and the level of recording required for sites of archaeological potential.

4.7.B.7.61 These surveys could be used to validate, alter or remove existing AEZs, in conjunction with discussions with the Archaeological Curator(s), or to identify and characterise material on the seabed, for example A2 geophysical anomalies or unexpected discoveries. Should any wreck or aircraft material be discovered, the RoW and JCCC will be contacted respectively.

4.7.B.7.62 Archaeological advice in the development of the survey methodology is particularly important in relation to the large number of A2 anomalies that are magnetic anomalies without any associated material visible on the seabed. If these anomalies will potentially be impacted, they will need to be effectively identified and accurately

positioned. Therefore, it is recommended that any ROV be equipped with a small dredge and excavating arm to expose buried material.

4.7.B.7.63 Data collected should be reviewed by an appropriately qualified and experienced archaeologist. The assessment will include any investigation reports, video stills, video data, blue view sonar or other geophysical data, and the location and nature of any obstructions encountered.

4.7.B.7.64 The results of the archaeological assessment need to be disseminated as outlined in this WSI. The reporting will include the investigative and visual outcomes, which can provide insightful and significant information. Prior to the surveys being undertaken, the Receiver of Wreck should be contacted to discuss the potential for the discovery of unrecovered material on the seabed during the survey and how they want information of such discoveries disseminated to them. The final gazetteer, which presents the results of the archaeological assessment in a tabulated format including as-found and as-left locations, may need to be disseminated to the Receiver of Wreck for inclusion in their archive, however, the archaeological material may not receive official droit numbers - although this should be confirmed with the Receiver of Wreck early in the process and prior to the outline offshore archaeological WSI being finalised. If aircraft material is encountered during the survey, a copy of the gazetteer should also be disseminated to the JCCC.

4.7.B.7.65 Should any sensitive sites come to light, management plans will be put in place, through consultation with the offshore Archaeological Curator, as additional information is gathered as required.

Archaeological Investigations Using Divers and/or ROVs

4.7.B.7.66 The Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (Ref 7.13) states that the Client should seek archaeological input at the planning stages of any proposed diver/ROV surveys undertaken primarily for engineering, ecological, or other purposes, in order to maximise the potential benefits. Archaeological input could include advice from the Retained Archaeologist on whether the surveys are likely to cover any areas of archaeological interest, such as AEZs, A2s, areas where unexpected discoveries have been made, and areas of archaeological potential, or whether the surveys are not likely to be of archaeological interest.

4.7.B.7.67 Therefore, archaeological advice should be sought at the planning stages for any ROV and/ or diver surveys, for example undertaken as part of route clearance or other activities, and, if appropriate, a separate Method Statement could be produced, in order to maximise the survey results for archaeological assessment.

4.7.B.7.68 These surveys could be used to validate, alter or remove existing AEZs, in conjunction with discussions with the Archaeological Curator(s), or to identify and characterise material on the seabed, for example A2 geophysical anomalies or unexpected discoveries.

Archaeological Watching Briefs and Walkover Surveys

4.7.B.7.69 For all proposed offshore works, a bespoke Protocol for Archaeological Discoveries will be used to deal with the discovery of any unexpected archaeological material. Should material of high archaeological importance be reported through the bespoke Protocol, an archaeological watching brief could be instituted, following discussions with the Archaeological Curator(s). The archaeological watching brief would require a

works specific Method Statement, which would be based on the specifics in this archaeological WSI and would be undertaken in line with the Standard and Guidance for an archaeological watching brief (Ref 7.11) and should be approved by the Archaeological Curator(s) prior to works being undertaken.

4.7.B.7.70 A walkover survey of the intertidal area of each of the landfalls is planned for Summer 2023 and the results will inform the ES. A watching brief may be required for intertidal works, should works be undertaken in areas of archaeological sensitivity.

