Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Appendix 40 to Deadline 1 Submission Onshore Written Scheme of Investigation, Site Investigation Works-Watching Brief

Relevant Examination Deadline: 1

Submitted by Vattenfall Wind Power Ltd

Date: January 2019

Revision A

5ŴI·ŦűŜŘ .èY	±I·űűŜyŦI·ff ² ǹyŘ t2øŜŴ [űŘ
! ǇǇŴ2ØŜŘ .èY	5I·yǹŜf . I·űŜă
5I·űŜ 2Ŧ ! ǇǇŴ2ØI·fY	ŴI·yǆI·Ŵè нлмф
wŜØǹăǹ2yY	!

wŜØǹăǹ2ƴ !	hŴǹ∃ǹyI·f 52ǑǆYŜyű ădzōYǹűűŜŘ ű2 űKŜ 9ÈI·YǹyǹyƎ ! ǆűK2Ŵǹűè
bĸ!	
bĸ!	
bĸ!	

/2ǇèŴǹ∃Kű ϭ нлмф ±I·űűŜyŦI·ff ² ǹyŘ t2øŜŴ [űŘ

! ff ǇŴŜπŜÈǹăűǹyƎ ŴǹƎKűă ŴŜűI·ǹyŜŘ

THANET EXTENSION
ONSHORE WIND FARM

Onshore Archaeology,
Written Scheme of Investigation,
Site Investigation Works-Watching Brief

Report Ref.: 116083.01
October 2018

wessexarchaeology

É Wessex Archaeology Ltd 2018, all rights reserved

Portway House
Old Sarum Park
Salisbury
SP4 6EB

www.wessexarch.co.uk

Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB

Disclaimer
The material contained in this report was designed as an integral part of a report to an individual client and was prepared solely for the benefit of that client. The material contained in this report does not necessarily stand on its own and is not intended to nor should it be relied upon by any third party. To the fullest extent permitted by law Wessex Archaeology will not be liable by reason of breach of contract negligence or otherwise for any loss or damage (whether direct indirect or consequential) occasioned to any person acting or omitting to act or refraining from acting in reliance upon the material contained in this report arising from or connected with any error or omission in the material contained in the report. Loss or damage as referred to above shall be deemed to include, but is not limited to, any loss of profits or anticipated profits damage to reputation or goodwill loss of business or anticipated business damages costs expenses incurred or payable to any third party (in all cases whether direct indirect or consequential) or any other direct indirect or consequential loss or damage

Document Information

Document title	Thanet Extension Onshore Wind Farm
Document subtitle	Onshore Archaeology Written Scheme of Investigation
Document reference	116083.01
Client name	GoBe Consultants Ltd
Address	34 Devon Square Newton Abbot TQ12 2HH
On behalf of	Vattenfall Wind Power Ltd
Address	First Floor 1 Tudor Street London England EC4Y 0AH
Planning authority	Kent County Council
Project management by	Abigail Bryant/ Mark Turner
Document compiled by	Johanna Greaves
Graphics by	JSG

Quality Assurance

Issue & issue date		Status	Author	Approved by
1	23/10/2018	Internal Draft	JSG	MT
2	10/12/2018	2nd Draft	JSG	MT
3	08/01/2019	Draft for consultation	JSG	MT

Contents

1 INTRODUCTION 1
- 1.1 Project background 1
- 1.2 Development description 1
- 1.3 Construction programme 2
- 1.4 Scope of document 2

2 AIMS AND OBJECTIVES 2
- 2.1 Aims 2
- 2.2 Objectives 2
- 2.3 Interface with Coastal and Marine Geoarchaeology 3

3 ROLES, RESPONSIBILITIES AND COMMUNICATION 3
- 3.1 Schedule 3
- 3.2 Retained Archaeologist 3
- 3.3 Archaeological Curator(s) 4
- 3.4 Archaeological Contractor(s) 4
- 3.5 Responsibilities 4
- 3.6 Stakeholder Liaison 4

4 ARCHAEOLOGICAL BASELINE SUMMARY 5
- 4.1 Introduction 5
- 4.2 Previous archaeological work 5
- 4.3 Summary of known and potential archaeological assets within the Site 5

5 METHOD STATEMENTS 5

6 ARCHAEOLOGICAL WATCHING BRIEFS 5
- 6.1 Service location and other constraints 5
- 6.2 Watching brief methods 6
- 6.3 Recording 6
- 6.4 Survey 7
- 6.5 Monitoring 7
- 6.6 Finds 7

7 POST-EXCAVATION METHODS AND REPORTING 8
- 7.1 Stratigraphic evidence 8
- 7.2 Finds evidence 9
- 7.3 Environmental evidence 9
- 7.4 Reporting 9

8 ARCHIVE STORAGE AND CURATION 10
- 8.1 Museum 10
- 8.2 Transfer of title 10
- 8.3 Preparation of archive 10
- 8.5 Security copy 11

