Celtic Interconnector

Volume 4 – Appendix 16C

Marine Archaeology Written Scheme of Investigation

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Le réseau de transport d'électricité

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1 Introduction

1.1 Purpose of this document

This Written Scheme of Investigation (WSI) sets out mitigation procedures in respect of known and potential archaeological remains and deposits of geoarchaeological interest that may be affected by the construction of the proposed Celtic Interconnector Project within the Irish Territorial Waters (TW) and Exclusive Economic Zone (EEZ) and the UK EEZ.

This WSI identifies aims of the marine investigations, the generic methodologies and relevant standards of the offshore mitigation strategy referenced in the Environmental Impact Assessment Report (EIAR) and Environmental Report (ER). It conforms to current best practice as set out by guidance from the relevant national regulators, The National Monuments Service (NMS) and Historic England (HE), and the relevant guidance from the appropriate national professional bodies, the Institute of Archaeologists of Ireland (IAI) and Chartered Institute for Archaeologists (CIfA), as appropriate.

The results of previous phases of consultation on the development proposals and the approach and findings of the assessment with the relevant regulators has been taken into account in producing these proposals for mitigation, and further consultation will be undertaken with the Cork Heritage Officer, the Underwater Archaeology Unit of the National Monuments Service, and Historic England to agree the provisions set out prior to the commencement of any investigative or construction work.

This WSI excludes archaeological investigation of deposits of geoarchaeological significance above LAT at Claycastle. Any works carried out in mitigation of disturbance of these deposits would be carried out under licence from the NMS to standards set out and agreed through the licensing process.

This WSI also excludes geoarchaeological investigations within the marine zone, which would be carried out under the terms of an Offshore Project Environmental Remains Strategy that would be agreed with the relevant national regulators.

1.2 Structure

This WSI sets out the project background and geographical scope (Section 1), aims and objectives of archaeological works (Section 2), roles and responsibilities (Section 3), archaeological background (Section 4), followed by scope and standards for archaeological mitigation (Section 5) of Marine Archaeological Remains (Section 5.4). Initial Archaeological Exclusion Zones (AEZ) are identified (Section 5.5). A Protocol for Archaeological Discoveries (PAD: Section 5.6) is set out. Procedures in respect of statutorily designated remains (Section 6) and for archaeological reporting and archival (Section 7) are set out.

1.3 Project Overview

The Celtic Interconnector Project is a joint project being developed by Réseau de Transport d’Electricité (RTE) and EirGrid and is being supported by the European Union’s Connecting

Europe Facility (CEF). It is also a European Union Project of Common Interest (PCI) and a designated e-Highway 2050 project.

The project involves the construction of an electrical circuit between Ireland and France using High Voltage Direct Current (HVDC) technology, the global standard for the transfer of electricity over long distances using underground technology. The interconnector would have a capacity of 700MW (equivalent to the power used by approximately 450,000 homes) and measures approximately 575km in length. The longest spatial element of the Celtic Interconnector would be the submarine circuit which would measure approximately 497km out of the total 575km. The interconnector would form a link between County Cork on the south coast of Ireland and the coast of Brittany in North West France (Nord-Finistère).

The main elements of the interconnector are illustrated in Figure 1.1 and consist of:

- A submarine circuit, approximately 497km in length placed on or beneath the seabed between France and Ireland. The submarine circuit will pass though the territorial waters of Ireland and France and through the Exclusive Economic Zones (EEZs) of Ireland, the UK and France, as shown in Figure 1.2;
- The cable route within the UK EEZ passes approximately 30km to the west of the Isles of Scilly and approximately 75km to the west of Land's End on the UK mainland
- A landfall point where the submarine circuit comes onshore, in France and Ireland;
- A HVDC land circuit between the landfall point and a converter station, in France and Ireland;
- A converter station, to convert the electricity from HVDC to High Voltage Alternating Current (HVAC), which is used on the respective transmission grids in each country;
- A HVAC land circuit between the converter station and the connection point to the grid, in France and Ireland. This circuit is proposed using underground technology;
- A connection point to an existing substation on the transmission grid, in France and Ireland; and
- A fibre optic cable would also be laid along the entire route for operational control, communication and telemetry purposes. It is important that logos, references to the EU, Project Ireland 2040 and EU disclaimers are appropriately included in all key publically facing documentation.

Figure 1.1: Celtic Interconnector Project Elements

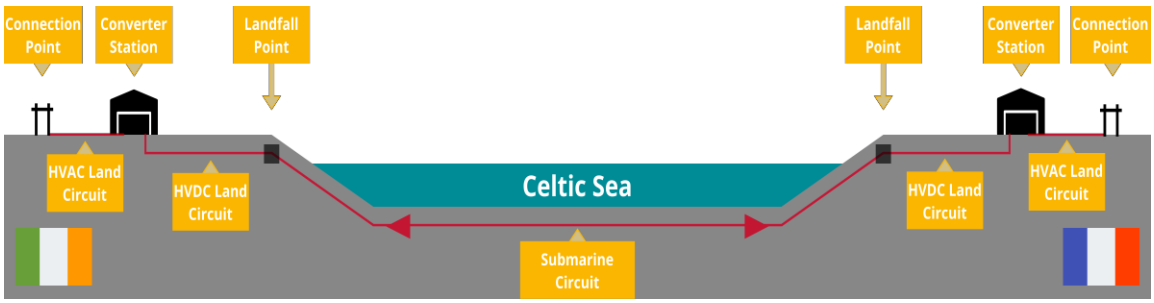
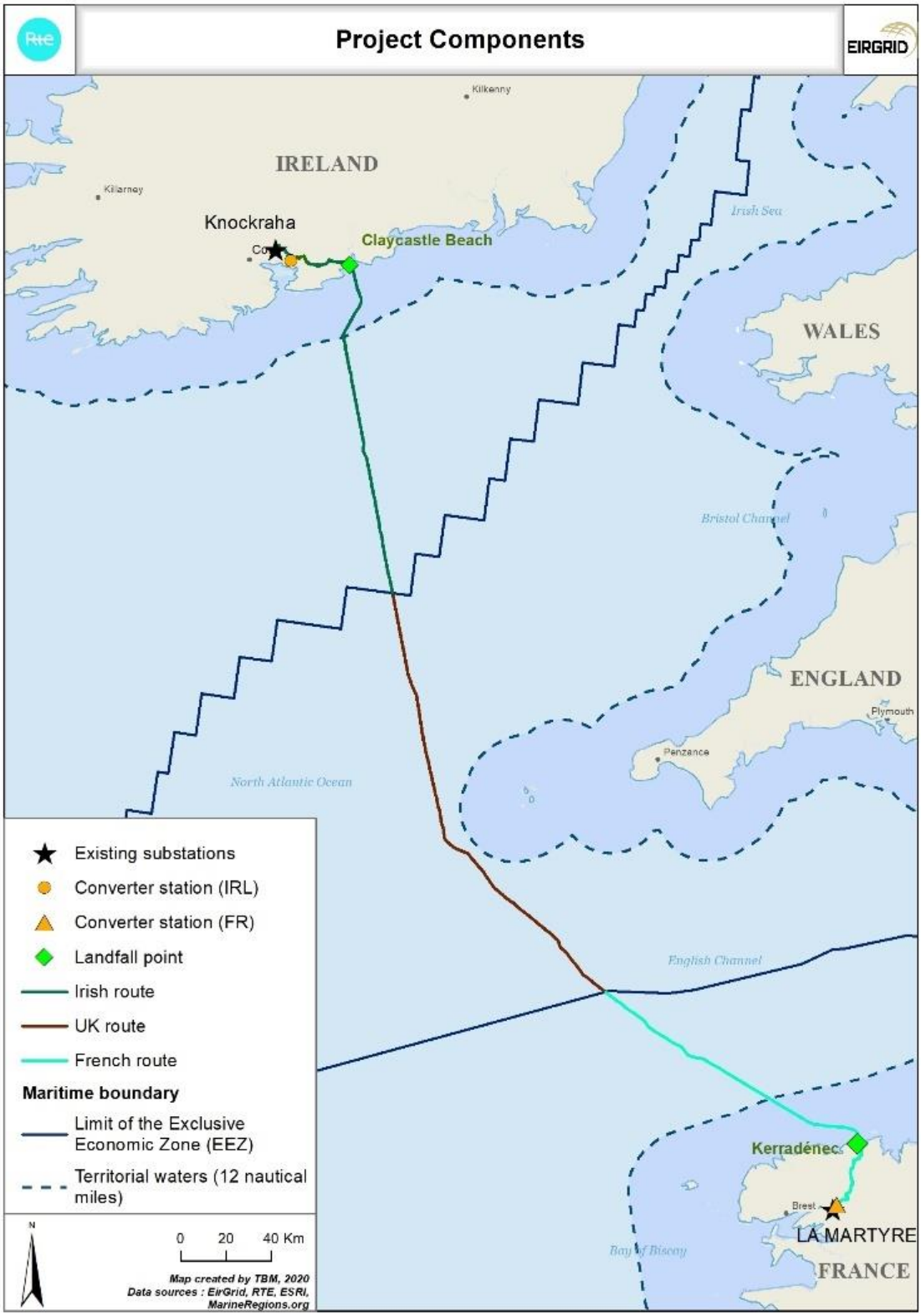


Figure 1.2: Celtic Interconnector Submarine Cable Route Map



1.4 Geographical scope

This Outline WSI applies to the marine elements of the Celtic Interconnector within Irish TW and EEZ and the UK EEZ, focusing on a corridor extending 500m to either side of the proposed cable route centreline.

Mitigation works within the French EEZ and Terrestrial Waters, and within the Irish and French terrestrial zones are provided for elsewhere and do not form part of the scope set out in this Outline WSI.

2 Aims and Objectives

2.1 Aim

The overarching aim of the WSI is to set out the scope and standards for the archaeological mitigation referenced in the EIAR / ER (**Volume 3D Part 1 Chapter 11 Historic Environment and Volume 4 Chapter 11 Historic Environment**).

2.2 Objectives

The objectives of this Outline WSI are as follows:

- To provide for archaeological investigation of areas of potential or confirmed archaeological interest that may be affected by the proposed development;
- To provide for archaeological analysis and interpretation of geophysical survey work carried out in advance of any construction or clearance operations;
- To identify the position and extent of Archaeological Exclusion Zones (AEZs) intended to protect known and potential areas of archaeological interest;
- To provide for avoidance of or mitigation of damage to archaeological remains identified during surveys and the construction period; and
- To set out reporting and licencing requirements for survey, mitigation and observations of archaeological material.