Potential Economic Benefits to Local Community

4.7.B.7.71 East Suffolk Council seek to *"be ambitious in growing the District's economy, in particular recognising the opportunities presented by the Port of Felixstowe, the energy sector and key transportation routes, boosting the delivery of homes to contribute to addressing the national housing shortage and responding to needs for a greater mix of homes and increasing the delivery of affordable housing, whilst improving infrastructure provision and conserving our natural, built and historic environment"* (Ref 7.38, 2).

4.7.B.7.72 Meanwhile, Thanet District Council aspires for *"a sustainable, balanced economy with a strong focus on advanced manufacturing, emerging technologies, tourism, culture and leisure, supported by the three thriving coastal towns"* (Ref 7.39, 13).

4.7.B.7.73 Therefore, should any heritage assets of interest be discovered during surveys or revealed as unexpected discoveries, they have the catalyst to increase diver tourism in both areas, and therefore they should be managed and published appropriately, to promote local economic development.

4.7.B.7.74 In this way, the Proposed Project has the potential to enable the marine historic environment to be promoted and enjoyed as a recreational resource, while providing tangible social and economic benefits for the local community.

4.7.B.7.75 Additionally, the results of any survey work will be reported on by the Retained Archaeologist and these results will be made publicly accessible through the National Marine Heritage Record (NMHR) and Historic Environment Record (HER) datasets, and therefore will be available for the wider community.

4.7.B.8 Post-Construction Mitigation

Post-Construction Monitoring

4.7.B.8.1 Archaeological Method Statement(s) will be developed for post-construction monitoring by the Retained Archaeologist and agreed through discussions with the Archaeological Curator(s) and the Regulator. They will include provision for the archaeological assessment of post-construction monitoring survey data, particularly in relation to AEZs and A2 geophysical anomalies in areas of potential impact from the development (either through direct or indirect impact), as well as areas where unexpected discoveries of archaeological interest were made during development works. The work will also likely include areas of high archaeological potential, areas of scour, or other areas of interest as set out in the offshore archaeological WSI.

4.7.B.8.2 With the implementation of the recommended mitigation, AEZs, A2 geophysical anomalies and other additional seabed features will be avoided, and therefore no impact from the construction works will have occurred. However, post-construction

monitoring is recommended to confirm and demonstrate that impacts have been as negligible as anticipated.

4.7.B.8.3 Post-construction monitoring of AEZs should be carried out in accordance with the methods and agreed timescales.

Mitigation for Operations and Maintenance

4.7.B.8.4 The mitigation outlined in this offshore archaeological WSI will continue to be implemented through the O&M phase. In particular:

- AEZs will be retained, and no works that impact the seabed will be undertaken within them;
- A2s, where possible, will be micro-sited around or avoided subject to additional investigation and appropriate mitigation where avoidance is not possible, including by jack-up legs/platforms, anchors and any O&M works on the seabed;
- should geophysical and/or geotechnical surveys be planned, the Retained Archaeologist should be consulted to determine if archaeological objectives can be met; and
- a Protocol for Archaeological Discoveries will be implemented for the discovery of any unexpected archaeological material.

4.7.B.8.5 A Method Statement(s) will be produced for relevant O&M activities (such as cable replacement, pre-installation surveys, pre-sweeping or other activities) that may impact the seabed and will be reviewed and approved by the Archaeological Curator(s) before those works commence. The Method Statement will include details about all AEZs (including any implemented or amended during the pre-construction or construction phases), A2 anomalies and the Protocol.

Mitigation for Decommissioning

4.7.B.8.6 As decommissioning works will be planned in the distant future, and may come under a new EIA process, it is not possible to provide specific mitigation details at this time. However, mitigation will likely comprise a continuation of that outlined for O&M activities, i.e., retaining AEZs, avoiding A2 anomalies and establishing a Protocol for Archaeological Discoveries for any unexpected archaeological discoveries.