9 COPYRIGHT 11
9.1 Third party data copyright 11
10 QUALITY PROCEDURES 11
10.1 External quality standards 11
10.2 Personnel 11
10.3 Internal quality standards 12
10.4 Health and Safety 12
10.5 Insurance 12
REFERENCES 12
APPENDICES 16
Appendix 1 16

List of Figures

Figure 1 Proposed site investigation locations, (reproduced from Client data)

THANET EXTENSION ONSHORE WIND FARM

Onshore Archaeology Written Scheme of Investigation
Site Investigation Works-Watching Brief

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology has been commissioned by GoBe Consultants Ltd (the Client), on behalf of Vattenfall Wind Power Ltd (VWPL) (the Developer), to produce a Written Scheme of Investigation (WSI) with respect to a watching brief on Site Investigation works in advance of the proposed Thanet Extension Offshore Wind Farm (Thanet Extension) (**Figure 1**).

1.1.2 The proposed development site comprises: the proposed Pegwell Bay onshore cable route and the location of its associated onshore infrastructure, which includes jointing bays and construction areas for Horizontal Directional Drilling (HDD)/ trenchless techniques where appropriate, as well as an associated onshore substation which is to be located at Richborough Port.

1.1.3 This WSI is the first stage in an archaeological investigation and mitigation process as set out in the Outline Onshore WSI (to be prepared and agreed). The results of the work will be used to inform further mitigation proposals, and if necessary the export cable route design and construction methodology. The results will also be used as part of a wider geoarchaeological investigation/assessment to be provided as part of the proposed mitigation, and as set out in the Outline Onshore WSI (in preparation).

1.1.4 This WSI is specifically concerned with the programme of onshore Site Investigation works carried out as part of the Thanet Extension Wind Farm project. Previous work has been concerned with the offshore stage of the programme and included a Written Scheme of Investigation (Wessex Archaeology, 2018) a marine archaeological Desk-Based Assessment technical report (Wessex Archaeology, 2017a) and an archaeological review of geophysical and geotechnical survey data (Wessex Archaeology, 2018), both of which were included as appendices in the Preliminary Environmental Information Report (PEIR) (VWPL, 2017), Volume 2: Chapter 13: Offshore Archaeology and Cultural Heritage.

1.1.5 Following further consultation, an Environmental Statement (ES) (VWPL, 2018) has been developed in support of Thanet Extension, and this WSI forms part of the embedded mitigation.

1.2 Development description

1.2.1 The purpose of this work is to carry out an intrusive site investigation to obtain geotechnical and geo-environmental data to inform the design and constraints associated with the cable route and associated infrastructure define the extent (laterally and vertically) of the landfill within the Red Line Boundary (RLB) as shown on Figure 1 and to characterise the fill within the landfill.

1.3 Construction programme

1.3.1 The construction programme has not been confirmed but will depend on the final project design and the construction strategy.

1.4 Scope of document

1.4.1 This WSI sets out the aims of the watching brief on excavation of machine excavated trial pits and hand excavated inspection pits that do not coincide with previous areas of quarrying or landfilling, and the methodologies and standards that will be employed by the Developer and/ or their representative and Retained Archaeologist.

1.4.2 This will be used to inform future assessment and mitigation design. In format and content, it conforms to current best practice and to the guidance outlined in the Chartered Institute for Archaeologistsô(CIfA) (CIfA, 2014a-g), as applicable.

1.4.3 This document will be submitted to the Archaeological Curator(s), for approval, prior to the commencement of any investigative work.

2 AIMS AND OBJECTIVES

2.1 Aims

2.1.1 The aim of the WSI is to put in place the archaeological mitigation set out in the ES (VWPL 2018).

2.2 Objectives

2.2.1 The objectives of this WSI are as follows:

- to fulfil the requirements of Historic England and Kent County Council in respect of archaeological monitoring and mitigation works associated with this project;
- to establish and confirm the extent and depth of previous quarrying and landfill operations along the proposed cable route;
- to establish and characterise the deposit sequence (where not disturbed by modern activity) along the cable route;
- to establish if possible whether deposits of geoarchaeological or palaeoenvironmental interest survive along the route, which may contribute to research goals in respect of the development of the Wantsum Channel and the coastal formation process at Pegwell Bay;
- to determine whether deposits of palaeoenvironmental (including waterlogged remains) or archaeological interest survive, which may contribute to research goals in respect of human activity in the location of the proposed works;
- to ensure that any further geophysical and geotechnical investigations associated with the project are subject to archaeological input, review, recording and sampling;
- to propose measures for the mitigation of unexpected archaeological and/or human remains encountered during further survey work or construction work associated with the project;
- to set out methodologies for post-construction monitoring; and

- to establish the reporting and archiving requirements for the archaeological works undertaken during pre-construction, construction, O&M and post-construction monitoring.

2.3 Interface with Coastal and Marine Geoarchaeology

2.3.1 The results will contribute to an overall deposit model to be produced by a geoarchaeologist (and building on the work carried out to support the application) which will illustrate the nature of the change in deposit types and structures as they transition between the coastal/marine environments to the onshore environment. The development of this model is intended to be an iterative process and updated with results of fieldwork and other investigations through the project.