3 Roles and Responsibilities

3.1 Project roles and responsibilities are defined as set out at Table 3.1.

Table 3.1: Project Roles and Responsibilities

Roles	Responsibilities
Developer	• Ensure that WSI is implemented and that any relevant statutory or regulatory requirements and processes are met; • Procure appropriate archaeological support; • Ensuring that any necessary licences or permissions are in place before work commences; • Provide relevant project information as appropriate; and Identify Nominated Contacts for the Protocol for Archaeological Discoveries.
Retained Marine Archaeologist*	• Advise the Developer on interaction with consultees/regulators and specialist contractors; • Monitor the implementation of the agreed WSI, in particular, where delivery of the WSI is divided into discrete lots or where specialist contractors subcontract aspects of the WSI, ensuring that all aspects of the WSI are in scope; • Confirm to the client that any licences required for archaeological works are in place, and that archaeological works required out as a condition of other licences/consents are in place; • Advise on the reporting of findings in line with the PAD; • Monitor compliance with any established AEZs; • Ensuring that any statutory or regulatory requirements are appropriately considered and allowed for in archaeological works; • Where necessary, coordinate reporting of results of investigation or archaeological discoveries so that findings in the UK EEZ which inform understanding of findings in Irish Waters and vice versa are appropriately considered; and • SQEP – The Retained Marine Archaeologist of works must have an appropriate level of qualification and experience in managing and monitoring Marine Archaeological and Geoarchaeological workscopes.
Specialist Contractors (and Sub-Contractors)	• Implement all relevant aspects of the WSI covered by the appointed scope of works; • Produce method statements for the appointed workscope for approval by the relevant regulators; • Securing and holding any relevant excavation, diving or survey licences for archaeological work;

Roles	Responsibilities
	• Ensure that all project staff and subcontractors understand the requirements of the WSI; • Obey all relevant statutory and policy requirements; • Respect constraint maps and AEZs; • Inform the appointed archaeologist(s) of any environmental constraint or matter relating to health, safety and welfare of which they are aware that is relevant to the archaeologists' activities; and • SQEP – All archaeological contractors should have an appropriate level of experience for their project role and archaeological scope, and where works are carried out in Irish Territorial Waters and EEZ must be eligible to hold the necessary licence for excavation or survey.

*The Retained Marine Archaeologist would normally be independent of any appointed contractors, but this role may be filled by an organisation also appointed as a specialist contractor if required.

3.2 Liaison with Regulators

Key Regulators are identified as follows:

- Cork County Heritage Officer (From MHWS to LAT at Claycastle);
- Underwater Archaeology Unit (From MHWS at Claycastle to the UK/Irish Median); and
- Historic England (From the Irish/UK Median to the UK/French Median).

Additional Stakeholders include those providing archaeological support within the Irish Terrestrial Zone and the French EEZ. Communication with these stakeholders will be required, as appropriate, to ensure that applicable findings from these areas can be fed into planning, implementation, and reporting of the works set out in this WSI.

The Retained Marine Archaeologist will establish and maintain a register of stakeholders including client and construction contractors, archaeological contractors, regulators, and other relevant interested parties, including telephone and email contact details for key individuals.

During the Project, communication with the regulators will be undertaken via the Retained Marine Archaeologist in line with a reporting schedule to be agreed with relevant stakeholders. This reporting schedule should consider the need for milestone-based reporting and periodic reporting. Key project milestones may include, but not necessarily be limited to:

- Approval of contractor method statements and licence applications;
- Notification of commencement of works;
- Periodic reporting during works;

- Notification of features identified in surveys;
- Notifications of discoveries through the PAD;
- Notification of completion of fieldwork;
- Periodic updates during post-excavation reporting; and
- Submission of post-excavation reporting.

Method Statements, and any applicable licence applications, for archaeological works will be submitted to the relevant Regulator(s) and Archaeological Curator(s) sufficiently in advance of the planned commencement of works to allow for sufficient time for the review and any amendments to be completed and agreed.

4 Baseline Summary

4.1 Previous archaeological work

Previous archaeological work is summarised at **Table 4.1**.

Table 4.1: Desk based studies

Study	Scope and Key Findings
Ireland-France Celtic Interconnector, Marine archaeology desk-based assessment. (Headland Archaeology 2014)	Marine Archaeology baseline study aiming to: • Assess the nature of the cultural resource in this area; • To outline the archaeological potential of the marine environment; • To aid in the identification of seabed anomalies that may be discovered during the proposed; geophysical survey; and • Inform and propose mitigation for sites that may be impacted by the proposed geotechnical survey. Results: • Identification of recorded potential wrecks and obstructions; and • Identification of potential for survival of deposits of geoarchaeological interest within the intertidal and marine zones.
Ireland-France Celtic Interconnector: Archaeological Review of Geophysical Survey Data (Headland Archaeology 2015)	Review of geophysical (side scan, seismic (pinger) and magnetometer) and bathymetric (MBES) data, in order to identify sites or features of archaeological potential, and to characterise the marine environment in terms of prehistoric landscape potential and significance. Identified three medium potential anomalies and 40 low potential anomalies in proximity of the Cable Survey Corridor (CSC).
Celtic Interconnector – Feasibility Study, Stage 1 Geoarchaeological Assessment of Vibrocore Logs. (Wessex Archaeology 2016)	Geoarchaeological assessment of vibrocore logs from Irish TW and EEZ. Identified locations where deposits of geoarchaeological interest survive.
Celtic Interconnector Project Marine archaeology desk-based assessment (Cotswold Archaeology 2017)	Marine archaeology baseline survey of the revised offshore routes related to the Ballinwinning, Claycastle and Redbarns landfalls. Identified one potential wreck within the Cable Study Corridor (CSC) and areas of geoarchaeological interest.

Study	Scope and Key Findings
Celtic Interconnector Project Marine archaeological impact assessment for proposed ground investigation surveys. (Cotswold Archaeology 2018)	Assessment of the potential effects of proposed ground investigation works at Ballinwinning, Redbarn and Claycastle and within Irish TW.
Archaeological review of foreshore walkover, and foreshore and offshore geophysical survey data. (Cotswold Archaeology 2018)	Walkover and geophysical surveys of potential landfalls at Claycastle and Redbarns and associated cable routes, with a further walkover survey at a potential landfall at Ballinwinning. Identified potential archaeological features within the foreshore at Claycastle and Redbarns and potential features of geoarchaeological interest and one potential wreck within the marine zone.
Archaeological monitoring as part of the Celtic Interconnector Project, Claycastle & Summerfield/ Clonard East/ Ballycrenane, County Cork. (IAC Archaeology 2018)	Archaeological monitoring of ground investigation at Claycastle, Ballinwinning and Ballycroneen. No archaeological remains were observed at Ballinwinning or Ballycroneen, but buried peats were observed at Claycastle.
Celtic Interconnector Project, Marine Archaeology and Cultural Heritage Report. (Cotswold Archaeology 2019)	Consolidates previous reporting, focusing on the final agreed route. Sets out archaeological baseline for the entire route between Irish and French landfalls, identifying areas of geoarchaeological and archaeological interest.
Celtic Interconnector Project Geoarchaeological Assessment. (Cotswold Archaeology 2019)	Assessment of samples recovered from Claycastle and Redbarns beaches identified estuarine deposits and a potential submerged forest in near shore and intertidal areas of Claycastle Beach.
Celtic Interconnector Project Claycastle Beach, Youghal, Co. Cork, Ireland Geoarchaeological assessment of auger and test pit logs. (Cotswold Archaeology 2019)	Report on augering and test pitting at Claycastle beach. Identified buried peats within the proposed cable route.

4.2 Marine Archaeological remains

The estuary of the River Blackwater forms a natural harbour at Youghal, which is recorded as having been formed by exceptional tidal conditions in the early 9th century AD, and which has been in use throughout the historic period. The approach to the harbour appears to be marked by a concentration of recorded losses and obstructions, and while the cable route passes to the south and west of the principal concentration of recorded wrecks, desk-based assessment has noted the presence of a number of recorded and potential wreck sites. The proposed cable route passes through an area to the south-west of the principal routes into and out of the harbour. As the route moves further into the Celtic Sea, it enters an area historically used for access to the Atlantic ports of Ireland, England, Wales, and France and for access to the English Channel, and while recorded and potential wrecks and obstructions become more sparsely distributed, the potential that such features may be affected will remain.

There are no formally designated wrecks within the CSC or wider study area. Previously recorded losses and geophysical anomalies assessed as of medium archaeological potential (no high potential anomalies that cannot be correlated to recorded losses have been noted within the CSC or wider study area) in Irish Territorial Waters and EEZ are summarised at Table 4.2 and within the UK EEZ are summarised at Table 4.3.

Irish TW and EEZ

Table 4.2: Recorded losses, obstructions and geophysical anomalies suggestive of potential wrecks within the CSC

ID	Name	Classification	Place of Loss	Date of Loss	Lat	Long	Source
W10966	Unknown	Unknown	Unknown	Unknown	50.74167	-7.35833	UKHO
W11319	Unknown	Unknown	Celtic Sea	Unknown	51.6625	-7.82817	UKHO Eoghan Kieron
HA2041	Unknown	Medium potential magnetic and sidescan anomaly	Unknown	Unknown	51.40426	-7.69868	Headland Archaeology 2015
HA2051	Unknown	Medium potential magnetic and bathymetric anomaly	Unknown	Unknown	51.4032	-7.70485	Headland Archaeology 2015 (also recorded by Osiris as M61)

ID	Name	Classification	Place of Loss	Date of Loss	Lat	Long	Source
HA2052	Unknown	Medium potential sidescan anomaly	Unknown	Unknown	51.40356	-7.70513	Headland Archaeology 2015
HA2067	Unknown	Medium potential sidescan anomaly	Unknown	Unknown	50.85182	-7.40951	Headland Archaeology 2015
HA2082	Unknown	Medium potential sidescan anomaly	Unknown	Unknown	51.21056	-7.61294	Headland Archaeology 2015
HA5000	Unknown	Medium potential magnetic anomaly	Unknown	Unknown	51.68806	-7.84895	Headland Archaeology 2015 (also recorded by Osiris as M37)

UK EEZ

Table 4.3: Recorded losses, obstructions and geophysical anomalies suggestive of potential wrecks within the CSC

ID	Name	Category	Lat	Long	Comments
21629	Gadsby	Non-dangerous wreck	49.4256667	6.1348333	Recorded as dead wreck of British merchant vessel sunk by the submarine U-39, 33 miles SSW of Wolf Rock. There were no casualties.
21689		Foul ground	49.5481347	6.4544994	Identified as fisherman's fastener first recorded 1977
21646		Foul ground	49.4609236	6.2253535	Identified as fisherman's fastener first recorded 1977
			Easting	**Northing**	
S176		Sonar anomaly	672053.90	5503708.40	Possible wreckage identified in sidescan

ID	Name	Category	Lat	Long	Comments
					sonar survey; measures 7.7m x 4.2m x 1.9m. Appears close to reported wreck 21754 (wreck of British merchant vessel sunk by submarine U-29, 10 miles south of St Mary's, Scilly) and may be related.
M205		Magnetic anomaly	659168.20	5510438.70	Part of a cluster of anomalies possibly representing minor wreckage
M206		Magnetic anomaly	659201.90	5510363.20	Part of a cluster of anomalies possibly representing minor wreckage
M207		Magnetic anomaly	659242.20	5510264.90	Part of a cluster of anomalies possibly representing minor wreckage
M208		Magnetic anomaly	659263.20	5510217.20	Part of a cluster of anomalies possibly representing minor wreckage

No previously identified marine archaeological remains would be affected by the proposed scheme, and it is considered unlikely that marine archaeological remains would be affected by the proposed scheme.

5 Proposed Mitigation

5.1 Introduction

In-principle, mitigation measures for the Proposed Development have been set out in Volume 3D1, Chapter 11 and Volume 4, Chapter 11 of the EIAR / ER. This mitigation comprises a combination of avoidance measures and archaeological investigation in addition to a Protocol for Archaeological Discoveries.