4.7.B.9 Finds

General

4.7.B.9.1 All archaeological finds from marine contexts will be recorded in accordance with the CIfA's Standard and Guidance for Archaeological Field Evaluations (Ref 7.9) and Standard and guidance for the collection, documentation, conservation and research of archaeological material (Ref 7.6). Although finds of modern date (19th century or later) may be recorded on site and not retained, depending on the research objectives of the Proposed Project, any finds relating to possible aircraft material or classified as 'wreck' under the Merchant Shipping Act 1995 (Ref 7.14) must be retained and reported to the Receiver of Wreck with 28 days and the JCCC, if applicable.

4.7.B.9.2 Any discoveries that are potentially sensitive should be kept confidential between the Client, their subcontractors and the Retained Archaeologist, and the Archaeological Curators as they may be a target for illegal salvage activities if knowledge of such discoveries becomes widespread.

4.7.B.9.3 Where appropriate, soil samples may be taken and sieved to aid in finds recovery.

4.7.B.9.4 Any finds from marine contexts that require conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Ref 7.40) and First Aid for Underwater Finds (Ref 7.41). A full record will be made of any treatment given. Any further conservation beyond first-aid must be approved by the Archaeological Curator(s) and, where applicable, the Receiver of Wreck prior to commencement.

4.7.B.9.5 Finds and other items of archaeological interest recovered offshore in the course of investigation are the property of The Crown Estate as the landowner, with the exception of any human remains, and 'wreck' covered by the obligations of the Merchant Shipping Act 1995 (Ref 7.14), or material covered by the Protection of Military Remains Act 1986 (Ref 7.15).

Ordnance

4.7.B.9.6 The Proposed Project will have a programme of UXO clearance incorporated into its construction plan to be conducted by suitably qualified EOD company.

4.7.B.9.7 If items of unexpected ordnance are discovered, they will be treated with extreme care. Company Health & Safety policies and established operational procedures should always take priority over archaeological reporting of munitions and ordnance.

Human Remains

4.7.B.9.8 In the event of discovery of any human remains (articulated or disarticulated, cremated or unburnt), all excavation of the deposit(s) will cease pending the Retained Archaeologist obtaining a Ministry of Justice Licence where required, or following the process set out in the Development Consent Order (this includes cases where remains are to be left *in situ*).

4.7.B.9.9 Should human remains require removal, all excavation and post-excavation will be in accordance with the Retained Archaeologist's protocols with any directions which may be given by the Secretary of State, and current guidance documents (e.g. Ref 7.42) and the standards set out in CIfA Technical Paper 13 Excavation and post-excavation treatment of cremated and inhumed remains (Ref 7.43). Appropriate specialist guidance/site visits will be undertaken if required.

4.7.B.9.10 The final deposition of human remains subsequent to the appropriate level of osteological analysis and other specialist sampling/examinations will follow the requirements set out in the DCO or Ministry of Justice licence as applicable.

Treasure

4.7.B.9.11 The Retained Archaeologist will immediately notify the Client and the onshore or offshore Archaeological Curator(s) on discovery of any material covered, or potentially covered, by the Treasure Act 1996 (as amended by The Coroners and Justice Act 2009) (Ref 7.17). All information required by the Treasure Act (i.e., finder, location, material, date, associated items etc.) will be reported to the Coroner within 14 days.

Items falling under the Treasure Act will be removed from the site by the Retained Archaeologist and stored in a secure location, pending a decision by the Coroner.

4.7.B.9.12 Material recovered below Mean High Water Springs to 12nm may be regarded as Wreck under the Merchant Shipping Act 1995 (Ref 7.14).

Aircraft

4.7.B.9.13 Under the Protection of Military Remains Act 1986 (Ref 7.15), it is an offence to tamper with, damage, move or unearth any items related to a military aircraft crash site, unless the Ministry of Defence has issued a licence authorising such an activity. A license is required irrespective of whether the aircraft was in the service of another nation's armed forces.