2.3.2 Geoarchaeological monitoring of the terrestrial Ground Investigations (and interpretation of the results) will serve a two-fold purpose. Firstly, it will assist in the development of this model and aid in its use to predict the survival and/or location of deposits of (geo)archaeological or palaeoenvironmental interest. Secondly, it will enable consideration to be given to the avoidance (if possible) of such deposits, or the development of a suitable strategy for minimising harm and ensuring that an appropriate sample is taken, and record made, by way of mitigation through preservation by record. The scope and extent of such work will be agreed with Kent County Council's Archaeologist.

3 ROLES, RESPONSIBILITIES AND COMMUNICATION

3.1 Schedule

3.1.1 Mitigation measures required to inform the final engineering design for this project must be undertaken, completed and reported on in time to inform the design.

3.2 Retained Archaeologist

3.2.1 The Developer and/ or their representative will commission a Retained Archaeologist during the Thanet Extension pre-construction, construction, O&M and post-construction phases. The Retained Archaeologist will oversee archaeological mitigation to provide consistency throughout the project, as required.

3.2.2 The Developer and/ or their representative will consult the Retained Archaeologist during the planning stages for any further survey work. The Retained Archaeologist will advise the Developer and/ or their representative and appropriate Contractor(s) on which elements warrant archaeological investigation. The Retained Archaeologist will advise the Developer and/ or their representative on necessary interaction with third parties with archaeological interest, and the Archaeological Curator(s).

3.2.3 The Retained Archaeologist will provide archaeological and geoarchaeological advice at the planning stages for any further surveys, such as geophysical, geotechnical, Unexploded Ordnance (UXO), ROV or diver. The Retained Archaeologist will produce archaeological method statements for further archaeological investigations and will ensure approval from Archaeological Curator(s).

3.2.4 The Retained Archaeologist will report any unexpected discoveries of archaeological material to the client's Nominated Contact.

3.2.5 The Retained Archaeologist will produce reports for approval by the Developer and/ or their representative and the Archaeological Curator(s). The Retained Archaeologist will also prepare project archives in consultation with the appropriate repository/ museum.

3.3 Archaeological Curator(s)

3.3.1 The Archaeological Curator for the onshore heritage environment is as follows.

- Senior Archaeological Officer, Kent County Council Archaeological Service

3.3.2 During the project, communication with the Archaeological Curator(s) will be undertaken via email and/ or telephone contact. Method statements for archaeological works will be submitted to the Archaeological Curator(s) for comment/ approval. After construction has been completed, the final archaeological report(s) or publication(s) for this project will be submitted to the Archaeological Curator(s).

3.4 Archaeological Contractor(s)

3.4.1 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 Developer or their appointed representatives (the Client, the Retained Archaeologist or other contractors/ sub-contractors). In these instances, the Retained Archaeologist will have a coordinating role, ensuring works are specified, planned, undertaken and reported in accordance with this WSI, and undertaken by appropriately qualified and experienced personnel, with access to the required specialist knowledge (such as geoarchaeology) as may be required.

3.5 Responsibilities

3.5.1 The responsibility for implementing the WSI rests with the Developer and their appointed representatives (including their Contractors).

3.5.2 The Developer and/ or their appointed representatives, or any archaeological body they may appoint to manage the implementation of the WSI, will seek curatorial advice from the Archaeological Curator(s) as appropriate.

3.5.3 Interaction with the Archaeological Curator(s) will be administered by the Developer and/ or their appointed representatives with advice were appropriate through the Retained Archaeologist. Should a new site be discovered during construction, the Archaeological Curator(s) will be contacted immediately.

3.5.4 The Developer and/ or their appointed representatives will ensure that Contractors make project personnel aware of this WSI.

3.6 Stakeholder Liaison

3.6.1 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 area, to ensure a joined-up approach is consistently applied.

4 ARCHAEOLOGICAL BASELINE SUMMARY

4.1 Introduction

4.1.1 The results within this baseline are summarised from the ES (VWPL 2018) and associated annexes: *Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report* (Wessex Archaeology, 2017a) and *Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Data* (Wessex Archaeology, 2018).

4.2 Previous archaeological work

4.2.1 Considerable archaeological work has been undertaken in relation to TOWF, and a detailed list of surveys and reports can be found in the ES (VWPL, 2018).

4.2.2 A detailed list of reports, surveys and samples can be found in **Appendix 1**.

4.3 Summary of known and potential archaeological assets within the Site

4.3.1 There are no known archaeological assets within the site area. However, evidence from the wider area suggests there is potential for further discoveries, dating from the Neolithic period onwards.

4.3.2 Significant parts of the Site, are known to have been subject to mineral extraction and landfill in the recent past. Despite this, the local area is considered to have a high potential for archaeological remains and it is possible that certain areas along the proposed route have not been disturbed to the same extent as others.