In advance of any archaeological survey or mitigation, the archaeological contractor(s) will produce either an application for the appropriate licence (Irish TW and EEZ) or detailed method statements (UK EEZ) for the archaeological works identified. These Licence applications and/or Methods Statements will detail:

- The scope of the relevant works;
- Relationship to survey and construction programme and survey timetable;
- Archaeological aims and objectives of works;
- Investigation methodology including sampling and finds policies and arrangements for immediate conservation, storage and processing of archaeological material;
- Provisions and timetable for post-investigation processing, assessment and analysis of archaeological material;
- Reporting;
- Provision for reasonable monitoring by local and national regulators; and
- Health, safety, and welfare.

Licence Applications and/or Method statements will be agreed with the Retained Marine Archaeologist in advance of submission to the relevant regulators in sufficient time to allow for regulatory comments and any required revisions to be actioned in advance of the start of works, having regard to response times set out by regulators.

5.2 Marine Archaeological Remains

Review of Marine Geophysical Surveys

Marine geophysical surveys have been undertaken along the entire cable route, with specialist archaeological interpretation carried out of the results of survey within Irish TW and EEZ. Further geophysical surveys are likely to be undertaken as part of the detailed design of the proposed cable route.

Existing geophysical survey data for the UK EEZ and any newly acquired survey data should be reassessed in line with English Heritage (2013) Marine Geophysics Data Acquisition, Processing and Interpretation to ensure that potential archaeological remains can be better characterised and that the AEZ identified at Section 5.5 of this Outline WSI are appropriate.

This process may result in the identification of new AEZ or the modification of existing AEZ. Any modifications to the stated AEZ will be agreed with the relevant national regulator.

The scope and methods of any proposed marine geophysical survey carried out for non-archaeological purposes (e.g.: UXO survey or engineering) will discussed with the Retained Marine Archaeologist to ensure that the requirement to gather archaeological information is appropriately considered. Advice will consider:

- available details of sites and / or anomalies identified in previous desk-based and geophysical survey;
- archaeological potential of areas where no existing sites and/ or anomalies are yet known;
- types of survey and specifications and settings of geophysical equipment to be used;
- survey specifications, including spacing and orientation of lines and cross lines;
- any potential requirement for an on-board archaeological geophysicist during survey; and
- requirements for post-processing, interpreting, and archiving resulting data.

Where further surveys are required to confirm the results of geophysical survey for archaeological purposes (usually only in areas of archaeological interest where impact cannot be avoided), the scope and methods of survey would be agreed with the relevant national regulator.

The results of further geophysical interpretation will be reported in line with requirements for report set out at Section 7 of this Outline WSI.

Archaeological assessment of ROV survey data

The scope and methods of any proposed ROV video/drop down camera survey carried out to investigate obstructions identified in geophysical survey or during the course of clearance/construction activities will be discussed with the Retained Marine Archaeologist to ensure that the requirement to gather archaeological information is appropriately considered. Advice will consider:

- potential requirements for survey licencing by the National Monuments Service;
- details of AEZ and/or geophysical anomalies within the development area;
- types of survey and specifications and settings of imaging equipment to be used;
- the provision of guidance on the types of sites and finds that are anticipated and which would require investigation, and the level of recording required;
- any requirements for review of data recovered from the survey; and
- the potential requirement for an on-board archaeological geophysicist to advise on image capture during survey.

An archaeological method statement would be prepared for any such survey, including archaeological objectives and requirements, and setting out any specific technical requirements to allow for meaningful archaeological results. In Irish waters, this method statement would be a requirement of the licencing process where licencing is required.

Reporting of the archaeological assessment will be required in a timely fashion to support any decision-making on further actions. The format and timetable for reporting shall be set out in any methods statement, to reflect the scope of survey and the equipment used.

The results of these surveys will be used to confirm or modify existing or establish new AEZ, in consultation with the relevant national regulator.

5.3 Archaeological Exclusion Zones

AEZ have been established in respect of all observed geophysical anomalies of demonstrable or suspected anthropogenic origin within the cable survey corridor and are shown at Appendix B. The standard practice in this case is to identify a 100m AEZ around known wrecks or high potential geophysical anomalies, and a 50m exclusion zone around other obstructions or wreckage. These AEZs are defined to encompass the full observed extent of any archaeological remains and a buffer to ensure that these remains will not be affected by the proposed works.

Further AEZs will be defined where anomalies or observations of archaeological material not previously identified are made during the pre-construction surveys or during construction work. The scale and location of such further AEZs will be confirmed with the relevant national regulator.

Further survey work may suggest that established AEZs are not appropriate, either due to anomalies being identified as having non-archaeological origins, or more accurate locations and extent of archaeological material being identified. In these cases, amendments to the established AEZ will be agreed with the relevant national regulator.

Construction work would not normally take place within a defined AEZ, and it is anticipated that any detailed design would have regard to established AEZ. Where works within an AEZ cannot be avoided, further investigation will be required in line with provisions for archaeological review of geophysical and ROV survey as set out at Section 5.4.

Table 5.1 Proposed AEZ within the CSC (Irish TW and EEZ: See also Appendix B maps 1-7)

ID	Name	Classification	Lat	Long	AEZ
W10966	Unknown	Unknown; identified as demasted brig of unknown date (Cotswold Archaeology 2019)	50.74167	-7.35833	100m
W11319	Unknown	Unknown	51.6625	-7.82817	n/a

ID	Name	Classification	Lat	Long	AEZ
HA2041	Unknown	Medium potential magnetic and sidescan anomaly	51.40426	-7.69868	50m
HA2051	Unknown	Medium potential magnetic and bathymetric anomaly	51.4032	-7.70485	50m
HA2052	Unknown	Medium potential sidescan anomaly	51.40356	-7.70513	50m
HA2067	Unknown	Medium potential sidescan anomaly	50.85182	-7.40951	50m
HA2082	Unknown	Medium potential sidescan anomaly	51.21056	-7.61294	50m
HA5000	Unknown	Medium potential magnetic anomaly	51.68806	-7.84895	50m
CA8	Unknown – same as W11319	Unknown	51.66145		n/a
			Easting	**Northing**	
CA1001	Unknown – confirmed location of CA8/W11319	High potential bathymetric and magnetic anomaly. Probable wreck site measuring 91.4m long by 7.3m high	580911	5724197	100m
CA1002	Unknown	Medium potential magnetic anomaly – probable metallic debris	580878	5750872	50m
CA1003	Unknown	Medium potential – magnetic anomaly and small rounded reflector	586418	5738751	50m
CA1005	Unknown	Medium potential anomaly. Bathymetric high close to two magnetic anomalies	580536	5723787	50m
CA1011	Unknown	Medium potential magnetic anomaly with associated small reflector probable metallic debris	580567	5723726	50m

Table 5.2 Proposed AEZ within the CSC (UK EEZ: See also Appendix B maps 8-12)

ID	Name	Category	Lat	Long	AEZ
21629	Gadsby	Non-dangerous wreck	49.4256667	6.1348333	100m
21689		Foul ground	49.5481347	6.4544994	50m
21646		Foul ground	49.4609236	6.2253535	50m
			Easting	Northing	
S176		Sonar anomaly	672053.90	5503708.40	50m
M205		Magnetic anomaly	659168.20	5510438.70	50m
M206		Magnetic anomaly	659201.90	5510363.20	50m
M207		Magnetic anomaly	659242.20	5510264.90	50m
M208		Magnetic anomaly	659263.20	5510217.20	50m

It is not anticipated that any disturbance would arise to the remains identified above where the works respect the defined AEZ.

5.4 Protocol for Archaeological Discoveries

General

While it is not anticipated that previously unknown sites or material would be observed during the construction of the proposed development, measures are required to mitigate any impact on archaeological remains and to ensure that relevant statutory responsibilities are met. The scope of 'archaeological remains' includes any submerged prehistoric material, human remains, shipwreck material or aviation material, and material which either falls within the definitions set out in the statutes above or could reasonably be considered to fall within these categories.

Archaeological material does not include modern material with limited informative, cultural or historic value, such as chance loss of cargo or fishing gear, and the Protocol for Archaeological Discoveries (PAD) does not supplant any other requirements to report wreckage, salvage or other loss under other statutory provisions (i.e. those covering environment, safety, navigation, and wreck, salvage or other property rights), and advice on these issues should be taken from appropriately qualified specialists.

The PAD sets out a protocol for action where archaeological remains are observed during survey or construction out with an agreed scheme of archaeological works.

Where unexpected archaeological remains are observed during the conduct of an established archaeological investigation, the responsibility for reporting to the client will be with the appointed specialist archaeological contractor in line with any agreed method statements.

This PAD supplements, and does not supersede, any requirements to report marine wreckage for navigational, wreck or other statutory/guidance/best practice purposes.

This PAD provides for a four-step process:

1 Reporting of potential archaeological material to the Retained Marine Archaeologist;

2 Provision of archaeological advice and, where required definition of temporary exclusion zones (TEZ) and archaeological investigation of identified features/material;

3 Where appropriate, establishment of new or revision of existing AEZs; and

4 Reporting of findings.

All relevant project staff show be briefed on the need for and operation of the PAD to ensure that they are aware of the PAD, can recognise finds of archaeological potential, and understand their responsibilities in respect of this material. Where appropriate, a copy of the PAD should be appended to any written work instructions for reference during works. This applies to any project staff involved in survey or intrusive clearance and construction works, primarily:

- UXO survey(s);
- Prelay grapnel runs, and other clearance works;
- Cable ploughing; and
- Other works with potential for the discovery of material on the seabed and/or recovery of material to the surface.

Reporting potential archaeological material to the Retained Marine Archaeologist

Any observation of archaeological material or material which appears to be of archaeological origin is to be reported to the Retained Marine Archaeologist at the earliest opportunity.

In general, archaeological material should not be handled or deliberately recovered from the seabed without seeking advice from the Retained Marine Archaeologist, but where archaeological material is inadvertently recovered during operations, site staff should:

- Record the location at which the material was found;
- Handle material with care and no more than is necessary to allow for its safe storage;
- Not attempt to clean material or remove encrustations;
- Take photographs and/or video to inform Retained Marine Archaeologist advice;
- Store material in a safe place where it will not be inadvertently lost or broken; and
- Seek advice from the Retained Marine Archaeologist.

Finds of ordnance or other dangerous or controlled materials are to be treated within established protocols for those materials in precedence to any archaeological recording, and while these materials should be reported to the Retained Marine Archaeologist, the provisions of the PAD shall not apply unless these materials have been rendered safe or safe systems of work have been established.

Material should be stored in a condition as close as possible to the conditions from which it was recovered. Waterlogged material should be kept damp and in a dark place where possible.

Where potential archaeological remains are identified in advance of intrusive construction work (e.g., geophysical survey or drop-down video) the location and nature of the anomaly should be reported to the Retained Marine Archaeologist so that an appropriate TEZ can be established, and the observation recorded for archaeological purposes. The works should, where reasonably practicable, considering the nature and importance of the find and the nature of the works, deviate round the identified anomaly.

Where potential remains are identified during or after site clearance or intrusive construction work, deviation of the route is unlikely to represent an appropriate mitigation, and the location at which potential archaeological remains were observed should be reported. Where possible, any remains should be recovered to the vessel so that the nature of the remains can be determined, and work should cease or move to an alternate location while further advice is sought from the Retained Marine Archaeologist.

Provision of archaeological advice

The Retained Marine Archaeologist will arrange for appropriate identification of any material recovered, and, where appropriate, will advise on any temporary restrictions to operations within the vicinity of the find, and the establishment of any TEZ that may be necessary to allow for protection of archaeological remains, pending consultation with the appropriate national regulators.