4.7.B.9.14 Application for a licence, and any subsequent work, should be undertaken in line with the Ministry of Defence's Crashed Military Aircraft of Historical Interest: Licensing of Excavations in the UK: Notes for Guidance of Recovery Groups (Ref 7.44). Should human remains be discovered, they should not be touched, but must be reported immediately to the Ministry of Defence (as per paragraph 15 of the guidance).

4.7.B.9.15 Any finds that are suspected of being military aircraft will be reported immediately to the Retained Archaeologist. In the case of a military aircraft being investigated under licence, any human remains will be reported immediately. Discoveries of aircraft material must be reported to the MoD, JCCC and to the Receiver of Wreck within 28 days of discovery.

4.7.B.9.16 For the archaeological assessment of aircraft remains, the Retained Archaeologist will refer to available guidance from Archaeological Curator(s), such as Military Aircraft Crash Sites: Archaeological Guidance on their significance and Future Management (Ref 7.24).

Wreck

4.7.B.9.17 There is a legal obligation under the Merchant Shipping Act 1995 (Ref 7.14) that all material identified as 'wreck' must be reported to the Receiver of Wreck within 28 days of discovery.

4.7.B.9.18 According to section 255 of the Act, 'wreck' can be defined as 'jetsam, flotsam, lagan and derelict found in or on the shores of the sea or any tidal water' that have come from a ship, aircraft or hovercraft (vessel) and includes cargo and equipment.

4.7.B.9.19 Not only does the legislation cover wreck material recovered from within UK territorial waters (12 nautical miles), but also material that has been brought into UK territorial waters from elsewhere. The Receiver of Wreck's remit does not extend to lakes or rivers beyond tidal reach.

4.7.B.9.20 Wreck material is reported to the Receiver of Wreck by completing a 'Report of wreck and salvage' form (MSF 6200) or completing their online recording form. A droit number will be assigned to each report of wreck, which could include single or multiple objects from one location/wreck site.

4.7.B.9.21 The Receiver of Wreck's remit is to research and establish who owns the wreck and to liaise with the finder, owner or other interested parties including archaeologists and museums.

4.7.B.9.22 All material reported as wreck must be retained and held on indemnity to the Receiver of Wreck's orders whilst the droit remains open, which could extend beyond a year. The location(s) of such storage will be confirmed following discussion between the Client and/or their appointed representatives and the Retained Archaeologist. The Receiver of Wreck must be made aware of these storage locations and any further movement of reported material.

4.7.B.9.23 If the Receiver of Wreck has not found ownership of any recovered wreck material within one year, the material becomes 'unclaimed' and as such the property of the Crown or grantee of the Crown. The Receiver of Wreck can then dispose of these items on behalf of the Crown. For material that is of historical or archaeological importance, the Receiver of Wreck will try to ensure that it is offered to an appropriate museum. If an appropriate museum or institution is not found, then the Receiver of Wreck may offer the material to the finder *in lieu* of salvage. Due to the longevity of this process, it is essential that the Client or their representative are fully aware of the obligations of the Merchant Shipping Act 1995 (Ref 7.14) and frequently liaise with the Receiver of Wreck until a decision on ownership has been made and the droits can be formally closed.

4.7.B.9.24 If a museum or suitable institution is found by the Retained Archaeologist, this should be confirmed through liaison between the Client/their representative (as the named finder on the Report of Wreck and Salvage) with the Receiver of Wreck. It is furthermore recommended that droits are formally closed by the Receiver of Wreck prior to material being accessioned by a museum.

4.7.B.10 Environmental

4.7.B.10.1 All sampling undertaken for archaeological purposes will be undertaken following the Retained Archaeologist's in-house guidance, which should adhere to the principles outlined in Historic England's guidance (Ref 7.30 and Ref 7.34).