4.3.3 Given the above, it is considered that a watching brief on ground investigation works could reveal surviving buried archaeological remains in previously undisturbed areas and (together with analysis of the borehole/test pit logs) inform an understanding of the deposit sequence and contribute to better understanding of coastal formation processes in Pegwell Bay, and further understanding of the evolution of the Wantsum Channel.

5 METHOD STATEMENTS

5.1.1 This WSI provides a framework for an archaeological watching brief on ground investigation works within the Site. All works will be undertaken in accordance with the methodology set out within this WSI and in compliance with the relevant standards outlined by the CIfA (CIfA, 2014a-g), excepting where they are superseded by statements made below.

5.1.2 Once this WSI has been approved by the Client and/or their representative, it 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 Developer, the Client, the Contractor(s), and/ or the Retained Archaeologist.

6 ARCHAEOLOGICAL WATCHING BRIEFS

6.1 Service location and other constraints

6.1.1 The client and/or their principal contactor will be responsible for the identification and protection of any above- and below-ground services within the watching brief area/s. The client and/or their principal contactor will also be responsible for informing Wessex

Archaeology of, and delimiting, any other areas of environmental, ecological or other constraints.

6.2 Watching brief methods

6.2.1 The statements below are for general guidance. Proposed activities may be limited by the nature of the proposed Site Investigation works, and by safety constraints which may restrict access to test pits or preclude the ability to expose or clean surfaces. The watching brief may be largely observational as a result.

6.2.2 Where it is determined to be required, the watching brief will be undertaken by at least one archaeologist, subject to the number of site operations being carried out at any one time. All mechanical excavation will, where possible, be undertaken using a toothless ditching bucket, and will be constantly monitored by the watching archaeologist.

6.2.3 Without causing unnecessary delay to the groundwork programme, the archaeologist may ask for the groundwork to be temporarily halted whilst investigations are carried out. If appropriate, areas of archaeological interest will be defined and suitably protected in advance of their investigation and recording.

6.2.4 Where necessary, the surface of archaeological deposits will be cleaned by hand. A sample of the archaeological features and deposits identified will be hand-excavated and recorded, sufficient to address the aims of the watching brief. Spoil derived from both machine stripping and hand-excavation will be visually scanned for the purposes of finds retrieval. Artefacts and other finds will be collected and bagged by context.

6.2.5 If extensive, complex or well-preserved archaeological remains are identified, for which the scope of the approved watching brief WSI is insufficient, the watching archaeologist will halt the groundwork, delimit the area of archaeological interest, and report immediately to the Retained Archaeologistôs project manager who will then inform the groundwork contractor, the client and the Kent County Council Archaeological Advisor, as a contingent excavation or revised strategy may be required. The programme, and additional resources, for any contingent excavation will be agreed with the client. Accordingly, this WSI will need revising before any further fieldwork proceeds ï the revised WSI will need the approval of the Kent County Council Archaeological Advisor, on behalf of the LPA.

6.2.6 If human remains are uncovered, the specific methods outlined below (section 6.6.2) will be followed.

6.2.7 Where access is not available or permitted for safety reasons, then the archaeologist may request arisings be placed to one side to enable closer inspection and sub-sampling (this can apply to both test pits and core-samples).

6.3 Recording

6.3.1 All exposed archaeological deposits and features will be recorded using a pro forma recording system (or other) acceptable to Kent County Councilôs Archaeological Advisor. A complete drawn record of excavated archaeological features and deposits will be made. This will include plans and sections, drawn to appropriate scales (generally 1:20 or 1:50 for plans, 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid. The Ordnance Datum (OD: Newlyn) heights of all principal features will be calculated (as defined by OSGM15 and OSTN15) and the levels added to the drawings.

6.3.2 A full photographic record will be made using digital cameras equipped with an image sensor of not less than 10 megapixels. This will record both the detail and the general context of the principal features and the site as a whole. Digital images will be subject to managed quality control and curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image set.

6.4 Survey

6.4.1 The survey of all archaeological features will be carried out using a Total Station Theodolite set up within a site grid tied in to the OS National Grid and heights above OD (Newlyn). The grid will be established, with a three-dimensional accuracy of at least 50 mm, using a GNSS (or similar) set up to receive RTK corrections.

6.4.2 If, due to unforeseen circumstances, it is not possible to survey using survey equipment prior to the destruction of the material, archaeological features will be located to either client plans that are related to OS mapping or structures/features that appear on OS mapping. This will be achieved using hand-held measuring tapes and the basic principles of triangulation.

6.5 Monitoring

6.5.1 The client will inform the Kent County Council Archaeological Advisor, of the start of the watching brief and its progress. Reasonable access will be arranged for the Kent County Council Archaeological Advisor, to make site visits in order to inspect and monitor the progress of the watching brief. Any variations to the WSI, if required to better address the project aims, will be agreed in advance with the client and the Kent County Council Archaeological Advisor.

6.6 Finds

General

6.6.1 All archaeological finds from excavated contexts will be retained, although those from features of modern date (19th century or later) may be recorded on site and not retained. Where appropriate, soil samples may be taken and sieved to aid in finds recovery. Any finds requiring conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Watkinson and Neal 1998).

