

Project Title/ Location	Beatrice Offshore Wind Farm
Project Reference Number	LF000005
Date:	July 2019

Beatrice Offshore Transmission System Marine Archaeological Written Scheme of Investigation & Protocol for Archaeological Discoveries

This document contains proprietary information belonging to Beatrice Offshore Windfarm Ltd and/or affiliated companies and shall be used only for the purpose for which it was supplied. It shall not be copied, reproduced, disclosed or otherwise used, nor shall such information be furnished in whole or in part to third parties, except in accordance with the terms of any agreement under which it was supplied or with the prior consent of Beatrice Offshore Windfarm Ltd and shall be returned upon request.

© Copyright of Beatrice Offshore Windfarm Ltd 2019

Rev	Prepared By	Sign Off	Checked By	Sign Off	Approved By	Sign Off	Date of Issue
1.0	Andrew Bicket Wessex Archaeology		Joe Deimel BOWL		Andrew Allan BOWL		24/04/2019
2.0	Andrew Bicket Wessex Archaeology		Joe Deimel BOWL		Andrew Allan BOWL		18/07/2019

Table of contents

Table of contents.....	2
List of abbreviations and definitions	3
1 Introduction.....	6
2 Marine archaeological Written Scheme of Investigation (WSI).....	7
2.1 Introduction.....	7
2.2 Known cultural heritage assets and targets.....	7
2.3 Inner and outer study areas	7
2.4 Archaeological Exclusion Zones (AEZs)	7
2.4.1 Introduction.....	7
2.4.2 Location and extent of AEZs	8
2.4.3 50m AEZs	8
2.4.4 100m AEZs.....	8
2.4.5 Monitoring of AEZs	8
3 Marine archaeological Protocol for Archaeological Discoveries (PAD).....	9
3.1 Introduction.....	9
3.2 Types of find	9
3.3 Potentially significant materials	9
3.4 Circumstances of discovery	10
3.5 Roles and responsibilities	10
3.5.1 Beatrice Offshore Windfarm Limited (BOWL).....	10
3.5.2 Contacting the Archaeological Consultant and the Implementation Service	10
3.5.3 Contacting the Relevant Authority.....	11
3.5.4 Advising other teams/vessels working on the site.....	11
3.5.5 Establishing new AEZs.....	11
3.5.6 Altering AEZs	11
3.6 Finds recovered within the UK twelve nautical mile limit.....	12
3.7 Reporting and archiving	12
4 References	13
Appendix A: Locations and extents of AEZs and PAD reported finds	15
Appendix B: Figures	16
Appendix C: Protocol for infringement of AEZs.....	17
Appendix D: Protocol for reporting finds of archaeological interest.....	18

Appendix E: Template Preliminary Record Form..... 19

List of abbreviations and definitions

Term	Description
AEZ	Archaeological Exclusion Zone.
Archaeological Consultant	Specialist archaeologists responsible for advising on all archaeological matters relating to O&M activities that might impact on archaeological and cultural heritage resources.
asset	Archaeological or cultural heritage remains on the seabed.
BOWL	Beatrice Offshore Windfarm Limited (Company Number SC350248) and having its registered office at Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ.
Environmental Advisor	Provides guidance and reporting on operational compliance with environmental requirements, including S36 and Marine Licence conditions.
finds	All forms of artefact that can be found on the seabed.
HES	Historic Environment Scotland, the statutory body for archaeology and heritage within Scotland including marine archaeology from the mean high water mark to 200 nautical miles offshore. They are advisors to MS-LOT on behalf of the Scottish Ministers.
Implementation Service	A team of archaeologists at Wessex Archaeology that research and report discoveries.
ISA	Inner Study Area.
Marine Coordinator	Responsible for the management and surveillance of people, vessels and offshore structures to ensure the safe preparation and execution of offshore activities, in order to minimise the probability of an incident, and to provide effective response if an incident does occur.
Marine Licence	The written consents granted by the Scottish Ministers (referred to on the licence as the Licensing Authority) under the Marine (Scotland) Act 2010, Part 4. The Offshore Transmission Marine Licence was issued on 2 September 2014 (reference: 04461/14/1) and revised by the issue of a licence on 27 April 2016 (reference: 04461/16/0), as

Term	Description
	subsequently revised and superseded by the licence with reference 04461/18/0 on 9 April 2018, and as subsequently revised and superseded by the licence with reference 04461/18/1 on 25 May 2018.
MS-LOT	Marine Scotland Licensing and Operations Team.
O&M	Operation and Maintenance.
ORPAD	Offshore Renewables Protocol for Archaeological Discoveries was developed for The Crown Estate by Wessex Archaeology, and has been in effect since 2010, prior to the devolution of Crown Estate Scotland. The ORPAD was revised and reissued in 2014. The ORPAD sets out best practice in the reporting of finds of archaeological interest during development, construction and operation of offshore renewables projects. This PAD is based on the ORPAD
OSA	Outer Study Area is comprised of a 1 km buffer zone beyond the ISA.
Offshore Transmission System	The Offshore Transmission System includes the transmission cable required to connect the wind farm to the Onshore Transmission Works. This covers the Offshore Transformer Modules and their high voltage connector cable, and the cable route from the Offshore Transformer Modules to the transition joint bays just landward of Mean High Water Spring at the landfall west of Portgordon on the Moray coast.
OfTW	Offshore Transmission Works. The term used during project development and construction to describe the Offshore Transmission System.
Offshore Transmission Lease Site	The offshore transmission site upon the bed of the sea at Beatrice under lease with the Crown Estate Scotland.
PAD	A Protocol for Archaeological Discoveries as required under the Offshore Transmission Works Marine Licence condition 3.2.2.16.
Preliminary Record	The record of unexpected archaeological discoveries on the seabed, intertidal zone or on the deck of a works vessel.
Receiver of Wreck	A centralised function, dealing with all reports of wrecks from around the UK including Northern Ireland. It is based within the

Term	Description
	MCA headquarters in Southampton, with assistance from Coastguard personnel around the coast.
Relevant Authority	MS-LOT on behalf of Scottish Ministers and HES.
ROV	Remotely-operated vehicle.
target	An anomaly on the seabed identified in the geophysical survey data that may be an archaeological feature.
UKHO	United Kingdom Hydrographic Office.
UXO	Unexploded Ordnance.
Wind Farm Lease Site	The wind farm site upon the bed of the sea at Beatrice under lease with the Crown Estate Scotland.
wind farm	The offshore array development including wind turbines, their foundations and the inter-array cabling.
Wreck	Materials that come to be on the seabed as a direct result of once being aboard or part of a vessel or aircraft.
WSI	Written Scheme of Investigation, which establishes the mitigation procedures that must be followed in order to avoid damage to cultural heritage assets and targets of archaeological potential for the entire scope of the development. The WSI sets out the respective responsibilities of BOWL, BOWL's contractors and the Archaeological Consultant during O&M activities, and creates formal lines of communication between the parties and relevant stakeholders.

1 Introduction

The purpose of this marine archaeological Written Scheme of Investigation (WSI) and Protocol for Archaeological Discovery (PAD) is to provide the over-arching framework setting out the procedures that must be followed in order to seek to avoid damage to cultural heritage assets and targets of archaeological potential and the protocols and procedures that must be followed in the event of any unexpected archaeological discoveries whilst undertaking Offshore Transmission System related operations and maintenance (O&M) activities.