4.7.B.10.2 Bulk environmental soil samples, for the recovery of plant macrofossils, wood charcoal, small animal bones and other small artefacts, will be taken as appropriate from well-sealed and dateable contexts or features.

4.7.B.10.3 If waterlogged or mineralised deposits are encountered, an environmental sampling strategy will be devised and agreed with the Curator(s) as appropriate. Specialist guidance will be provided by the Retained Archaeologist, with site visits undertaken if required.

4.7.B.10.4 Any samples undertaken for archaeological purposes will be of an appropriate size – typically 40 litres for the recovery of environmental evidence from dry contexts and 10 litres from waterlogged deposits.

4.7.B.10.5 Following specialist advice, other sampling methods such as monolith, Kubiena or contiguous small bulk (column) samples may be employed to enable investigation of deposits with regard to microfossils (e.g., pollen, diatoms) and macrofossils (e.g., molluscs, insects), soil micromorphological or soil chemical analyses.

4.7.B.11 Post-Excavation and reporting

Finds

4.7.B.11.1 All retained finds will, as a minimum, be washed, weighed (where applicable), identified and given a unique identifier. They will then be recorded to a level appropriate to the aims and objectives of the investigation. The report will include a table of finds with relevant details and a description.

4.7.B.11.2 Metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate materials, stored in a stable environment. The X-raying of objects and other conservation needs will be undertaken by the Retained Archaeologist's in-house conservation staff, or by another approved conservation centre.

4.7.B.11.3 Artefacts and other finds that do not require specific conservation measures will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the CIfA (Ref 7.5).

Conservation and Storage

4.7.B.11.4 All recovered materials of archaeological interest, from land or underwater, will be subject to a Conservation Assessment to gauge whether special measures are required while the material is being held. This Conservation Assessment will be carried out by the Retained Archaeologist or an Archaeological Contractor with an appropriate level of expertise, with advice from appropriate specialists. The Retained Archaeologist or an Archaeological Contractor with appropriate expertise will implement recommendations arising from the assessment. If no special conservation measures are recommended, finds will be conserved, bagged, boxed and stored in accordance with industry guidelines (Ref 7.5).

Environmental

4.7.B.11.5 Bulk environmental soil samples selected for archaeological purposes will be processed by standard flotation methods and scanned to assess the environmental potential of deposits. The flot will be retained on a 0.25mm mesh, with residues fractionated into 5.6/4mm, 2mm, 1mm and 0.5mm and dried if necessary. Coarse fraction (>5.6/4mm) will be sorted, weighed and discarded, with any finds recovered given to the appropriate specialist. Finer residues will be retained until after any analyses and discarded following final reporting (in accordance with the Selection policy, below).

4.7.B.11.6 In the case of samples from cremation-related deposits the flots will be retained on a 0.25mm mesh, with residues fractionated into 4mm, 2mm and 1mm. In the case of samples from inhumation deposits, the sample will be artefact sieved through 9.5mm and 1mm mesh sizes. The coarse fractions (9.5mm) will be sorted with any finds recovered given to the appropriate specialist together with the finer residues.

4.7.B.11.7 Any waterlogged or mineralised samples will be processed by standard waterlogged flotation methods.

Reporting

General

4.7.B.11.8 Following completion of fieldwork and/or the assessment of data, draft report(s) will be submitted for approval to the Client and the Archaeological Curator(s) for comment. Reports may be issued for individual fieldwork or assessment packages with a final close-out report, or the work summarised in a single final report. Once approved, a final version will be submitted.

4.7.B.11.9 The report will typically include the following elements:

- a non-technical summary;
- the aims and methods of the work;
- the results of the work including finds and environmental remains;
- a statement of the potential of the results;
- proposals for further analysis and publication;
- appendices;
- illustrations; and
- references

4.7.B.11.10 A copy of the report(s) will be deposited with Historic England's NMHR and the HERs of Suffolk and Kent, which act as the repository for the deposition of all archaeological fieldwork records and archives. The surveyed spatial digital data (.dxf or shapefile format) relating to the evaluation will also be deposited there and provided to the Client.