Human remains

6.6.2 In the event of discovery of any human remains (articulated or disarticulated, cremated or unburnt), all excavation of the deposit(s) will cease pending notification of the Police and the Retained Archaeologist obtaining a Ministry of Justice licence (this includes cases where remains are to be left in situ).

6.6.3 Initially the remains will be left in situ, covered and protected, pending discussions between the client, a qualified osteoarchaeologist and the Kent County Council Archaeological Advisor, regarding the need for excavation/removal or sampling. Where this is deemed appropriate, the human remains will be fully recorded, excavated and removed from site in compliance with the Ministry of Justice licence.

6.6.4 Excavation and post-excavation processing of human remains will be in accordance with appropriate protocols and current guidance documents (e.g. McKinley 2013) and the standards set out in CIfA Technical Paper 13 Excavation and post-excavation treatment of cremated and inhumed remains. Appropriate specialist guidance/site visits will be undertaken if required.

6.6.5 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 Ministry of Justice licence.

Treasure

6.6.6 The Retained Archaeologist will immediately notify the client and the Kent County Council Archaeological Advisor, on discovery of any material covered, or potentially covered, by the Treasure Act 1996 (as amended by The Coroners and Justice Act 2009). 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.

Environmental sampling

6.6.7 All sampling will be undertaken following appropriate guidance, which adheres to the principles outlined in Historic Englandôs guidance (English Heritage 2011 and Historic England 2015).

6.6.8 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. In general, features directly associated with particular activities (e.g., pits, latrines, cesspits, hearths, ovens, kilns, and corn driers) should be prioritised for sampling over features, such as ditches or postholes, which are likely to contain reworked and residual material.

6.6.9 If waterlogged or mineralised deposits are encountered, an environmental sampling strategy will be devised and agreed with the Kent County Council Archaeological Advisor, as appropriate.

6.6.10 Any samples will be of an appropriate size ï typically 40 litres for the recovery of environmental evidence from dry contexts, and 10 litres from waterlogged deposits, or as otherwise agreed.

6.6.11 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.

7 POST-EXCAVATION METHODS AND REPORTING

7.1 Stratigraphic evidence

7.1.1 All written and drawn records from the watching brief will be collated, checked for consistency and stratigraphic relationships. Key data will usually be transcribed into an Access database, which can be updated during any further analysis. The watching brief will be preliminary phased using stratigraphic relationships and the spot dating from finds, particularly pottery.

7.1.2 A written description will be made of all archaeologically significant features and deposits that were exposed and excavated, ordered by period and/or feature group as appropriate. This will be informed by reference to the test pit logs and drilling logs provided by the Site Investigation works Contractor.

7.2 Finds evidence

7.2.1 All retained finds will, as a minimum, be washed, weighed, counted and identified. They will then be recorded to a level appropriate to the aims and objectives of the watching brief. The report will include a table of finds by feature/context.

7.2.2 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 Wessex Archaeology in-house conservation staff, or by another approved conservation centre.

7.2.3 Finds 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 (2014b).

7.3 Environmental evidence

7.3.1 Bulk environmental soil samples will be processed by standard flotation methods and scanned to assess the environmental potential of deposits. The flot will be retained on a 0.25 mm mesh, with residues fractionated into 5.6/4 mm, 2 mm, 1 mm and 0.5 mm and dried if necessary. Coarse fraction (>5.6/4 mm) 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, section 6.4).

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

7.3.3 Any waterlogged or mineralised samples will be processed by standard waterlogged flotation methods.

7.4 Reporting

7.4.1 Following completion of the fieldwork and the assessment of the stratigraphic (including reference to logs provided by the Site Investigation work contractor), artefactual and ecofactual evidence, a draft report will be submitted for approval to the client and the Kent County Council Archaeological Advisor, for comment. Following review, a final version will be submitted.

7.4.2 The report will include the following elements:

- Non-technical summary;
- Project background;
- Archaeological and historical context;
- Aims and objectives;
- Methods;

- Results ï stratigraphic, finds and environmental, including if appropriate a deposit model and geoarchaeological interpretation;
- Conclusions in relation to the project aims and objectives, and discussion in relation to the wider local, regional or other archaeological contexts and research frameworks etc;
- Archive preparation and deposition arrangements;
- Appendices;
- Illustrations; and
- References.

7.4.3 A copy of the final report will be deposited with the HER, along with surveyed spatial digital data (.dxf or shapefile format) relating to watching brief.

Publication

7.4.4 If no further excavation works are undertaken, a short report on the results of the watching brief will be prepared for publication in a suitable journal, if considered appropriate and agreed with the client and the Kent County Council Archaeological Advisor.

OASIS

7.4.5 An OASIS online record (http://oasis.ac.uk/pages/wiki/Main) will be created, with key fields completed, and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue.

8 ARCHIVE STORAGE AND CURATION

8.1 Museum

8.1.1 Currently no collecting museums in the vicinity of the Site are accepting archaeological archives. Every effort will be made to identify a suitable repository for the archive resulting from the fieldwork, and if this is not possible, The Retained Archaeologist will initiate discussions with the local planning authority in an attempt to resolve the issue.