Where further construction or other intrusive works are required within the vicinity of archaeological material, further investigative survey may be required to fully understand the nature and extent of archaeological remains. The Retained Marine Archaeologist will advise on the scope of such survey and will agree proposals for survey with the relevant national regulator.

The Retained Marine Archaeologist will advise the client on reporting requirements for archaeological purposes, and on potential requirements for route deviation, amendments to working practices or support to further investigation, recording, moving, storage and/or analysis of archaeological material, and will inform the relevant national regulators, agreeing any further actions with the client and relevant national regulator.

Where heritage-based licensing is required for further survey, investigation or recovery and analysis of archaeological material, any such licence will be obtained by the relevant specialist contractor undertaking the proposed work.

Revision or establishment of AEZ

Where archaeological remains are identified and mitigation cannot be achieved by either recovery and recording or movement of these remains or, in the case of remains identified in advance of construction works, the Retained Marine Archaeologist will agree the location and scale of any required AEZ with the relevant national regulators. While this would

normally require the extension of existing or establishment of new AEZ, it may be appropriate to move, amend or remove existing AEZ where survey identifies that these have not been appropriately defined.

Reporting of findings

Further to initial reporting of findings to the appropriate national regulator by the Retained Marine Archaeologist, any reporting of identification and analysis of archaeological material will be carried out in line with the general provisions for reporting set out at Section 7 of this Outline WSI, except where superseded by requirements of any formal licence required for those works.

6 Procedures in respect of statutorily protected remains

6.1 General

Any reporting of archaeological material observed during the proposed works shall be made by the Retained Marine Archaeologist, except where reporting is required as a condition of specific archaeological licencing, in which case the named person/organisation in that licencing shall carry out any reporting, ensuring that the Retained Marine Archaeologist is informed.

All artefacts identified from material recovered will be retained, processed, and recorded in accordance with the CIfA Standard and guidance for the collection, documentation, conservation, and research of archaeological material (CIfA 2014) and/or the IAI Code of Conduct for the Treatment of Archaeological Objects in the context of an archaeological excavation (IAI 2006).

The initial processing and storage of soil samples and other ecofactual material will be carried out in accordance with Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation (English Heritage, 2011) and Geoarchaeology: using earth sciences to understand the archaeological record (Historic England, 2015) and/or Environmental Sampling: Guidelines for Archaeologists (IAI 2007).

The Methods Statements for each stage of work will identify appropriate named specialists or, where required, licence holders, and will set out:

- Procedures for conservation assessment;
- Procedures for temporary storage, processing and recording of archaeological material;
- A retention and discard policy; and
- Procedures for selection of material for further assessment and analysis.

It is not anticipated that human remains will be present within the CSC, given the prevailing conditions, which are not favourable for the preservation of human remains, and the absence of evidence for wrecks within the working areas. However, in that excavation of human remains is closely governed by statute in both the UK and Ireland, provision must be made in any methods statements for intrusive archaeological works for actions to be taken in the event of human remains being observed or recovered.

6.2 Archaeological Material

Irish TW and EEZ

The National Monuments Amendment Act 1994 sets out that all archaeological objects are the property of the Irish State. As such, procedures for reporting discoveries of archaeological material, its recovery, analysis and storage are required as part of the

process of licencing archaeological investigations, and procedures in respect of archaeological material recovered in Irish TW or EEZ will be set out in the detailed methods statements required by this Outline WSI.

UK EEZ

Archaeological artefacts that have come from a ship are considered to be 'wreck' for the purposes of the Merchant Shipping Act 1995, and the Receiver of Wreck must be notified within 28 days of recovery.

Arrangements for agreeing reasonable access for study of archaeological material and/or transfer of title of that material to an appropriate receiving museum must be agreed with the lawful owner and/or the Receiver of Wrecks. This is particularly important where analysis of material could be destructive, and such analysis must not take place without appropriate lawful authority.

Any items which are recovered which could be deemed as Treasure[1] will be subject to the provisions of the Treasure Act 1996 . Such material shall normally be removed from site to a secure location as soon as is reasonably practicable and is compatible with appropriate archaeological investigation and recording.

In addition to the statutory authorities the Marine Antiquities Scheme should be informed.

6.3 Human remains

General

The Archaeological Contractor will have available within the team or on call an appropriately qualified and experienced osteo-archaeologist to assist the recovery, storage and processing of any human remains.

Irish Territorial Waters and EEZ

It is a legal obligation under the Coroner's Act 1962 and the National Monument Acts to notify the Garda Siochana and the National Museum of Ireland where human remains are unexpectedly or accidentally identified. Where it is established that the remains are not recent, they are considered to be archaeological artefacts under the National Monuments (Amendment) Act 1994, which sets out the legal definition of an archaeological object to include 'ancient human remains.

[1] Treasure is as defined by the Treasure Act 1996 and the Treasure (Designation) Order 2002. In brief, Treasure comprises any metal object, other than a coin, of at least 10 per cent by weight of gold or silver at least 300 years old. A prehistoric object is Treasure where any part of it is precious metal, or where two or more metallic objects come from the same find.

Two or more coins from the same find are Treasure provided they are at least 300 years old and contain 10 per cent gold or silver (more than ten coins containing less than 10 per cent of gold or silver are Treasure). Objects found with Treasure would also comprise Treasure. As finds may have become scattered since they were originally deposited, an object would be part of the 'same find' as another object or coin if it is found in the same place as, or had previously been together with, the other object.

Until such time as the National Museum of Ireland makes a decision on the future retention and care of human remains, the licensed site director has responsibility for their excavation, post excavation care and analysis, and any further works must be carried out under the terms of an excavation licence.

Where appropriate, any Method Statements produced in line with the Outline WSI above will set out clear and specific proposals for the appropriate reporting, recording, excavation, analysis, and storage of human remains.

UK EEZ

In the event of human remains being encountered, the Retained Marine Archaeologist will be informed to allow formal reporting to the national regulator as appropriate. Where appropriate, the Archaeological Contractor will arrange receipt of any necessary licencing to enable the legal removal of any human remains encountered in the works.

Military Remains

The 1986 Protection of Military Remains Act (PMRA) applies to any aircraft which have crashed while in military service and to certain wrecks of vessels which were wrecked while in military service within UK waters. PMRA makes it an offence to disturb, move or unearth military remains which have been designated.

There are no designated protected areas or controlled sites within the CSC, and there are no records of military vessels or aircraft having been lost within the Order limits.

Where remains of military aircraft are observed during archaeological investigation or construction work, intrusive work should cease, and the site be secured while consultation with the Ministry of Defence is undertaken.

It should be noted that the PMRA also applies to aircraft or vessels lost in British military service throughout the world, and the procedures set out below may also apply to where such remains are present out with the UK EEZ.

Where remains of military vessels or aircraft lost in service of nations other than the UK or Ireland are identified, due regard should be given to any requirement to report such discoveries to the relevant national regulator of the nation in the service of which the vessel or aircraft was lost.

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7 Post-Excavation and Reporting

7.1 General

Proposals for reporting of each phase of archaeological work will be set out in the relevant detailed methods statements. These will set out:

- Reporting timetable;
- Reporting process and any requirement for periodic, interim or assessment reporting;
- Provisions for publication or wider dissemination; and
- Archival of physical, paper and/or digital material.

7.2 Reporting of pre-construction surveys

The results of any pre-construction surveys will be necessary to inform project planning and the detail of mitigation requirements and to support consultation with the relevant national regulators. It is therefore important that they are reported in a sufficiently timely manner to inform these purposes. The detailed method statements for these phases of work will set out an agreed timescale for reporting, considering the potential for abbreviated interim or headlines reporting where appropriate, to ensure that the value of the surveys can be realised.

7.3 Post-Fieldwork Reporting

Post-fieldwork reporting may fulfil a number of purposes, and regard must be had to these in setting out the detailed methods statements, which should consider the relevant requirements at the completion of each stage of work.

All stages of post-fieldwork reporting may not be appropriate for all archaeological works, and therefore, any licence applications or detailed methods statements will set out an appropriate format and timetable for the presentation of reporting, having regard to the works completed, the findings of those works and the need to provide an appropriate level of descriptive text, catalogue data, site photography/images, survey data, and maps/plans/charts at each stage.

Reporting stages would normally comprise:

- Fieldwork Completion Reporting:
    - This type of reporting would normally take the form of a summary note, representing a very brief summary sufficient to confirm the completion of fieldwork; provide a scope and timetable for detailed reporting; and signpost any significant findings to inform research and development management pending the production of the full report.
- Assessment Reporting:

- For more complex interventions, or those producing results which require significant post fieldwork analysis, assessment reporting may be required to provide a rapid summary of the material recovered during the fieldwork and to allow costed recommendations to be made for the final reporting;
- Assessment reporting is a summary document rather than a detailed record. As such, the level of specialist work and reporting will be sufficient to allow recommendations for detailed work to be made and justified;
- Any Assessment reporting should present: a project and archaeological introduction; a statement of archaeological background and research aims; an interim statement on the results of fieldwork and a summary of the site archive and work carried out for assessment;
- The Assessment reporting will set out the Potential of the Data to meet the research aims of the project and a summary statement of the significance of the data to support recommendations for final reporting.;
- Supporting information will normally include: illustrations at appropriate scales; tabulated data and/or appended specialist reports; and index, references and disclaimers;

- Any requirement for and scope/format of archive or publication reporting will either be specified within the licence application or detailed methods statement, or as a recommendation of the Assessment reporting:
  - Publication Reporting could comprise reporting in a peer-reviewed journal or monograph and supplement or replace full archive reporting, depending on circumstances, and would be used to set out particularly significant findings of the fieldwork, normally focusing on specific aspects that relate to active research; and
  - Popular reporting would be used to report on particularly significant or interesting results of the fieldwork, supporting wider project engagement and communications. This reporting could include press releases and internet or social media posts as well as more formal reports.

7.4 OASIS

For works within the UK EEZ, the relevant contractor must complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/. Once a report has become a public document, the OASIS form will be validated, placing the information into the public domain on the OASIS website. The archaeological contractor must indicate that they agree to this procedure within the detail method statement submitted to the Retained Marine Archaeologist for approval.

7.5 Permanent Archival and Storage

Relevant recipient museums will be identified in any licence applications or detailed methods statements, along with an agreed discard/retention policy and an outline content of the

archive, considering that the works will generate paper records, graphics, artefacts, ecofacts, and digital data.

Before the commencement of fieldwork, contact should be made with the relevant recipient Museum(s) and/or Archive(s) to make the relevant arrangements for cataloguing and receipt of physical, paper, and digital archives as appropriate to that survey. Particular attention should be given to the need to identify an appropriate archive for digital data and that format of digital archive is agreed in advance of submission.

The archaeological contractor will confirm that arrangements for the format, packaging, content and receipt of archaeological material and site archives, including any requirement for security copies have been agreed with the relevant recipient museum or archive before the commencement of fieldwork.

Licence applications and detailed methods statements for each phase of work shall set out an agreed timetable for the deposition of the archive with the recipient museum or archive and shall confirm that the archive has been submitted in a satisfactory form to the receiving museum on completion of works.

8 Conclusion

This document supports the EIAR and is intended for further development post consent with the relevant authorities.

The survey work undertaken to date has revealed a limited amount of locations of archaeological interest within the area of the proposed development, and appropriate AEZ have been defined to ensure the protection of those remains.