This WSI and PAD has been prepared in accordance with the Marine Licence consent condition 3.2.2.16 and is based on COWRIE & Wessex Archaeology (2007), The Crown Estate (2014), and The Crown Estate & Wessex Archaeology (2010) guidelines.

This WSI establishes the mitigation procedures that must be followed in order to seek to avoid damage to known cultural heritage assets and targets of archaeological potential whilst undertaking offshore transmission system related operations and maintenance (O&M) activities.

This PAD is based on the Offshore Renewables Protocol for Archaeological Discoveries (ORPAD) which was developed for The Crown Estate by Wessex Archaeology, and has been in effect since 2010. The ORPAD was revised and reissued in 2014 (The Crown Estate, 2014). This PAD sets out the protocols and procedures that must be followed in the event of any unexpected archaeological discoveries whilst undertaking offshore transmission system related O&M activities.

The main objectives of this WSI and PAD, following the Model Clauses for Archaeological Written Schemes of Investigation (The Crown Estate & Wessex Archaeology, 2014), are to:

- establish mitigation procedures to seek to avoid damage to cultural heritage assets and targets of archaeological potential;
- propose measures for mitigating effects upon archaeological material that may be encountered whilst undertaking O&M activities;
- set out the respective responsibilities of Beatrice Offshore Windfarm Limited (BOWL) and BOWL's Archaeological Consultant during offshore transmission system related O&M activities, and formal lines of communication between these parties and Marine Scotland Licensing and Operations Team (MS-LOT) and Historic Environment Scotland (HES);
- ensure that, in the event that unexpected archaeological discoveries are made, archaeological advice is sought and the discovery is subject to archaeological input, review, recording and sampling; and
- establish the reporting, publication, conservation and archiving requirements for the archaeological works undertaken during O&M activities.

This WSI & PAD is specific to offshore transmission system related O&M activities and supersedes the construction phase WSI & PAD (report ref.: LF000005-REP-416) which was approved by Scottish Ministers on 22 May 2015. O&M activities relating to the Beatrice wind farm will be undertaken in accordance with a separate WSI & PAD (report ref.: LF000005-PLN-724) which aligns with this document.

2 Marine archaeological Written Scheme of Investigation (WSI)

2.1 Introduction

This WSI sets out the procedures that must be followed in order to protect cultural heritage assets and targets throughout the duration of offshore transmission system related O&M activities.

Assessments of geotechnical data (Headland Archaeology, 2011a and 2011b), desk-based assessments (Headland Archaeology, 2011c and 2011d) and geophysical survey assessments (Headland Archaeology, 2011e and 2011f) have been undertaken in order to identify potential cultural heritage assets and targets that may be affected by offshore transmission system related O&M activities and to establish their current condition.

These assessments have been used to identify and delineate the cultural heritage assets and targets and the appropriate buffer zones around these assets and targets forming the Archaeological Exclusion Zones (AEZs).

2.2 Known cultural heritage assets and targets

Twenty six cultural heritage assets and targets within the Offshore Transmission Lease Site were originally assigned AEZs. In June 2015 BOWL appointed APEM Ltd./ MSDS Marine to undertake a ground truthing survey of ten of these AEZs which could possibly impact on the proposed layout of the wind farm and offshore transmission system. The ground-truthing survey was undertaken using a remotely-operated vehicle (ROV). APEM/ MSDS produced an archaeological ground truthing report which recommended that the ten AEZs be removed (Ref.: LF000005-REP-575). Headland Archaeology reviewed this report and confirmed that all ten AEZs should have their AEZ designations removed in their report Beatrice Offshore Windfarm Review of Archaeological Exclusion Zones (Ref.: LF000005-REP-666). Subsequently HES and MS-LOT confirmed their agreement with the removal of the ten AEZs on 04 November 2015 (via letter ref: LF000005-LET-292) and 14 January 2016 (via email ref: LF000005-EMA-242) respectively.

The sixteen AEZs, which remain the scope of this WSI, are listed in Appendix A.

2.3 Inner and outer study areas

Cultural heritage assets and targets are divided into Inner Study Area (ISA) and Outer Study Area (OSA).

The ISA and OSA, in relation to the boundary of the Offshore Transmission Lease Site, can be seen in Figure B1 (Appendix B). The ISA follows the boundary of the Offshore Transmission Lease Site, while the OSA comprises a 1 kilometer (km) buffer zone beyond the ISA.

2.4 Archaeological Exclusion Zones (AEZs)

2.4.1 Introduction

AEZs are the principal means used to preserve *in situ* any sites or deposits of potential or known archaeological interest. In all cases, known and potential cultural heritage assets and targets must be avoided. All AEZs have been established in consultation with HES. These AEZs will be in place for the duration of the operational phase of the offshore transmission system, unless otherwise altered or removed (see section 3.5.6).

2.4.2 Location and extent of AEZs

AEZs are required for all known sites of high, medium and uncertain potential where the location of the cultural heritage asset or target is known, or where the asset or target has at one time been identified by geophysical/diver/ROV survey. AEZs are asset or target specific depending on the extent of the site or wreckage, and are based on their archaeological potential. Sites of a high potential have been assigned 100m AEZs and sites of medium potential have been assigned 50m AEZs.

AEZs comprise a circular zone centred on a point on each site. The radius of the zone will vary according to the archaeological potential of each site.

The gazetteer of the 18 AEZs surrounding cultural heritage assets and targets can be found in Appendix A.

2.4.3 50m AEZs

Twelve cultural heritage assets and targets have been ascribed AEZs of 50m as they have been assessed to be of medium potential.

- HA52, HA61, HA90, HA102, HA121, HA133, HA143, HA2, HA137 & HA154 are geophysical and are located within the ISA;
- HA1002 & HA1004 are 'dead' wrecks charted by the UKHO. These are located within the OSA.

2.4.4 100m AEZs

Six cultural heritage assets have been ascribed an AEZ of 100m as they have been assessed to be of high potential.

- Five are wrecks charted by the UKHO:
 - HA1001, HA1003, HA1005, HA1006, & HA1008 are located within the OSA;
- One is a geophysical anomaly:
 - HA68 is located within the OSA.

2.4.5 Monitoring of AEZs

The locations and extents of all AEZs are outlined in Appendix A. No O&M activities will be undertaken within an AEZ. If it becomes apparent that activities have taken place within any AEZ, the party responsible will obtain advice from the Archaeological Consultant in accordance with the Protocol for Infringement of Archaeological Exclusion Zone flow chart set out in Appendix C.

3 Marine archaeological Protocol for Archaeological Discoveries (PAD)

3.1 Introduction

This PAD sets out best practice in the reporting of finds of archaeological interest during offshore transmission system related O&M activities and is based on the ORPAD. The principles that are set out here are intended to address mitigation measures for any cultural heritage assets and targets that have not been identified to date.

3.2 Types of find

Finds are considered here to mean all forms of artefact that can be found on the seabed. To be an artefact, the item must have been made, modified, used or transported by people; i.e. their presence on the seabed is 'artificial' or 'cultural' rather than 'natural'.