8.2 Transfer of title

8.2.1 On completion of the watching brief (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (i.e., the landowner), with the exception of human remains and any objects covered by the Treasure Act 1996 (as amended by the Coroners and Justice Act 2009), to transfer their ownership to the museum in a written agreement.

8.3 Preparation of archive

8.3.1 The complete archive, which may include paper records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by a collecting museum, and in general following nationally recommended guidelines (SMA 1995; CIfA 2014c; Brown 2011; ADS 2013). The archive will usually be deposited within one year of the completion of the project, with the agreement of the client.

8.4 Selection policy

8.4.1 The Retained Archaeologist will follow national guidelines on selection and retention (SMA 1993; Brown 2011, section 4). In accordance with these, and any specific guidance prepared by the museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum, and fully documented in the project archive.

8.5 Security copy

8.5.1 In line with current best practice (e.g., Brown 2011), 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.

9 COPYRIGHT

9.1 Third party data copyright

9.1.1 This document 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 Wessex Archaeology are 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 with regard to multiple copying and electronic dissemination of such material.

10 QUALITY PROCEDURES

10.1 External quality standards

10.1.1 The Retained Archaeologist will be registered as an archaeological organisation with the Chartered Institute for Archaeologists (CIfA) and fully endorses its Code of conduct (CIfA 2014d) and Regulations for professional conduct (CIfA 2014e). All staff will be employed in line with the CIfA codes of practice and will normally be members of the CIfA or otherwise appropriately qualified and experienced.

10.2 Personnel

10.2.1 The fieldwork will be directed and supervised by an experienced archaeologist (ideally with geoarchaeological experience) provided by the Retained Archaeologist, who will be on site at all times for the length of archaeological fieldwork as required. The site personnel should have access to appropriate specialist support (such as a geoarchaeologist and/or palaeoenvironmental specialist).The overall responsibility for the conduct and management of the project will be held by the Retained Archaeologist, who will visit the fieldwork as appropriate to monitor progress and to ensure that the scope of works is adhered to. Where required, monitoring visits may also be undertaken by a Health and Safety manager. The appointed project manager and fieldwork director will be involved in all phases of the investigation through to its completion.

10.2.2 The analysis of any finds and environmental data will be undertaken by appropriately qualified and experienced specialist staff. A complete list of finds and environmental specialists will be provided on request.

10.2.3

10.3 Internal quality standards

10.3.1 The Retained Archaeologist will operate a defined and verifiable Quality Management System,

10.4 Health and Safety

10.4.1 Health and Safety considerations will be of paramount importance in conducting all fieldwork. Safe working practices will override archaeological considerations at all times. The Retained Archaeologist will supply trained, competent and suitably qualified staff to perform the tasks and operate the equipment used on site. All work will be carried out in accordance with the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999, and all other applicable Health and Safety legislation, regulations and codes of practice in force at the time.

10.4.2 The Retained Archaeologist will supply a copy of the company's Health and Safety Policy and a Risk Assessment to the client before the commencement of the watching brief. The Risk Assessment will have been read, understood and signed by all staff attending the site before any fieldwork commences. Field staff will comply with the Personal Protective Equipment (PPE) requirements for working on the site, and any other specific additional requirements of the principal contractor.

10.4.3 All fieldwork staff will be certified through the Construction Skills Certification Scheme (CSCS) or UK equivalent and have had UKATA Asbestos Awareness Training. Key staff also have qualifications in the use of CAT and Genny equipment and as banksmen/Plant Machinery Marshalls through the National Plant Operators Recognitions Scheme (NPORS).

10.5 Insurance

10.5.1 The Retained Archaeologist will have appropriate levels of both Public Liability and Professional Indemnity Insurance.

REFERENCES

ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service & Digital Antiquity Guides to Good Practice

Brown, D H 2011 *Archaeological archives; a guide to best practice in creation, compilation, transfer and curation,* Archaeological Archives Forum (revised edition)

Chartered Institute for Archaeologists (CIfA) 2014a *Standard and guidance for archaeological field evaluation*. Reading, CIfA

Chartered Institute for Archaeologists (CIfA) 2014b *Standard and guidance for the collection, documentation, conservation and research of archaeological materials.* Reading, CIfA

Chartered Institute for Archaeologists (CIfA) 2014c *Standard and guidance for an archaeological watching brief*. Reading, CIfA

Chartered Institute for Archaeologists (CIfA) 2014d *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives.* Reading, CIfA

Chartered Institute for Archaeologists (CIfA) 2014e *Code of Conduct*. Reading, CIfA

Chartered Institute for Archaeologists (CIfA) 2014f *Regulations for Professional Conduct*. Reading, CIfA

Crown Estate, The 2010 *Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects*. Published guidance by Wessex Archaeology Ref 73830.