The measures provided in this document in addition to the provision of AEZ will be undertaken in collaboration and agreement with the relevant authorities prior to and during the construction of the proposed development.

9 References

Chartered Institute for Archaeologists 2014 Standard and guidance for the collection, documentation, conservation and research of archaeological material. (https://www.archaeologists.net/sites/default/files/CIfAS&GFinds_1.pdf).

English Heritage 2011 Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation. (https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental_archaeology/).

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Institute of Archaeologists of Ireland 2007 Environmental Sampling: Guidelines for Archaeologists. (http://www.iai.ie/wp-content/uploads/2016/03/EnvironmentalSamplingGuidelines-2007-comp-1.pdf).

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Institute of Archaeologists of Ireland Code of Conduct for Archaeological Excavation. (http://www.iai.ie/wp-content/uploads/2016/03/IAI-Code-of-Conduct-for-Archaeological-Excavation.pdf).

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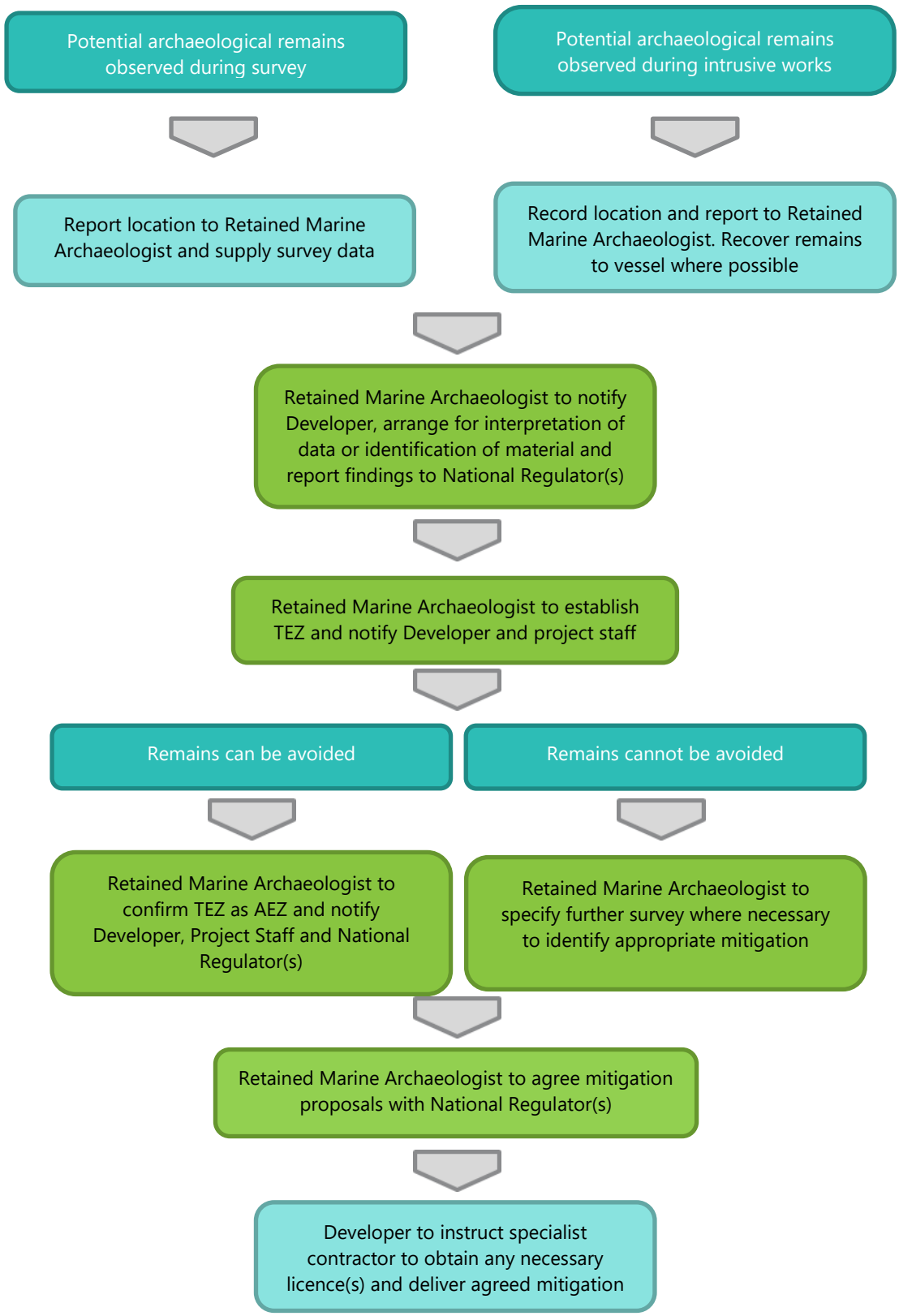
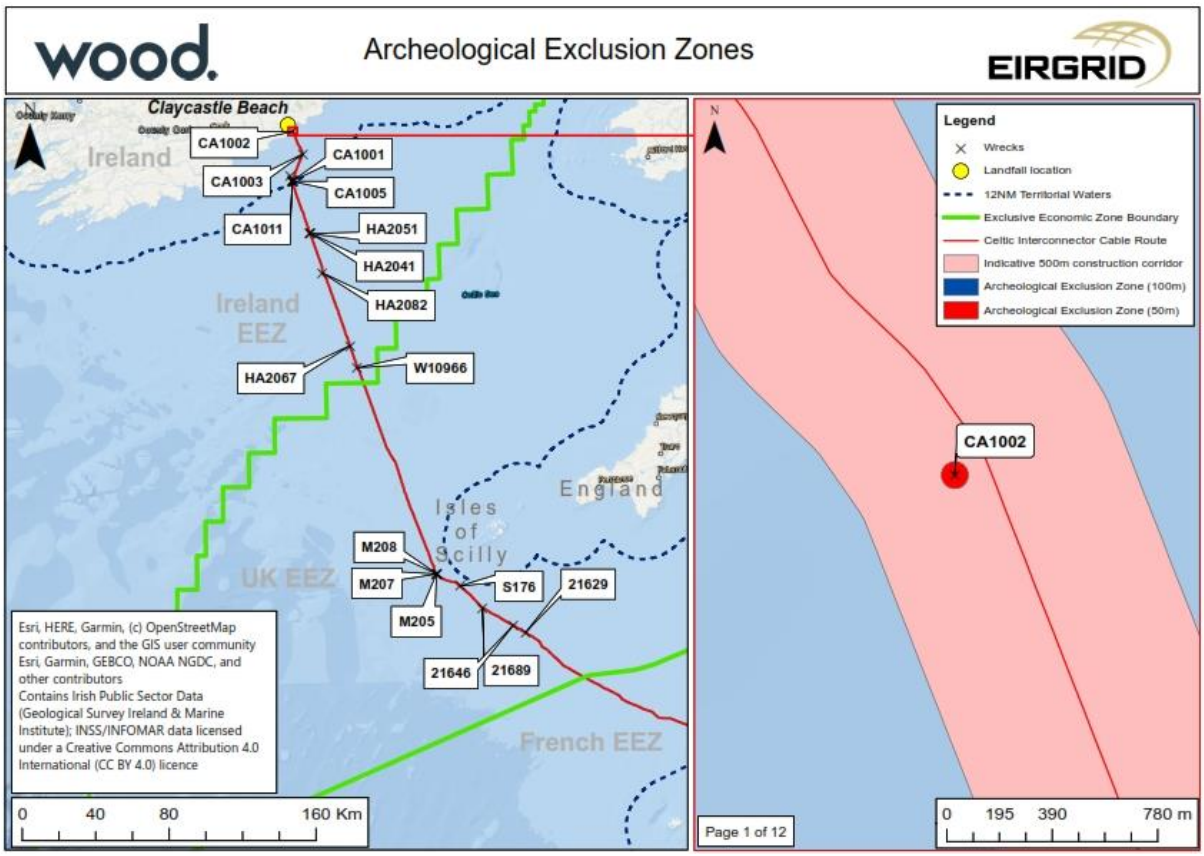
Institute of Archaeologists of Ireland Code of Conduct for the Treatment of Archaeological Objects in the context of an archaeological excavation. (http://www.iai.ie/wp-content/uploads/2016/03/IAI-Code-of-Conduct-for-the-Treatment-of-Archaeological-Objects.pdf).

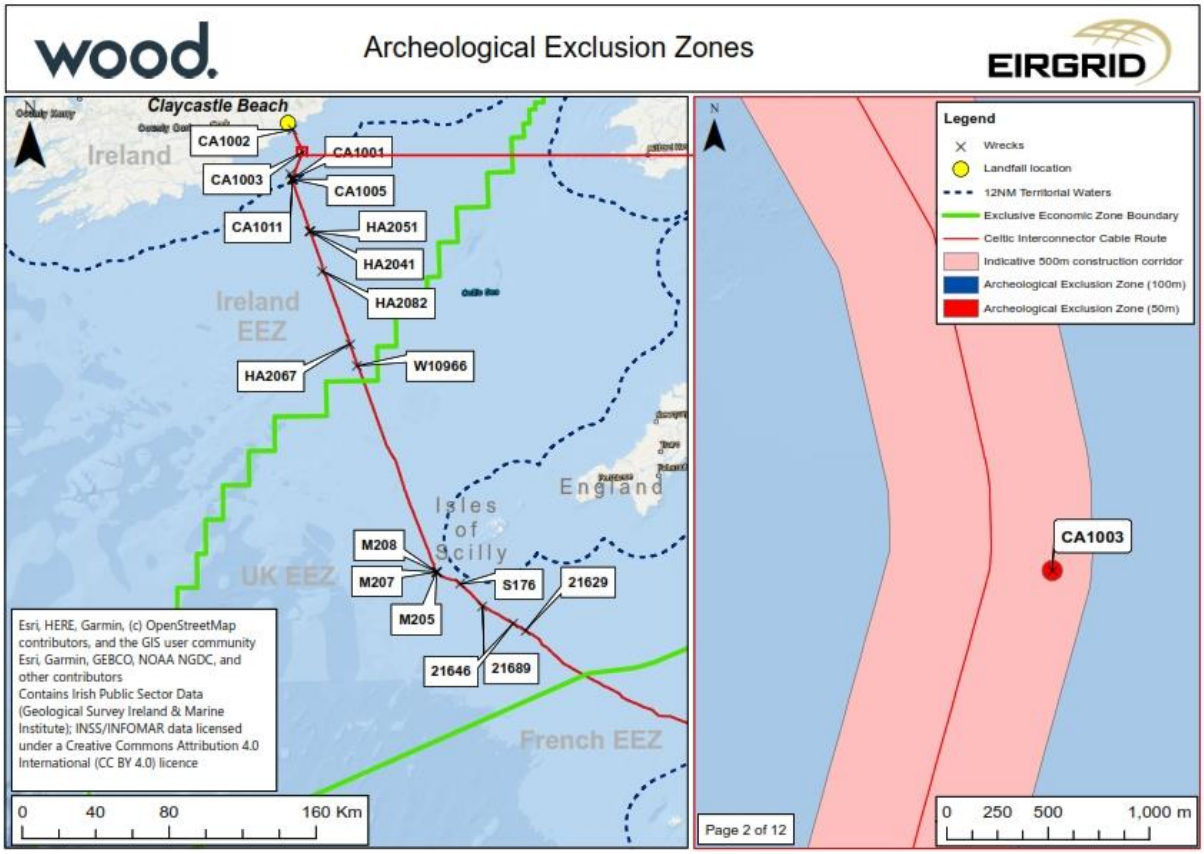
Institute of Archaeologists of Ireland Code of Conduct for the Archaeological Treatment of Human Remains in the context of an archaeological excavation. (http://www.iai.ie/wp-content/uploads/2016/03/IAI-Code-of-Conduct-for-the-Archaeological-Treatment-of-Human-Remains.pdf).