For legal purposes, finds from the seabed fall into three categories. Wreck has a specific legal definition broadly encompassing materials that come to be on the seabed as a direct result of once being aboard or part of a vessel or aircraft. Statutory law relating to wreck is set out principally in the Merchant Shipping Act 1995, applicable to territorial waters out to twelve nautical miles. The common law relating to wreck is to be found in legal cases.

Material can also be covered under the Protection of Military Remains Act 1986. This Act, administered by the Ministry of Defence, refers to ships that have been specifically designated, but all aircraft that crashed while in military service are automatically protected.

The third category of finds are referred to as 'non-wreck'. 'Non-wreck' includes things such as prehistoric flint artefacts that were lost on land that has since been inundated by rising sea level, or artefacts that have been eroded from sites on the shore. The law applicable to 'non-wreck' is largely common law, to be found in legal cases.

3.3 Potentially significant materials

It is possible that a range of archaeological and palaeo-environmental materials may be recovered during O&M activities:

- Palaeo-environmental materials: includes waterlogged organics from deposits of peat and large wooden timbers from the remains of trees from submerged forests. The importance of such deposits and materials for palaeo-environmental study is well recognised (English Heritage 2002, 2007);
- Seabed prehistory materials: including lithic artefacts (e.g. flint tools). This is particularly pertinent in light of recent work undertaken on submerged landscapes like the prehistoric site of Doggerland (Gaffney et al 2009).
- Shipwreck material: from the wooden boats of the Neolithic to the steel and iron vessels of the modern period, including material associated with ships, such as pottery fragments, cargo, animal remains, and so forth;
- Aircraft material: from the early 20th century to the modern period, including aluminium and other material; and,
- Human bone: in the event of discovery of any human remains (articulated or disarticulated, cremated or unburnt), a Ministry of Justice Licence will be obtained by the Archaeological Consultant prior to any further disturbance (including where remains are to be left *in situ*). Should human remains require removal, all excavation and post-excavation will be in accordance with the Archaeological Consultant's

protocols and undertaken in-line with current guidance documents (e.g. McKinley 2013) and the standards set out in ClfA Technical Paper 13 *Excavation and post-excavation treatment of cremated and inhumed remains*. Appropriate specialist guidance will be undertaken if required. 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.

3.4 Circumstances of discovery

This PAD addresses finds of archaeological or cultural heritage interest made in the following circumstances:

- discoveries on the seabed, for example an anomaly (such as a possible wreck or a cultural heritage feature) has been encountered on the seabed; and/or
- a find of archaeological interest is recovered to the deck of a vessel: for example wreck or objects recovered to the deck caught in equipment such as anchors.

3.5 Roles and responsibilities

A flow chart detailing the roles and responsibilities within the PAD process is presented in Appendix D.

3.5.1 Beatrice Offshore Windfarm Limited (BOWL)

In the event of an archaeological discovery, BOWL will temporarily cease potentially damaging activities in the vicinity, if it is safe to do so. Where it is possible to identify the position of the find or from which the find originated, BOWL will implement a Temporary Exclusion Zone (TEZ) within which activities must temporarily cease until the advice of the Archaeological Consultant has been obtained.

BOWL will record the occurrence as soon as possible in the site records together with the time and exact ROV/vessel position. Where possible, the report entry should include the position of the anomaly on the seabed, or a close approximation of the original position of the anomaly. BOWL will ensure that the TEZ is marked on navigational software, site drawings and survey charts/software and inform other vessels in the area of the presence of the TEZ. BOWL will compile a Preliminary Record (using the template contained in Appendix E) of the occurrence both for discoveries on the seabed and on the deck of the vessel.

BOWL will inform the Archaeological Consultant of the occurrence as soon as possible and pass on all available information, including a copy of the Preliminary Record and copies of any photographs, drawings or other relevant records made. If any finds have been recovered, BOWL shall arrange for them to be immersed in seawater in a suitable clean container, which should be covered. Any rust, concretion or marine growth should not be removed. Furthermore, BOWL will make any finds available to the Implementation Service as necessary.

3.5.2 Contacting the Archaeological Consultant and the Implementation Service

The Archaeological Consultant will notify the Implementation Service and forward all available information including a copy of the Preliminary Record and any photographs, drawings or other records. The Implementation Service will advise the Archaeological Consultant if further actions are required.

The Archaeological Consultant will ensure that any find is appropriately assessed and documented and if deemed necessary reported to the Relevant Authority.

The Archaeological Consultant should be contacted as follows:

Dr Andrew Bicket

Wessex Archaeology (Scotland)

email: a.bicket@wessexarch.co.uk

Tel: 0131 239 7050

Mobile: 07872 418863

3.5.3 Contacting the Relevant Authority

In the event that the Archaeological Consultant and BOWL consider it necessary, HES and MS-LOT will be informed by the Archaeological Consultant for further advice. All available information relating to the circumstances of the occurrence, including a copy of the Preliminary Record and copies of any photographs, drawings or other records that have been made will be passed on to HES and MS-LOT.

HES and MS-LOT should be contacted as follows:

Philip Robertson

Jessica Drew

Historic Environment Scotland

Marine Scotland Licensing Operations Team

Longmore House

375 Victoria Road

Salisbury Place

Aberdeen

EN9 1SH

AB11 9DB

Tel: 0131 668 8843

Tel: 0131 244 4023

3.5.4 Advising other teams/vessels working on the site

Where relevant, the BOWL Marine Coordinator shall inform other vessels working in the area from which a find is thought to have been recovered. Such other vessels shall be advised to keep a particular watch for anomalies and finds.

3.5.5 Establishing new AEZs

If new finds of archaeological importance come to light during the course of the offshore transmission system operational phase they may be subject to the implementation by BOWL of a new AEZ based on their archaeological potential. This decision will be taken by BOWL and the Archaeological Consultant in consultation with MS-LOT and HES.

3.5.6 Altering AEZs

If archaeological material is discovered during the course of the offshore transmission system operational phase, then AEZs may be altered (enlarged, reduced, moved or removed) as a result. These discoveries might include material recovered during O&M activities. Any alteration will be defined by BOWL and the Archaeological Consultant in consultation with MS-LOT and HES.

Should an encroachment of an AEZ be unavoidable then further archaeological investigation will be undertaken in consultation with the Archaeological Consultant in order to enable micro-siting within the AEZ to avoid any cultural heritage assets and targets.

3.6 Finds recovered within the UK twelve nautical mile limit

Any recovered finds will be made available for inspection by the Archaeological Consultant, MS-LOT and HES, coordinated by BOWL. Once the find has been reported through the PAD, if deemed to be wreck, the Archaeological Consultant will report the find to the Receiver of Wreck in accordance with Section 236(1) of the Merchant Shipping Act 1995, on behalf of BOWL. This is a legal requirement.

The Archaeological Consultant will forward the necessary paperwork to BOWL for signature, and BOWL will return the signed form to the Receiver of Wreck.

The Receiver of Wreck can be contacted as follows:

Receiver of Wreck

Bay 1/05

Spring Place

105 Commercial Road

SOUTHAMPTON

SO15 1EG

Telephone: 023 8032 9474

Fax: 023 8032 9477

3.7 Reporting and archiving

Reporting activities will include the results of archaeological assessment of serendipitous discoveries and the effectiveness and/or implementation of new AEZs. A PAD 'finds report' will be produced for each discovery of archaeological interest. If an archaeological report is deemed necessary by BOWL after appropriate consultation it will address the following themes: maritime sites and finds; and palaeo-environmental and submerged prehistoric archaeology.