Department of Energy & Climate Change (DECC) (2011), Overarching National Policy Statement for Energy (EN-1)

English Heritage (now Historic England) 1998 *Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers;*

English Heritage (now Historic England) 2008 *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment;*

English Heritage (now Historic England) 2011 *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation*. Second Edition

Historic England 2015b *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. Swindon, Historic England

Historic England 2015c *Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2.*

Historic England 2016 *Preserving Archaeological Remains: Decision-taking for Sites under Development*

Joint Nautical Archaeology Policy Committee 2006 *Code of Practice for Seabed Development, JNAPC*

McKinley, J I 2013 óCremation: Excavation, Analysis, and Interpretation of Material from Cremation-Related Contextsôin S Tarlow and L Nilsson Stutz (eds) *The Oxford Handbook of the Archaeology of Death and Burial*. Oxford University Press 147-171

McKinley, J I and Roberts, C 1993 *CIfA Technical Paper No 13 Excavation and post-excavation treatment of cremated and inhumed human remains.*

Museums and Galleries Commissions 1992 *Standards in the Museum Care of Archaeological Collections*

Society of Museum Archives (SMA) 1993 *Selection, Retention and Dispersal of Archaeological Collections*

Society of Museum Archives (SMA) 1995 *Towards an Accessible Archaeological Archive*

United Kingdom's Institute for Conservation (UKIC) 1984 *Conservation Guidelines No 2*

Vattenfall Wind Power Ltd 2017 *Thanet Extension Offshore Wind Farm: Preliminary Environmental Information Report*

Vattenfall Wind Power Ltd 2018 *Thanet Extension Offshore Wind Farm: Environmental Statement*

Watkinson, D and Neal, A V 1998 *First Aid for Finds*. United Kingdom Institute for Conservation and Rescue: The British Archaeological Trust

Wessex Archaeology 2007 *Historic Environment Guidance for the Offshore Renewable Energy Sector*, Published Guidance Note.

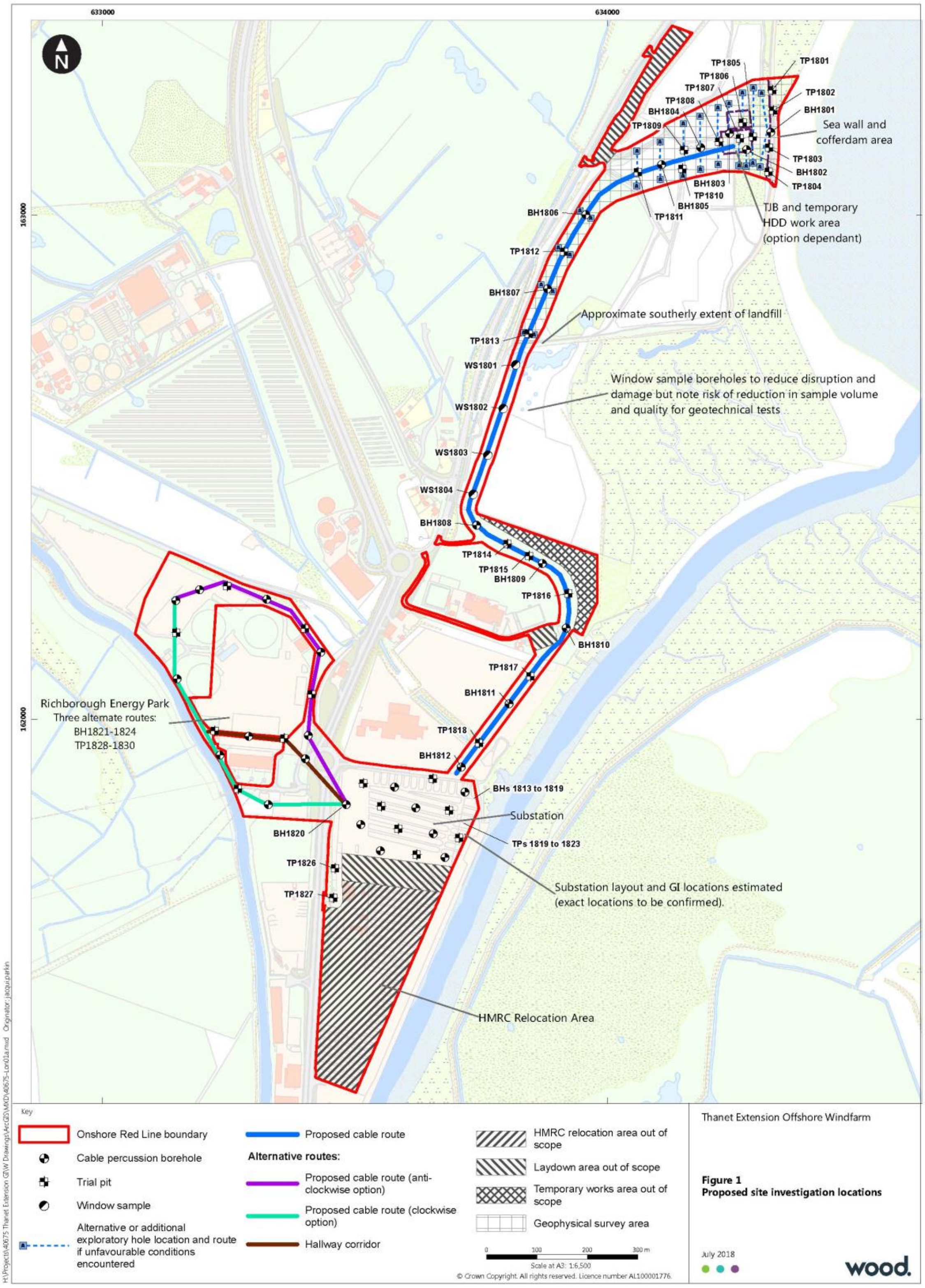
Wessex Archaeology 2008, *Aircraft Crash Sites at Sea: A Scoping Study. Archaeological Desk-Based Assessment*. Internal reference 66641.02