10 Appendix A: PAD Flow Diagram



11 Appendix B: Plans of AEZ

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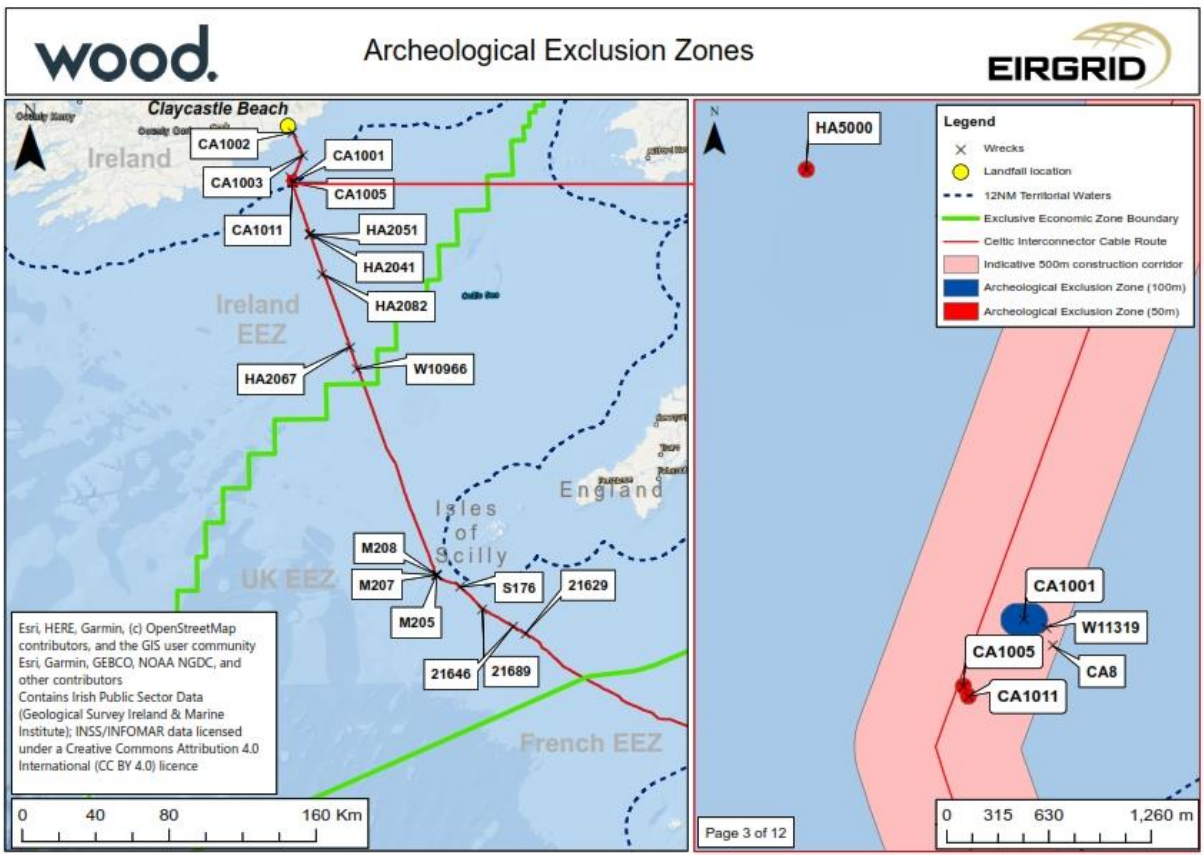
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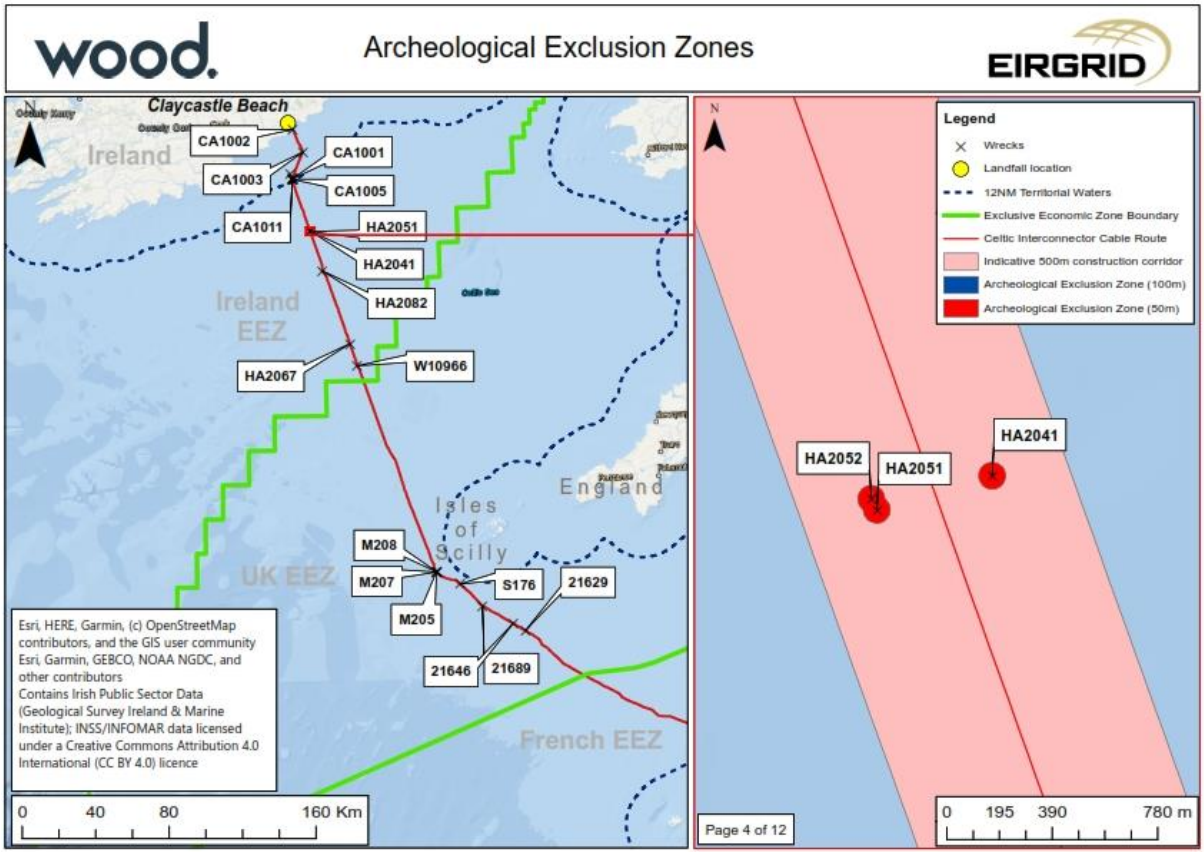
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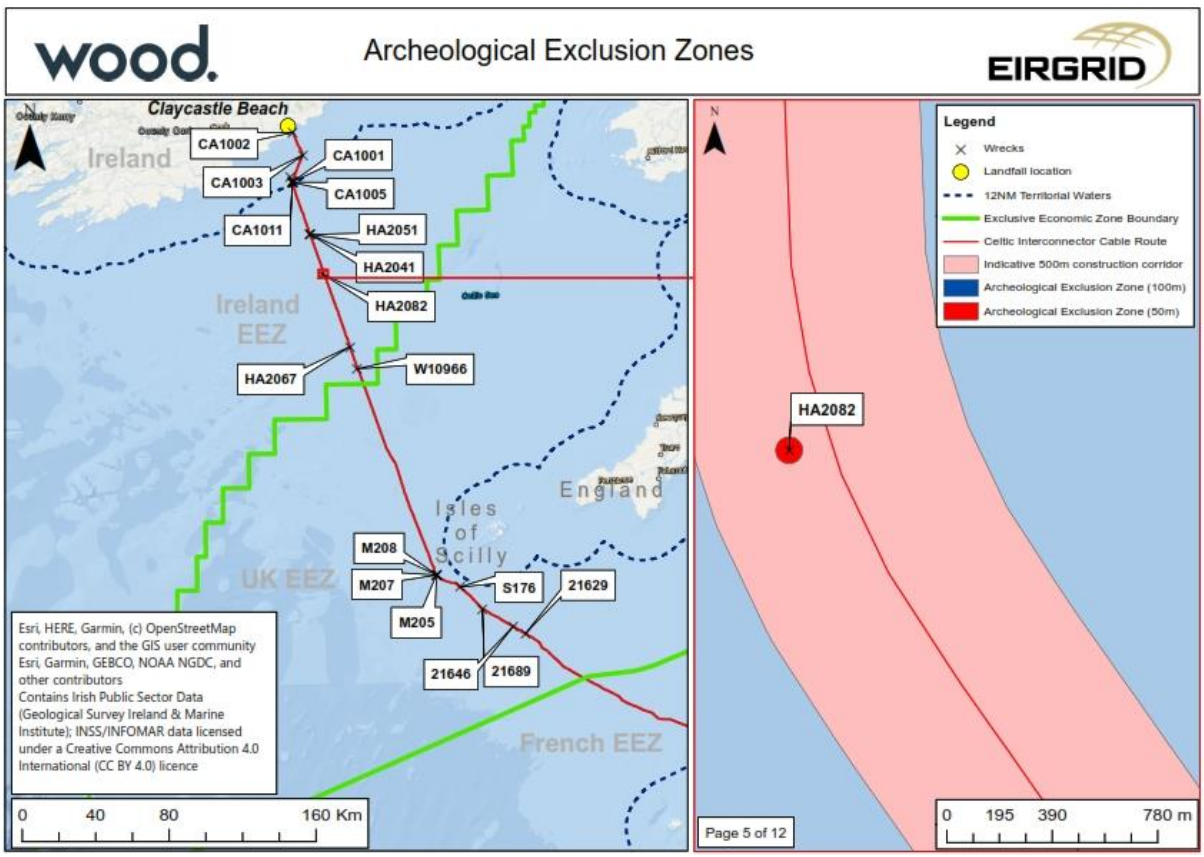
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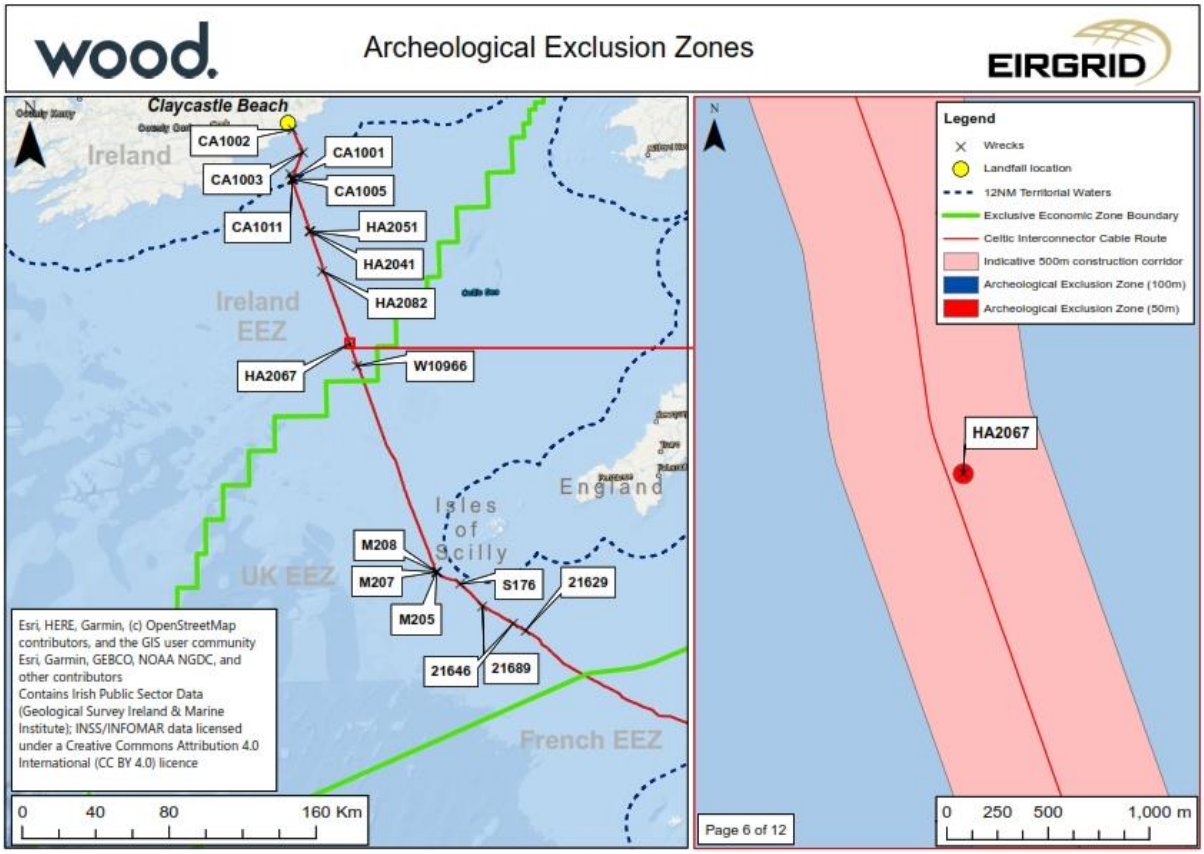
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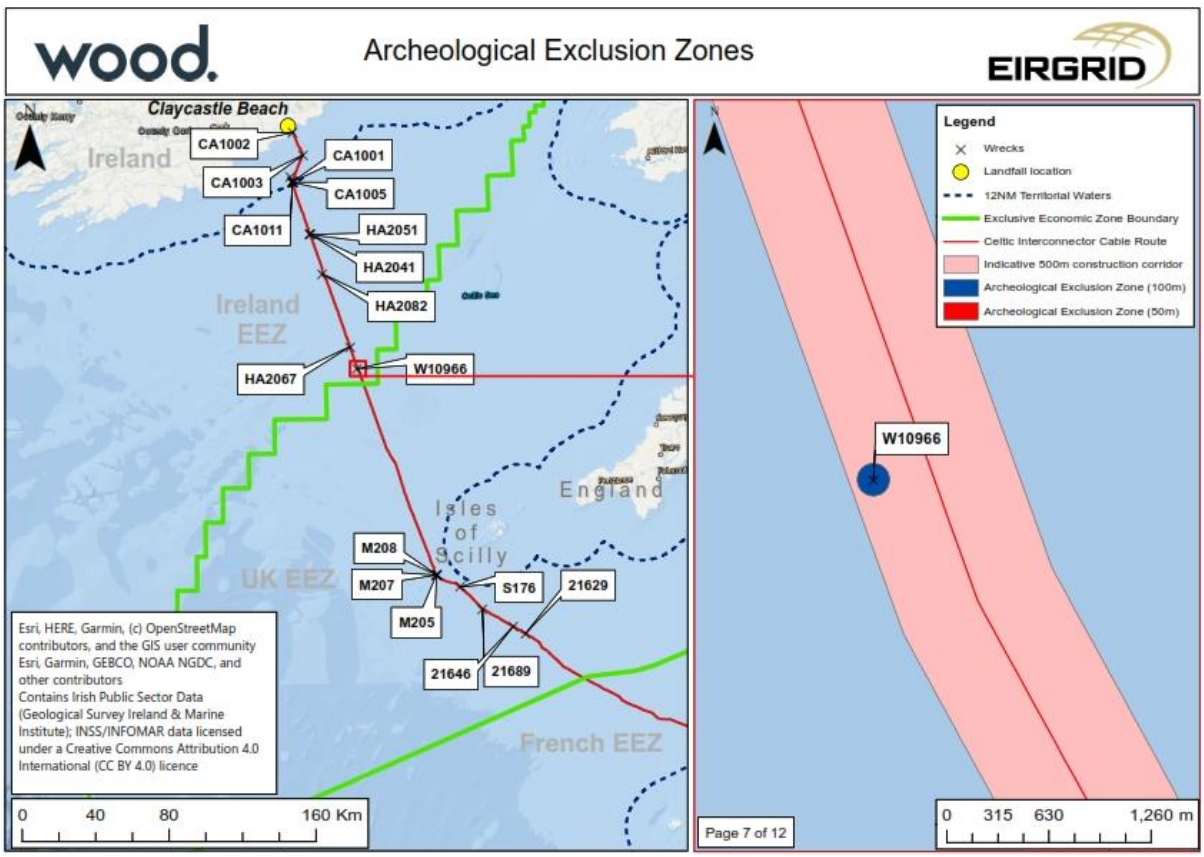