4.7.B.11.11 Information from the Proposed Project should be made publicly available, as this will lead to beneficial effects. The information can then support appreciation and enjoyment of the historic environment, on local, regional and national levels, and also enable further academic research and inform marine plans. In addition, dissemination can bring about greater awareness of the historic environment, which can in turn engender local pride.

Publication

4.7.B.11.12 If no further mitigation works are undertaken, a short report on the results of the evaluation(s) will be prepared for publication in a suitable journal, if considered appropriate, and agreed with the Client and the Archaeological Curator(s). There may be confidentiality issues that could delay or prevent publication, which must be taken into consideration.

OASIS

4.7.B.11.13 An OASIS online record (Ref 7.45) will be created, with key fields completed, and a .pdf version of relevant reports submitted, within six months of each report being approved by the Client. The OASIS record will be published through the Archaeology Data Service ArchSearch catalogue. However, projects subject to any contractual requirements on confidentiality, or with the discovery of vulnerable sites, will only be

uploaded to OASIS following confirmation from the Client and/or the Archaeological Curator.

4.7.B.12 Archive Storage and Curation

Museum

4.7.B.12.1 Every effort will be made to identify a suitable repository for the archive resulting from the investigations associated with the Proposed Project. If no suitable repository is identified, the Retained Archaeologist or suitable Archaeological Contractor will continue to store the archive, including any finds, but may institute a charge to the Client for ongoing storage beyond a set period.

4.7.B.12.2 For material reported as 'wreck' under the Merchant Shipping Act 1995 (Ref 7.14), the Receiver of Wreck, as per their guidance, will try to ensure that it is offered to an appropriate museum. It should be confirmed as early as possible as to who will undertake this research, the Receiver of Wreck or the Retained Archaeologist. Deposition of any finds with a museum will only be carried out with the full agreement of the Receiver of Wreck (on behalf of the Crown or grantee of the Crown) or the owner (as confirmed by the Receiver of Wreck). If the Retained Archaeologist is responsible for finding a suitable museum, any associated droits should be closed by the Receiver of Wreck prior to material being accessioned.

Transfer of Title

4.7.B.12.3 On completion of the investigation(s) (or extended fieldwork programme), every effort will be made to encourage the legal owner of any finds recovered to transfer their ownership to a museum or accredited organisation in a written agreement, with the exception of:

- human remains and any objects covered by the Treasure Act 1996 (as amended by the Coroners and Justice Act 2009) (Ref 7.17);
- aircraft material covered by the Protection of Military Remains Act 1986 (Ref 7.15) and would therefore be under the ownership of the JCCC of the Ministry of Defence, to transfer their ownership to the museum in a written agreement and in liaison with the Receiver of Wreck;
- recovered wreck material covered by the Merchant Shipping Act 1995 (Ref 7.14) as administered by the Receiver of Wreck. Ownership would be sought by the Receiver of Wreck for any reported material. Droits associated with recovered material must be formally closed prior to material being accessioned to a museum.

Preparation of Archive

Physical archive

4.7.B.12.4 The physical archive, which may include paper records, graphics, artefacts and ecofacts will be prepared following the standard conditions for the acceptance of excavated archaeological material by a suitable repository, and in general following nationally recommended guidelines (Ref 7.46, Ref 7.5, Ref 7.47 and Ref 7.48).

4.7.B.12.5 The physical archive will usually be deposited within one year of the completion of the Proposed Project, with the agreement of the Client. Where artefacts have been recovered and reported to the Receiver of Wreck, deposition may take longer than a year and only after any droit reports have been closed. Liaison with the Receiver of Wreck and the museum throughout the Proposed Project will allow discussions to occur to arrange for any required accessioning prior to the droits being officially closed.