Archaeological reports produced as a result of the implementation of the PAD will be sent for review to MS-LOT and HES prior to finalisation.

BOWL will be responsible for ensuring that copies of any archaeological reports are issued to HES.

The finalised report will be delivered to MS-LOT and HES for consultation in a timely manner upon completion of the works.

Any samples, finds or objects of cultural heritage interest that may be recovered during O&M will be handled and stored in the appropriate manner under the guidance of the Archaeological Consultant, curators and staff from the receiving institution. All subsequent decisions regarding the handling, transport and storage of retained finds will be agreed with the relevant authority and the relevant staff from the allocated receiving institution.

Depending on outcomes, each element of work may give rise to one or more reports, the provision of which will be the responsibility of BOWL through their appointed Archaeological Consultant.

4 References

BOWL, 2015. Review of Archaeological Exclusion Zones. Document Reference LF000005-REP-666

BOWL, 2016. Beatrice Offshore Wind Farm: Incident Reporting Procedure. Document Reference LF000005-REP-067.

Cotswold Archaeology, 2017. Beatrice Offshore Wind Farm Protocol for Archaeological Discoveries Report on unexpected discoveries. Document Reference LF000005-REP-1563

COWRIE & Wessex Archaeology, 2007. Historic Environment Guidance for the Offshore Renewable Energy Sector. Commissioned by COWRIE Ltd (Wind Farm Assets reference ARCH-11-05).

COWRIE & EMU Ltd, 2011. Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector. Commissioned by COWRIE Ltd (Wind Farm Assets reference GEOARCH-09).

English Heritage, 2002. Centre for Archaeological Guidelines: Environmental Archaeology a guide to the theory and practice of methods, from sampling and recovery to post-excavation. English Heritage.

English Heritage, 2007. Geoarchaeology. Using earth sciences to understand the archaeological record. English Heritage.

English Heritage, 2010. Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood. English Heritage.

Gaffney V. Fitch S. and Smith D., 2009. Europe's lost word: the rediscovery of Doggerland. Council for British Archaeology Research Reports.

Headland Archaeology, 2011a. Beatrice Offshore Wind Farm Archaeological Assessment of Geotechnical Data. Unpublished Client report.

Headland Archaeology, 2011b. Beatrice Offshore Wind Farm Archaeological Assessment of Geotechnical Data: Offshore Transmission Work. Unpublished Client report.

Headland Archaeology, 2011c. Beatrice Offshore Wind Farm Archaeological Desk Based Assessment. Unpublished Client report.

Headland Archaeology, 2011d. Beatrice Offshore Wind Farm Archaeological Desk Based Assessment: Offshore Transmission Work. Unpublished Client report.

Headland Archaeology, 2011e. Beatrice Offshore Wind Farm Geophysical Survey Assessment. Unpublished Client report.

Headland Archaeology, 2011f. Beatrice Offshore Wind Farm Archaeological Geophysical Survey Assessment: Offshore Transmission Works. Unpublished Client report.

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

MSDS/APEM Ltd. 2015. Archaeological Ground Truthing Report. Document Reference LF000005-REP-575

ORPAD, 2017a. Discovery Report, BOWL_10729. Unpublished Report

ORPAD, 2017b. Discovery Report, BOWL_10730. Unpublished Report

The Crown Estate & Wessex Archaeology, 2010. Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Wind Farm Assets. Commissioned by The Crown Estate.

The Crown Estate, 2014. Protocol for Archaeological Discoveries: Offshore Renewables Wind Farm Assets. Published by Wessex Archaeology, Salisbury, on behalf of The Crown Estate.

Appendix A: Locations and extents of AEZs and PAD reported finds

Table A1: Locations and extents of AEZs surrounding cultural heritage assets and targets

HA No.	Name/Type	SeaZone ID/ UKHO ID	NMRS ID	Status	Position WGS 84 UTM 30N	Location	Study Area	Extent of AEZ
HA2	Sonar Target				503988.1 6452797.9	WF	ISA	50 m
HA52	Sonar Target				498347.52 6392925.68	OfTW	OSAr	50 m
HA61	Sonar Target				498398.56 6393553.55	OfTW	OSA	50 m
HA68	Wreck				498407.62 6393620.09	OfTW	OSA	100 m
HA90	Sonar Target				498311.99 6394662.17	OfTW	ISA	50 m
HA102	Sonar Target				498267.34 6393862.75	OfTW	ISA	50 m
HA121	Sonar Target				497834.03 6430902.59	OfTW	OSA	50 m
HA133	Sonar Target				498987.44 6443815.26	OfTW	ISA	50 m
HA137	Sonar Target				504159.15 6456488.94	WF	ISA	50 m
HA143	Sonar Target				497084.81 6421066.66	OfTW	OSA	50 m
HA154	Sonar Target				498979.07 6443812.46	OfTW	ISA	50 m
HA1001	Sunbeam (possibly)	00897		Live	496719.788 6439047.215	OfTW	OSA	100 m
HA1002	Day Jet	00895		Dead	498924.265 6428676.953	OfTW	OSA	50 m
HA1003	Unknown Craft	02119	101775	Live	497031.018 6422183.054	OfTW	OSA	100 m
HA1004	Unknown Craft	02116	101773	Dead	498756.869 6418503.008	OfTW	OSA	50 m
HA1005	John Dunkin	02096	101769	Live	497192.683 6417336.969	OfTW	OSA	100 m
HA1006	Unknown Aircraft	02117	101711	Live	497335.503 6410124.405 (Position Unreliable)	OfTW	OSA	100 m
HA1008	Bpt No 31	02068		Live	496876.409 6391921.638	OfTW	OSA	100 m