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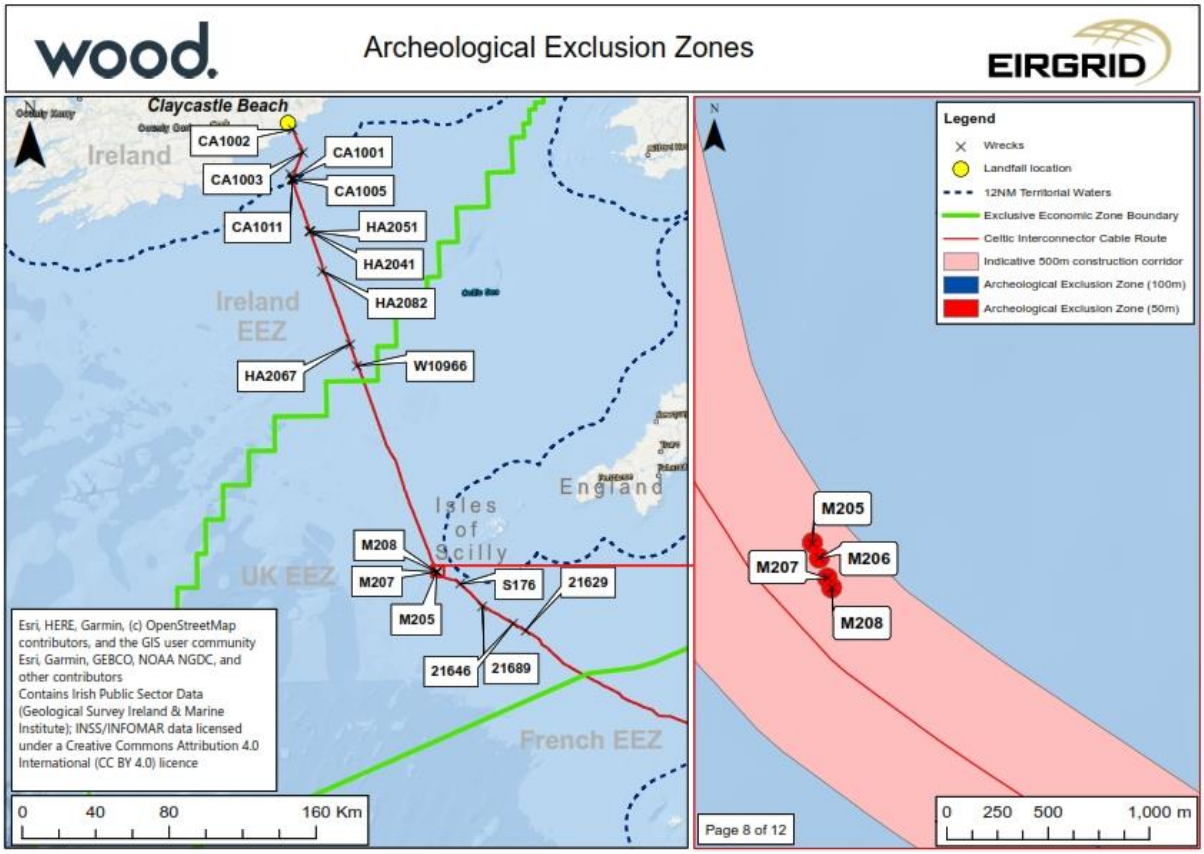
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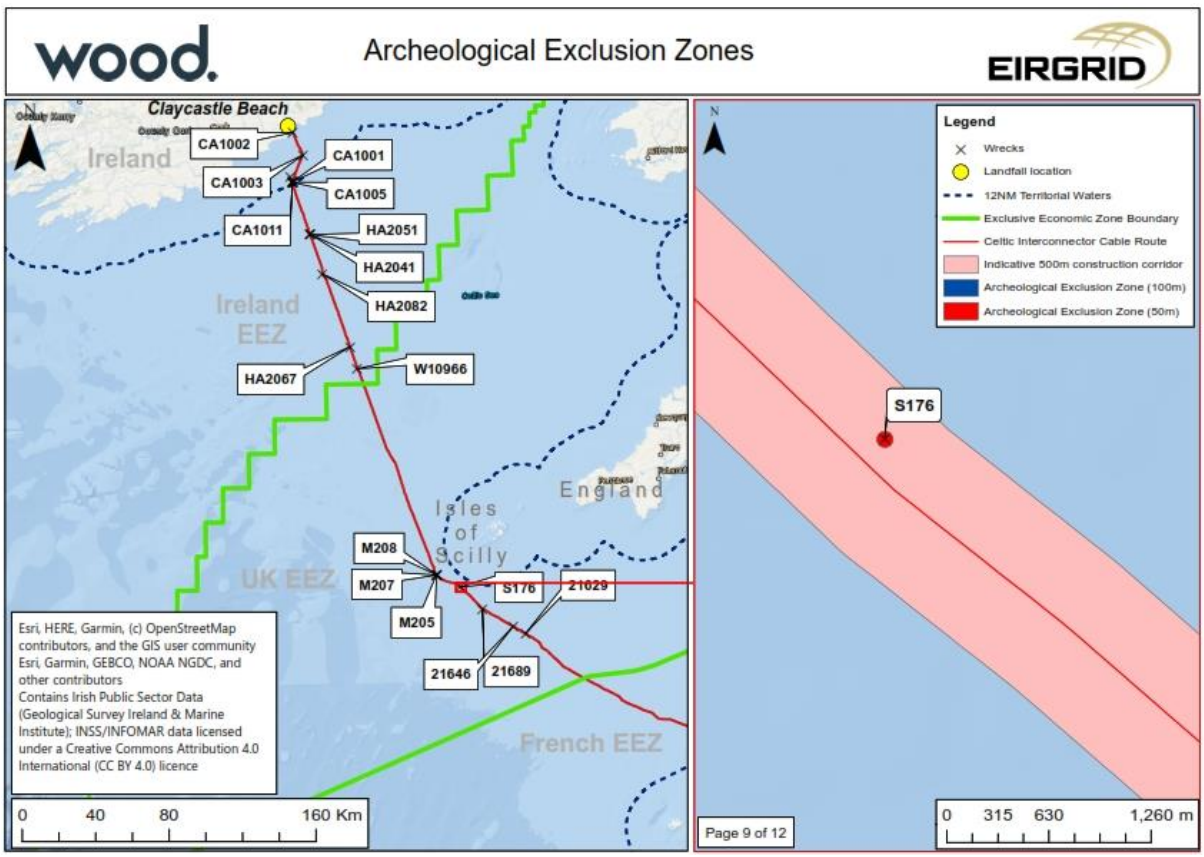
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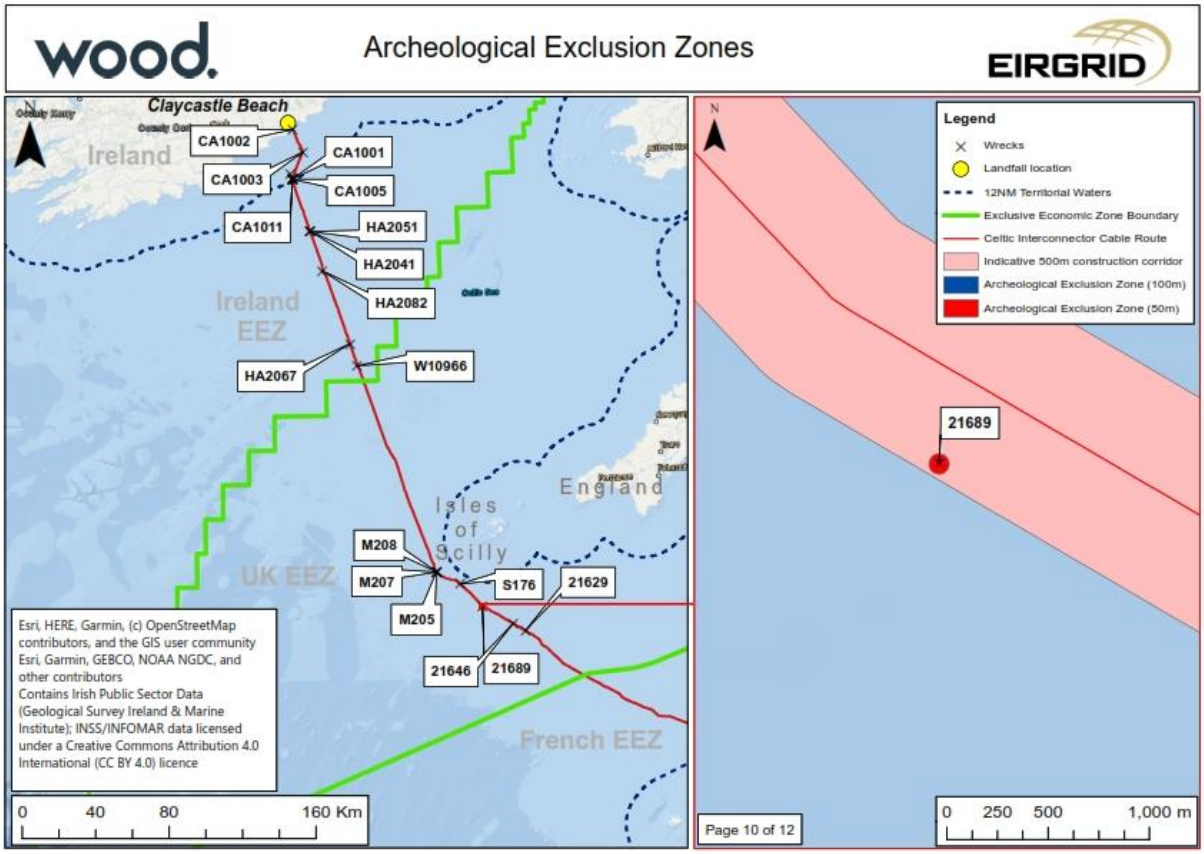
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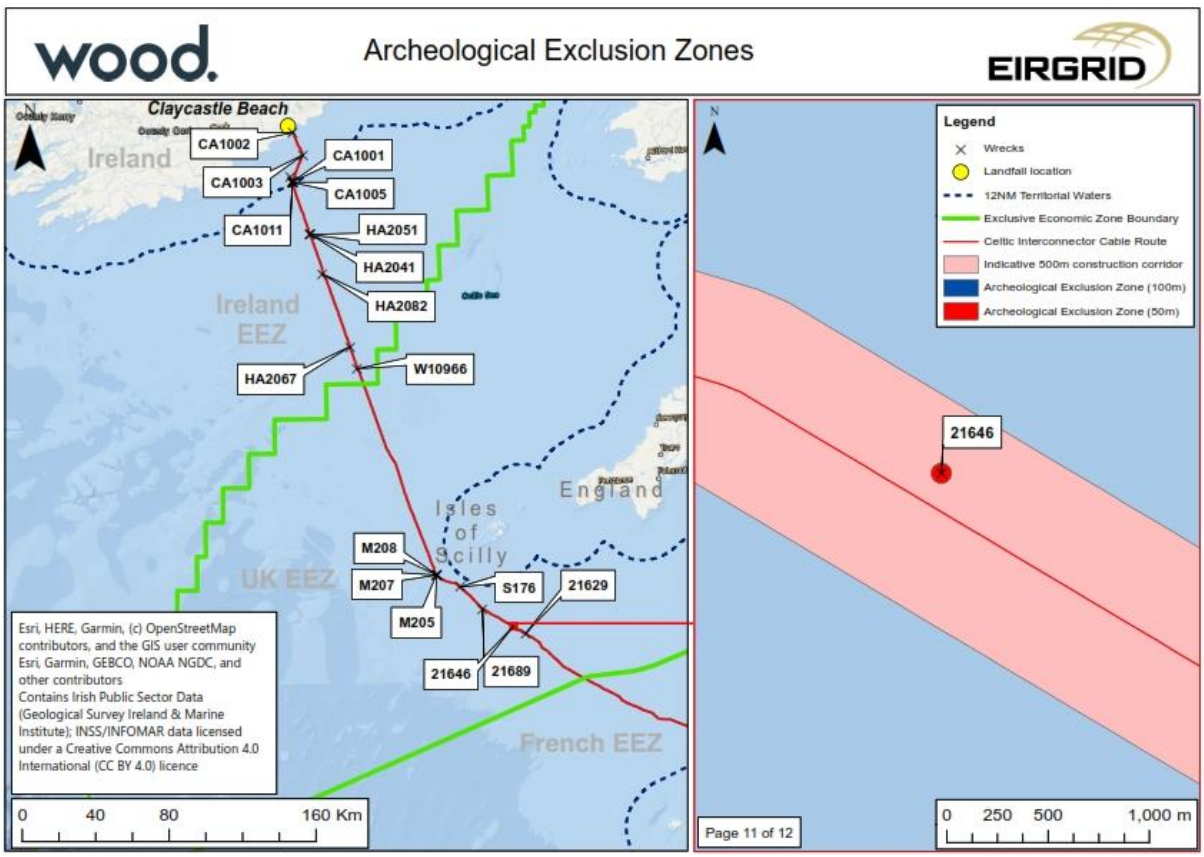
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EIRGRID
Claycastle Beach
CA1002
CA1001
CA1003
CA1005
CA1011
HA2051
HA2041
HA2082
HA2067
W10966