Digital archive

4.7.B.12.6 All digital data produced for the archaeological assessment will be considered part of the primary archive and will accord with the procedures recommended by The Crown Estate, Marine Environment Data and Information Network (MEDIN), Archaeological Data Service (ADS) and the accepting institution.

4.7.B.12.7 Data will be compiled in a format suitable for submission of Monument, Event and Source records for entry into the NMHR dataset (Mariner) and/or the HERs for Suffolk and Kent (terrestrial and inshore).

4.7.B.12.8 If required by the museum/accepting institution following agreement with the Client, the digital data, or selected digital data, will be deposited with a Trusted Digital Repository, in this instance the ADS, to ensure its long-term curation. Digital data will be prepared following ADS guidelines (Ref 7.48 and online guidance) and accompanied by metadata.

Selection Strategy

4.7.B.12.9 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of both future researchers and the receiving institution.

4.7.B.12.10 The relevant Archaeological Curator(s) and the Retained Archaeologist will agree with the receiving institution a policy for the selection, retention and disposal of recovered or excavated material, and confirm requirements in respect of the format, presentation and packaging of archive records and materials. This will be underpinned by national guidelines on selection and retention (Ref 7.47, section 4) and generic selection policies (Ref 7.49) and follows the CIfA's Toolkit for Selecting Archaeological Archives (Ref 7.50). It should be agreed by all stakeholders (Retained Archaeologist's specialists, other external specialists, the accepting museum and the Archaeological Curator(s)) and fully documented in the project archive.

4.7.B.12.11 Where possible, the receiving institution will be notified in advance of any fieldwork. However, due to the nature of some types of fieldwork whereby it is often unknown what finds could be recovered, these discussions may take place during or even after fieldwork has ended. However, selection, retention and disposal of recovered or excavated material should only occur if the legislative requirements of the Merchant Shipping Act 1995 (Ref 7.14) and Protection of Military Remains Act 1986 (Ref 7.15) are fully undertaken and the Receiver of Wreck and Ministry of Defence are involved in any such decisions.

4.7.B.12.12 It is important to note that selection, retention and disposal of recovered or excavated material should only occur if the legislative requirements of the Merchant Shipping Act 1995 (Ref 7.14) and Protection of Military Remains Act 1986 (Ref 7.15) are fully undertaken and the Receiver of Wreck and Ministry of Defence are involved in any such decisions, for instance ensuring all droits are closed prior to discard or transfer to a suitable museum.

4.7.B.12.13 The project-specific selection strategy is presented below. Further modifications are expected to be made to the selection strategy as the project progresses; specific review points will be at assessment stage, and on project completion prior to final archive preparation.

Finds

4.7.B.12.14 Selection, retention and disposal of recovered or excavated material should only occur if the legislative requirements of the Merchant Shipping Act 1995 (Ref 7.14) and Protection of Military Remains Act 1986 (Ref 7.15) are first and foremost fully undertaken and the Receiver of Wreck, Ministry of Defence and other relevant stakeholders including the Archaeological Curator(s) are involved in any such decisions. Ownership of material must be confirmed prior to any decisions being made on their selection, retention and disposal, which will be undertaken in line with guidance from Brown (Ref 7.47).

4.7.B.12.15 Consultation with all stakeholders regarding project-specific selection decisions will be undertaken throughout the project as necessary, however at a minimum of three project review points:

- data gathering: if any unforeseen discovery on site necessitates an amendment to the proposed collection strategy, or if adjustments are made to any sampling strategy;
- end of data gathering (assessment stage); and
- archive compilation.

4.7.B.12.16 The following selection, retention and disposal decisions may only occur where ownership of material (if applicable) has been formally transferred to the finder or Retained Archaeologist by the Receiver of Wreck. If material is not accepted by a museum or other organisation and all legislative requirements are fully undertaken, then consideration will be given to the suitability for their use within handling or teaching collections of a relevant museum/organisation or the Retained Archaeologist's associated company, or whether they are of particular interest to the local community. Remaining de-selected material will be disposed of. All such material will be adequately recorded to the appropriate level before de-selection.