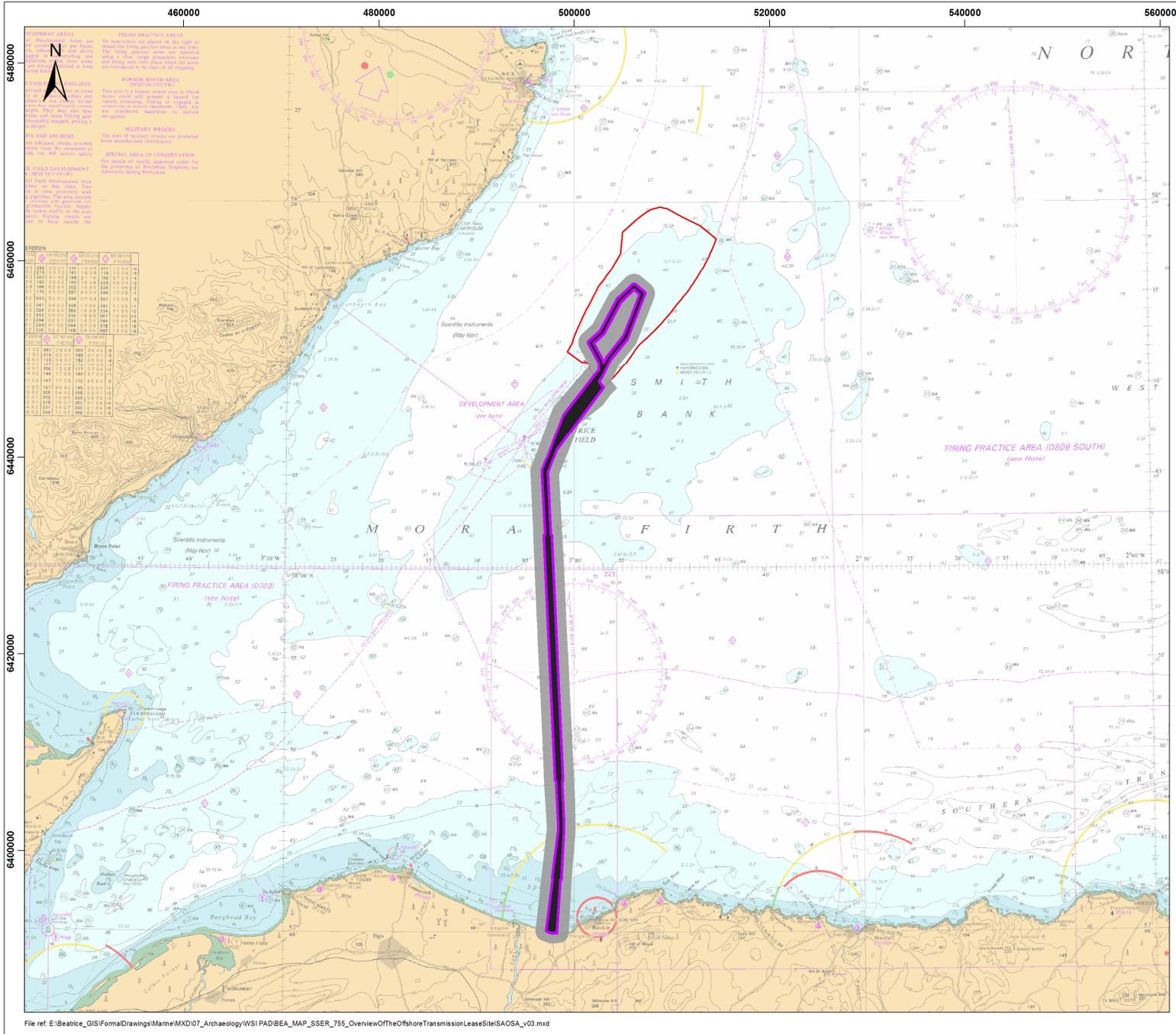
Appendix B: Figures

Figure B1 Overview of the Offshore Transmission Lease Site, the ISA and the OSA.

Figure B2 Cultural heritage assets and targets within the ISA and OSA, Northern 1/3.

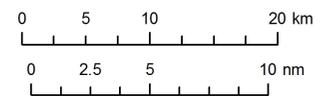
Figure B3 Cultural heritage assets and targets within the ISA and OSA, middle 1/3.

Figure B4 Cultural heritage assets and targets within the ISA and OSA, southern 1/3.



Legend

- Inner Study Area
- Outer Study Area
- Wind Farm Lease Site
- Offshore Transmission Lease Site Boundary



Data Source:
 © British Crown and SeaZone Solutions Limited. All rights reserved.
 Products licence No. 112009.005.

Drawing Title
Figure B1

Overview of the Offshore Transmission Lease Site, the ISA and the OSA

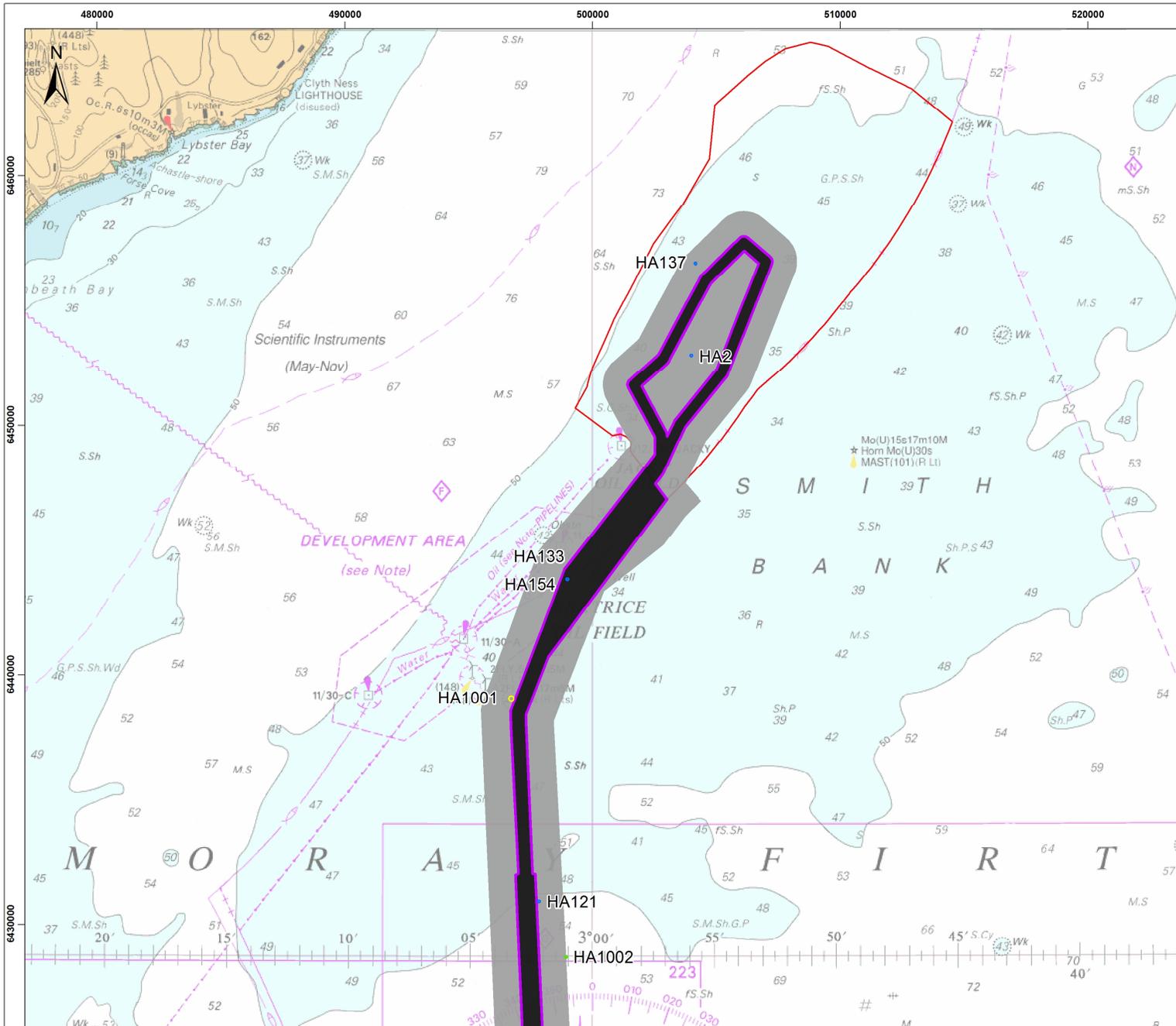
Ver	Date	Remarks	Drawn	Checked
01	26/04/2018	First issue	MM	LR
02	06/12/2018	Annotation amendments	MM	LR
03	10/12/2018	Layer and title amendments	MM	LR

Drawing Number
BEA-MAP-SSER-755

Scale	Plot Size	Datum	Projection
1:400,000	A3	WGS84	UTM30N

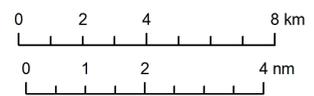
SSE Renewables (UK) Ltd, 2018. The concepts and information contained in this document are the copyright of SSE Renewables (UK) Ltd. Use or copying of this document in whole or in part without the written permission of SSE Renewables (UK) Ltd constitutes an infringement of copyright. SSE Renewables (UK) Ltd does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.