Wessex Archaeology 2017a *Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report*. Internal Ref: 116080.01

Wessex Archaeology 2017b *Project NEMO: Archaeological Report Form: Summary Record for the Discovery of MAG_11081/ Anomaly 70050: Possible aircraft wing.* Internal ref 115580.

Wessex Archaeology 2018 *Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Dat*a. Internal Ref: 116080.02

Figure 1: Proposed Site Investigation Locations (data provided by client)


633000
634000
163000
162000
N
TP1805
TP1801
TP1806
TP1807
TP1802
TP1808
BH1801
BH1804
Sea wall and cofferdam area
TP1809
TP1803
BH1802
TP1804
BH1803
TP1810
BH1805
BH1806
TP1811
TJB and temporary HDD work area (option dependant)
TP1812
BH1807
Approximate southerly extent of landfill
TP1813
WS1801
Window sample boreholes to reduce disruption and damage but note risk of reduction in sample volume and quality for geotechnical tests
WS1802
WS1803
WS1804
BH1808
TP1814
TP1815
BH1809
TP1816
BH1810
TP1817
BH1811
Richborough Energy Park
Three alternate routes:
BH1821-1824
TP1828-1830
TP1818
BH1812
BHs 1813 to 1819
Substation
BH1820
TPs 1819 to 1823
TP1826
Substation layout and GI locations estimated (exact locations to be confirmed).
TP1827
HMRC Relocation Area
Key
Onshore Red Line boundary
Cable percussion borehole
Trial pit
Window sample
Alternative or additional exploratory hole location and route if unfavourable conditions encountered
Proposed cable route
Alternative routes:
Proposed cable route (anti-clockwise option)
Proposed cable route (clockwise option)
Hallway corridor
HMRC relocation area out of scope
Laydown area out of scope
Temporary works area out of scope
Geophysical survey area
0
100
200
300 m
Scale at A3: 1:6,500
© Crown Copyright. All rights reserved. Licence number AL100001776.
Thanet Extension Offshore Windfarm
Figure 1
Proposed site investigation locations
July 2018
wood.
H:\Projects\40675 Thanet Extension GI\W Drawings\ArcGIS\MXD\40675-Lon01a.mxd Originator: jacqui.parkin

APPENDICES

Appendix 1

Technical Report Name	Type of Assessment	Data acquired	Details	Location	Sample Type	Present location
Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report. (Wessex Archaeology 2017a)	Desk-Based Assessment	Undertaken by Wessex Archaeology	Data from: UKHO NRHE KHER Reports related to TOWF			Wessex Archaeology
Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Data (Wessex Archaeology 2018)	Geophysical survey datasets	Acquired by Fugro, 29 July to 6 September 2016	SSS Magnetometer SBP MBES			Wessex Archaeology
	Geotechnical data	Acquired by Fugro, 2016 for engineering purposes	Geotechnical logs from: - 10 locations within the array; and - 1 location within the OECC. These comprise: - 11 CPTs; and - 9 vibrocores.	001	VC and CPT	Fugro Wallingford
				002	VC and CPT	
				003	VC and CPT	
				004	VC and CPT	
				005	VC and CPT	
				006	VC and CPT	
				007	VC and CPT	
				008	VC and CPT	
				009	CPT	
				011	CPT	
				013 (OECC)	VC and CPT	
Project NEMO: Archaeological Report Form: Summary Record for the Discovery of MAG_11081/ Anomaly 70050: Possible aircraft wing (Wessex Archaeology 2017b)	ROV data	Acquired by Nemo Link	Geophysical survey data from Gardline. UXO investigations, diver inspection and excavation ï photographs and initial report		Mag_11081/ Anomaly 70050	Wessex Archaeology

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867   Fax: 01722 337562   info@wessexarch.co.uk   www.wessexarch.co.uk

FS 606559

Wessex Archaeology Ltd is a company limited by guarantee registered in England, No. 1712772 and is a Registered Charity in England and Wales, No. 287786;
and in Scotland, Scottish Charity No. SC042630. Registered Office: Portway House, Old Sarum Park, Salisbury, Wilts SP4 6EB.