4.7.B.12.17 Brown (Ref 7.47), says that retention is the action of recording all that has been found as well as all decisions that are taken, their justifications and considerations that may lead to any disposal. A key part of selection and retention is ensuring that the assemblage is fully recorded in the site digital archive prior to any disposal being actioned.

Documentary and digital archive

4.7.B.12.18 It is widely accepted that not all records collected during the course of an archaeological project require preservation in perpetuity. These records will be subject to selection in order to establish what will be retained for long-term curation, with the

aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e. the retained archive should fulfil the requirements of both future researchers and the receiving museum.

4.7.B.12.19 To promote long-term future reuse, deposition file formats will be of archival standard, open source and accessible in nature following national guidance from ADS 2013, Ref 7.5 and the requirements of the digital repository.

4.7.B.12.20 Any sensitive data to be handled according to Wessex Archaeology data policy to ensure it is stored and transferred securely. The identity of individuals will be protected in line with GDPR. If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligation.

4.7.B.12.21 De-selected data will be stored on Wessex Archaeology secured servers on offsite storage locations. The Wessex Archaeology IT department has a backup strategy and policies that involves daily, weekly and monthly and annual backups of data as stated in the data management plan (DMP). This strategy is non-migratory, and original files will be held at Wessex Archaeology under their unique project identifier, as long as they remain useful and usable in their final version format. This data may also be used for teaching or reference collections by the museum, or by Wessex Archaeology unless otherwise required by contractual or copyright obligations.

Palaeoenvironmental material

4.7.B.12.22 All contexts suitable for environmental sampling will be considered for sampling. A site-specific sampling strategy (SSSS) may be recommended for the Proposed Project and can be prepared in a separate document to be used alongside this WSI. The SSSS is intended to guide the retrieval of paleoenvironmental evidence during the site investigations with the purpose of addressing their site-specific objectives. The SSSS will be prepared following the Retained Archaeologist's in-house guidance, which should adhere to the principles outlined in Historic England's guidance (Ref 7.30 and Ref 7.34). Where applicable, the Archaeological Curator(s) should be included in any discussions.

4.7.B.12.23 De-selected material from samples will be disposed of after processing and post-excavation recording. All processed material will be adequately recorded to the appropriate level before de-selection.

Security Copy

4.7.B.12.24 In line with current best practice (e.g. Ref 7.47), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

Engagement and Social Media

4.7.B.12.25 While taking into account the suitability of the Proposed Project particularly concerning issues such as confidentiality, it is recommended that in consultation with

the Client, possible opportunities to disseminate results and engage with the local community are sought.

4.7.B.12.26 Public engagement can range from a news item on social media, press releases, open days and volunteer involvement.

4.7.B.13 Copyright

Archive and Report Copyright

4.7.B.13.1 The full copyright of the written/illustrative/digital archive relating to the Proposed Project will be retained by the Retained Archaeologist under the Copyright, Designs and Patents Act 1988 (Ref 7.51) with all rights reserved. The Client will be licenced to use each report for the purposes that it was produced in relation to the Proposed Project as described in the specification. The accepting institution (if found), however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the Copyright and Related Rights Regulations 2003 (Ref 7.52). In some instances, certain regional museums may require absolute transfer of copyright, rather than a licence; this should be dealt with on a case-by-case basis.

4.7.B.13.2 Information relating to the project will be deposited with the HERs for Suffolk and Kent where it can be freely copied without reference to the Retained Archaeologist for the purposes of archaeological research, or development control within the planning process.

Third Part Data Copyright

4.7.B.13.3 This document, any associated reports and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which the Retained Archaeologist will be able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 (Ref 7.51) with regard to multiple copying and electronic dissemination of such material.

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