Legend

- Archaeological Potential**
- Medium - 50m AEZ
 - Wreck, live - 100m AEZ
 - Wreck, dead - 50m AEZ
 - Inner Study Area
 - Outer Study Area
 - Wind Farm Lease Site
 - Offshore Transmission Lease Site Boundary



Data Source:
 © British Crown and SeaZone Solutions Limited. All rights reserved.
 Products licence No. 112009.005.

Drawing Title
Figure B2 Cultural Heritage Assets and Targets Within the ISA and OSA Northern 1/3

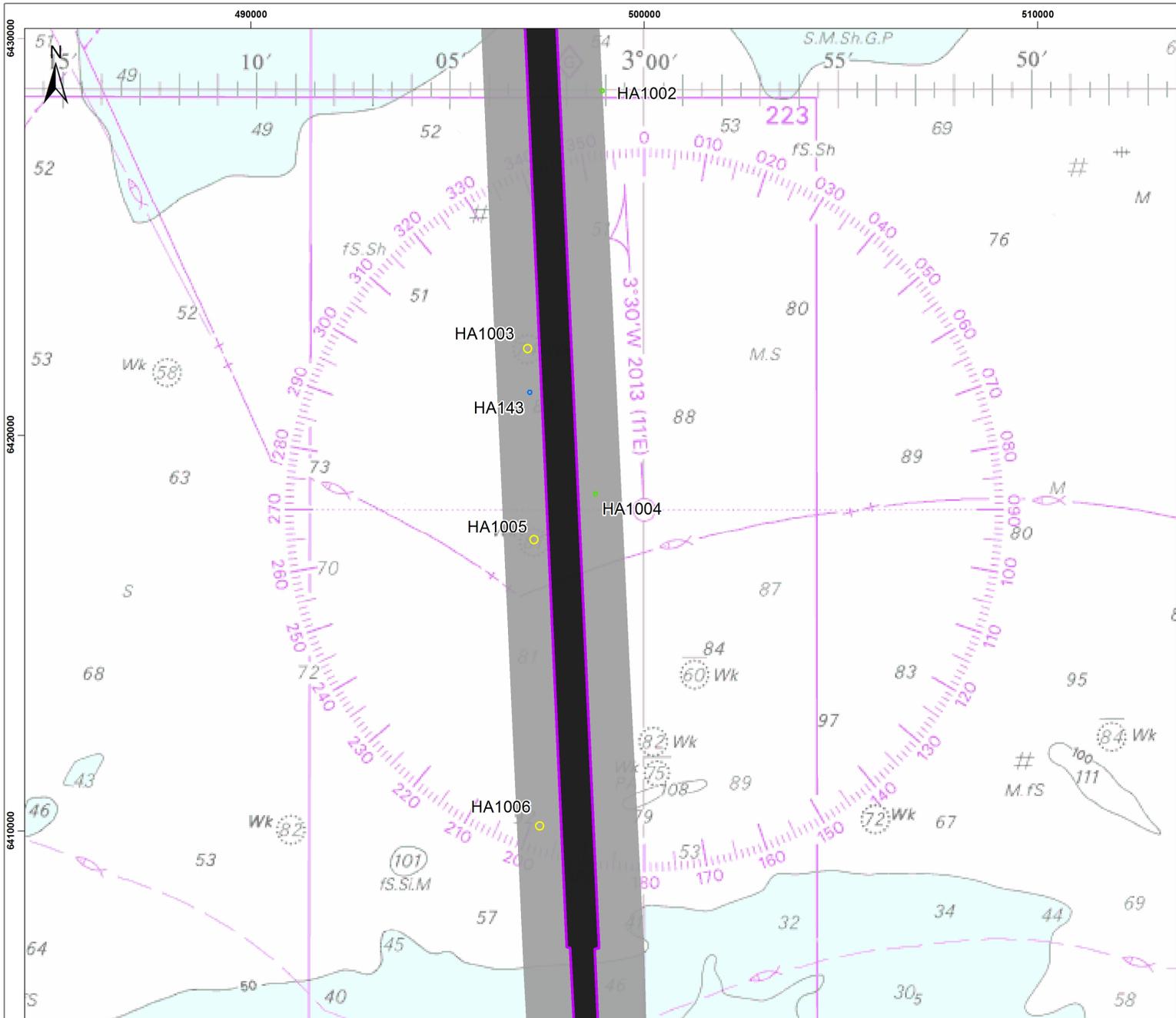
Ver	Date	Remarks	Drawn	Checked
01	26/04/2018	First issue	MM	LR
02	06/12/2018	Annotation amendments	MM	LR
03	11/12/2018	Layer and title amendments	MM	LR

Drawing Number
BEA-MAP-SSER-757

Scale	Plot Size	Datum	Projection
1:160,000	A3	WGS84	UTM30N

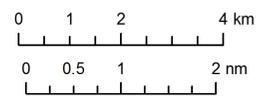
SSE Renewables (UK) Ltd, 2018. The concepts and information contained in this document are the copyright of SSE Renewables (UK) Ltd. Use or copying of this document in whole or in part without the written permission of SSE Renewables (UK) Ltd constitutes an infringement of copyright. SSE Renewables (UK) Ltd does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.





Legend

- Archaeological Potential**
- Medium - 50m AEZ
 - Wreck, live - 100m AEZ
 - Wreck, dead - 50m AEZ
 - Inner Study Area
 - Outer Study Area
 - Offshore Transmission Lease Site Boundary



Data Source:
 © British Crown and SeaZone Solutions Limited. All rights reserved.
 Products licence No. 112009.005.