M208
M207
M205
S176
21629
21646
21689
Ireland
Ireland EEZ
England
Isles of Scilly
UK EEZ
French EEZ
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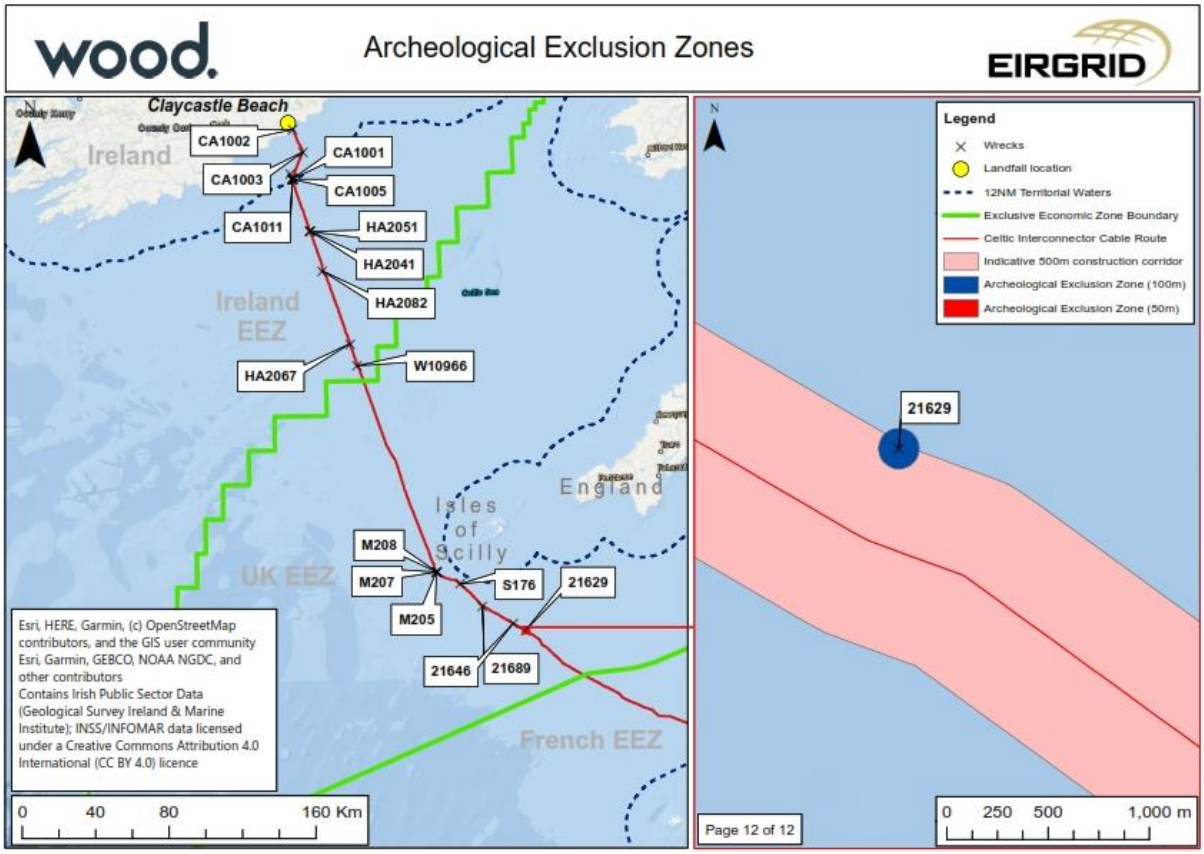
0 40 80 160 Km
Legend
Wrecks
Landfall location
12NM Territorial Waters
Exclusive Economic Zone Boundary
Celtic Interconnector Cable Route
Indicative 500m construction corridor
Archeological Exclusion Zone (100m)
Archeological Exclusion Zone (50m)
Page 11 of 12
0 250 500 1,000 m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