Drawing Title
 Figure B3
**Cultural Heritage Assets and Targets
 Within the ISA and OSA Middle 1/3**

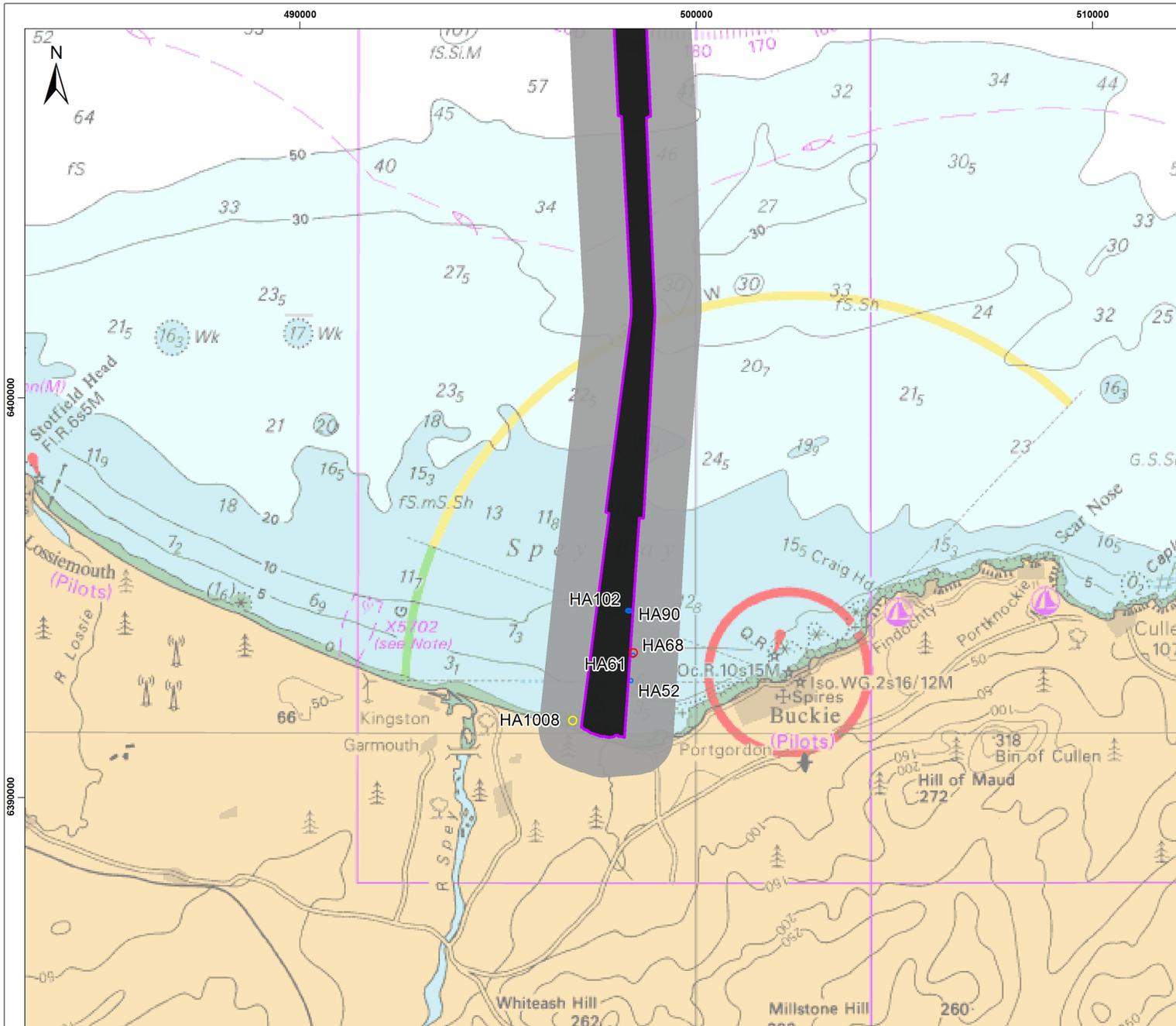
Ver	Date	Remarks	Drawn	Checked
01	26/04/2018	First issue	MM	LR
02	06/12/2018	Annotation amendments	MM	LR
03	11/12/2018	Layer and title amendments	MM	LR

Drawing Number
BEA-MAP-SSER-757

Scale	Plot Size	Datum	Projection
1:100,000	A3	WGS84	UTM30N

SSE Renewables (UK) Ltd, 2018. The concepts and information contained in this document are the copyright of SSE Renewables (UK) Ltd. Use or copying of the document in whole or in part without the written permission of SSE Renewables (UK) Ltd constitutes an infringement of copyright. SSE Renewables (UK) Ltd does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.





Legend

Archaeological Potential

- High - 100m AEZ
- Medium - 50m AEZ
- Wreck, live - 100m AEZ
- Inner Study Area
- Outer Study Area
- Offshore Transmission Lease Site Boundary

0 1 2 4 km

0 0.5 1 2 nm

Data Source:
 © British Crown and SeaZone Solutions Limited. All rights reserved.
 Products Licence No. 112009.005.

Drawing Title
Figure B4 Cultural Heritage Assets and Targets Within the ISA and OSA Southern 1/3

Ver	Date	Remarks	Drawn	Checked
01	26/04/2018	First issue	MM	LR
02	06/12/2018	Annotation amendments	MM	LR
03	11/12/2018	Layer and title amendments	MM	LR

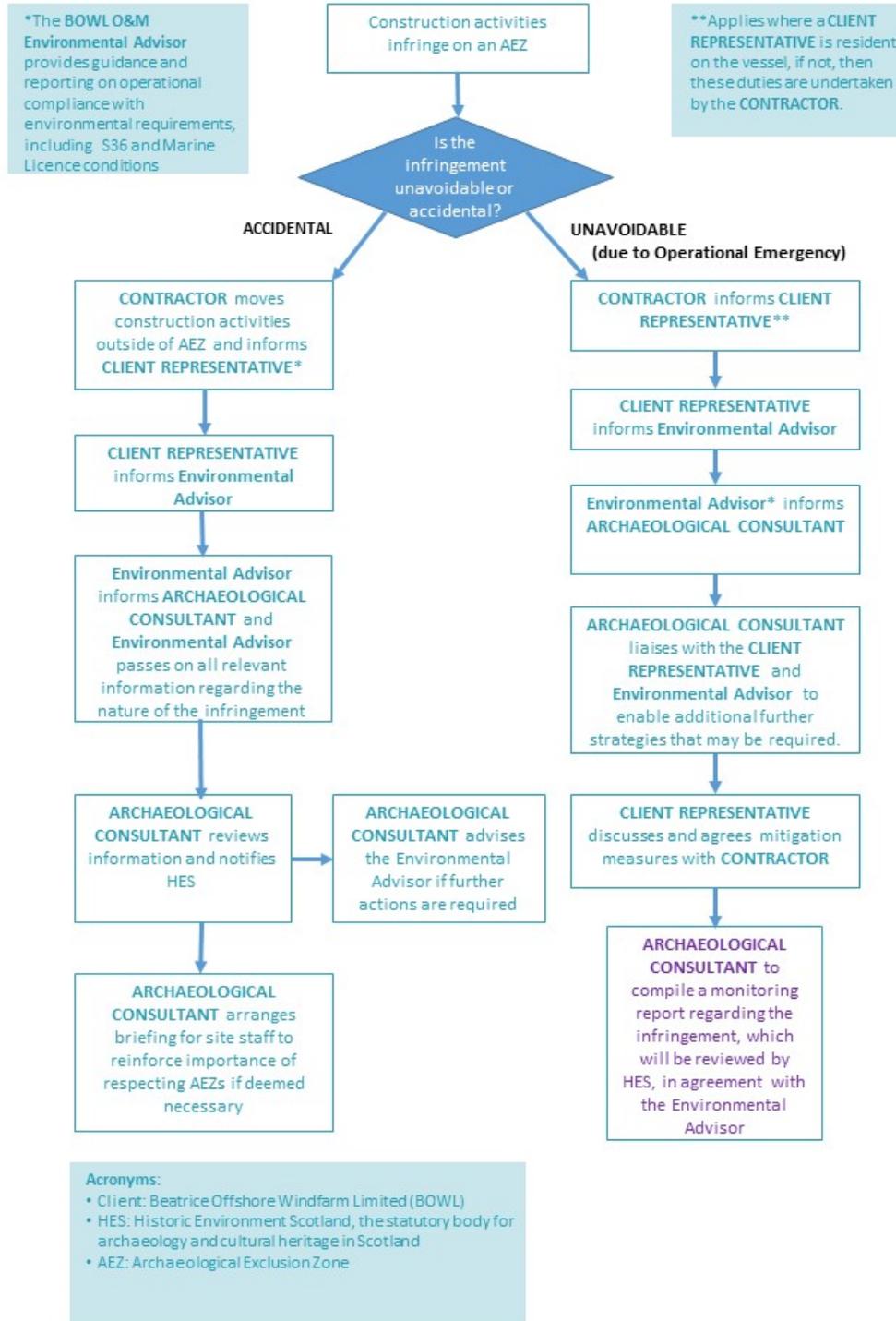
Drawing Number
BEA-MAP-SSER-757

Scale	Plot Size	Datum	Projection
1:100,000	A3	WGS84	UTM30N

SSE Renewables (UK) Ltd. 2018. The concepts and information contained in this document are the copyright of SSE Renewables (UK) Ltd. Use or copying of this document in whole or in part without the written permission of SSE Renewables (UK) Ltd constitutes an infringement of copyright. SSE Renewables (UK) Ltd does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.

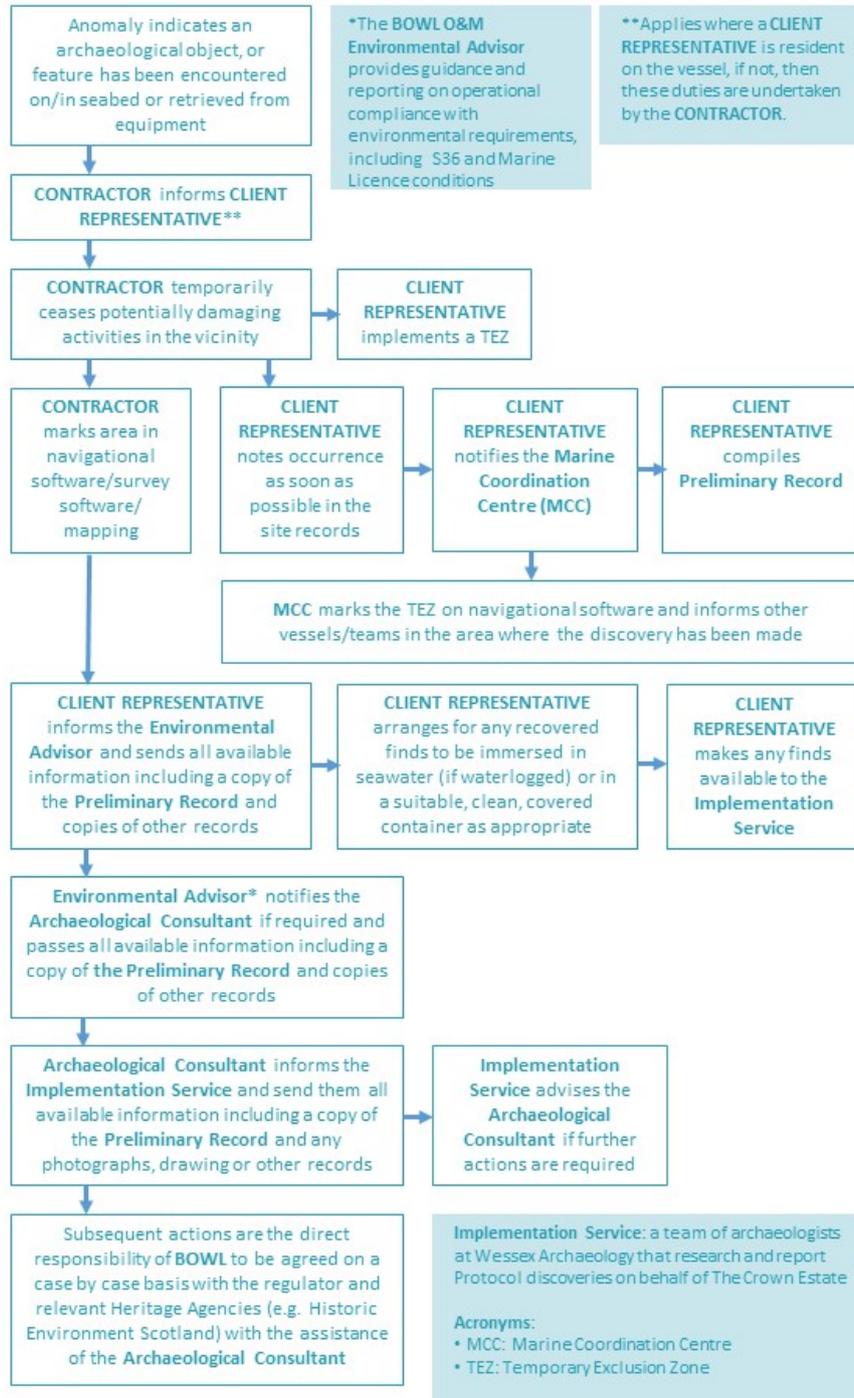
Appendix C: Protocol for infringement of AEZs

Protocol for Infringement of Archaeological Exclusion Zone



Appendix D: Protocol for reporting finds of archaeological interest

Protocol for Reporting Finds of Archaeological Interest



Appendix E: Template Preliminary Record Form

Protocol for Archaeological Discoveries: Offshore Renewables Projects

Preliminary Record Form Page 1 of 2

Preliminary Record Form: Discoveries on the Seabed/ on board / in the inter-tidal zone / on land

Company Name:
Vessel/Team Name:
Site/sea area Name:
Date:
Time of compiling information:
Name of compiler (Site Champion):
Name of finder (if different to above):

Time at which discovery was encountered:
Vessel position at time when anomaly was encountered:
a) Latitude
b) Longitude
c) Datum (if different from WGS84)
Original position of the anomaly on the seabed, if known:
Notes on likely accuracy of original position stated above:
a) How accurate is the position?
b) Is the position the original position or has the material been moved by operations?
c) Details of circumstances and activity that lead to the discovery

Protocol for Archaeological Discoveries: Offshore Renewables Projects

Preliminary Record Form Page 2 of 2

Preliminary Record Form: Discoveries on the Seabed/ on board / in the inter-tidal zone / on land

Description of the find/anomaly:
Apparent size/extent of the anomaly:
Details of any find(s) recovered:
Details of photographs, drawings or other records made of the find(s) (e.g. location figure):
Details of treatment or storage of find(s):
Date and time Nominated Contact informed:
General notes:
If discovered on the seabed:
a) Derived from: e.g. Obstacle Avoidance Sonar, Cable Tensiometer?
b) Apparent size/extent of anomaly (length, width, height above seabed)
c) Extent of deviation/route development
Signed: _____ Date: _____