



Stornoway Deep Water Port Stornoway, Western Isles

Written Scheme of Investigation

Planning Ref.:
Accession Number:
Document Ref.: 247960.03
June 2021



© Wessex Archaeology Ltd 2021, all rights reserved

21-23 Slaters Steps
Edinburgh
EH8 8PB

www.wessexarch.co.uk

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

Disclaimer

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

Document Information

Document title Stornoway Deep Water Port, Stornoway, Western Isles
Document subtitle Written Scheme of Investigation
Document reference 247960.03

Client name Affric Limited
Address Loch Duntelchaig
Lochview Office,
Farr,
Inverness
IV2 6AW

On behalf of Stornoway Port Authority
Address Amity House,
Esplanade Quay,
Stornoway
HS1 2XS

Site location Stornoway Port
County Western Isles/ Na h-Eileanan an Iar
National grid reference NB 42634 31050
Statutory designations
Planning authority Comhairle nan Eilean Siar
Planning reference
Museum name TBC
Museum accession code TBC

WA project name Stornoway Deep Water Port, Stornoway, Western Isles
WA project code 247960
Project management by Andrew Bicket
Document compiled by Ben Saunders, Robert MacKintosh

Graphics by Natalia Bain

Quality Assurance

Issue	Date		Author	Approved by
1	02/06/2021	Draft to Client	RM	AB
2	07/06/2021	Internal Draft	RM, NB	AB
3	08/06/2021	External draft for Consultation	RM, NB,	AB



Contents

1	INTRODUCTION	1
1.1	Project and Planning Background.....	1
1.2	Scope of Document	2
1.3	Location, Topography and Geology	3
2	ARCHAEOLOGICAL ASSESSMENT AREAS	3
2.1	Co-ordinate System	3
2.2	Archaeological Assessment Areas.....	3
3	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.....	3
3.1	Introduction.....	3
3.2	Terrestrial Archaeological Baseline.....	4
3.3	Marine Archaeological Baseline	4
4	AIMS AND OBJECTIVES.....	11
4.1	Aims	11
4.2	Objectives.....	11
5	TERRESTRIAL MITIGATION METHODS	12
5.1	Introduction.....	12
6	MARINE MITIGATION METHODS	13
6.1	Marine Geophysical Data Review	13
6.2	Archaeological Exclusion Zones	13
6.3	Wreck Recording	13
6.4	Geoarchaeological/Geotechnical Data Review	14
6.5	Protocol for Archaeological Discoveries.....	14
7	POST-EXCAVATION METHODS AND REPORTING	15
7.1	Finds Evidence	15
7.2	Stratigraphic Evidence.....	15
7.3	Environmental Evidence	15
7.4	Reporting.....	15
8	ARCHIVE STORAGE AND CURATION.....	16
8.1	Treasure Trove	16
8.2	Aircraft	16
8.3	Wreck	17
8.4	Museum.....	17
8.5	Preparation of Archive	17
8.6	Selection Policy	17
8.7	Security Copy	17
9	OUTREACH AND SOCIAL MEDIA	17
10	COPYRIGHT	18
10.1	Archive and Report Copyright.....	18
10.2	Third Party Data Copyright	18
11	WESSEX ARCHAEOLOGY PROCEDURES.....	18
11.1	External Quality Standards	18
11.2	Internal Quality Standards	18
	REFERENCES	20
	APPENDICES	22
	Appendix 1: Terrestrial Gazetteer	22



Appendix 2: Marine Gazetteer	23
Appendix 3: Recorded Losses	24

List of Figures

Figure 1 Site location showing the development and heritage assets

List of Tables

Table 1 EIAR marine gazetteer (Affric Limited 2020, Chapter 13).

Table 2 Recorded Losses – summary by date

Table 3 Summary of key areas of maritime potential

Stornoway Deep Water Port Stornoway, Western Isles

Written Scheme of Investigation

1 INTRODUCTION

1.1 Project and Planning Background

1.1.1 Wessex Archaeology has been commissioned by Affric Limited, on behalf of Stornoway Port Authority ('the client'), to produce a written scheme of investigation (WSI) for a proposed archaeological watching brief, geophysical assessment, geotechnical assessment and protocol for archaeological discoveries during construction and dredging for Stornoway Deep Water Port, centred on NGR NB 42634 31050, at Stornoway Deep Water Port (DWP), Arnish Point, Stornoway, HS2 9JY (**Figure 1**).

1.1.2 The Stornoway DWP development comprises the following main components:

- Main Quay;
- Heavy Load Area;
- Pontoon;
- Bollard Island;
- Freight Ferry Berth and Linkspan;
- Reclaimed/Levelled Area;
- Dredging;
- Access Road;
- Link Road;
- Services; and
- Navigational Elements.

1.1.3 An Environmental Impact Assessment (EIA) (Affric Limited 2020) identified impacts from the development on known heritage assets. This included the impacts on the known wrecks of *Portugal* and *Andalina* which are located within the area identified for dredging to a depth of -10m CD (-12.21m OD), and the impact on the wreck *Alabama* which will be cut down so that no sections of the wreck will be upstanding above -8m CD.

1.1.4 Following the Environmental Impact Assessment (EIA) (Affric Limited 2020), *Comhairle nan Eilean Siar (CnES)* recommend the following mitigation measures to be applied as a minimum:

- The area of the development should be surveyed with side scan sonar to an appropriate resolution and the data should be archaeologically assessed.
- Areas of potential identified from this data should be subject to further mitigation in the form of a program of archaeological works.
- The known wreck of the *Alabama* and surrounding area should be surveyed at an appropriate level of detail / data capture by side scan sonar or similar technique. These surveys should occur prior to and following on from any potential modifications / cutting of the wreck. The initial survey should be augmented by archaeological recording of the wreck itself.

- A program of palaeo-environmental sampling in the form of a coring strategy across areas of the seabed that will be impacted by the dredging regime. It cannot be overstated, that this area of the bay has the potential for being the repository for valuable palaeo-environmental information, that until now has not been assessed.
- An identified plan for the relocation / dumping of dredged material must be included.
- If blasting is included within the proposed construction methodology, an assessment of potential impacts on historic environment assets should be included with proposed methods of mitigation.
- A Protocol for Archaeological Discoveries (PAD) should be put in place throughout the dredging and constructions phases of this project.
- These measures should be outlined in agreed written schemes of investigation (WSI) and subject to reporting and archiving to the relevant authorities.

1.1.5 Historic Environment Scotland stated:

- For all other marine cultural heritage assets, known and unknown, we require up-to-date information on their nature and condition before we could comment on whether the conclusions reached in the EIAR are appropriate.
- An archaeological recording exercise should be undertaken on the wreck of the SS *Alabama* (W1) before the dismantling works take place, followed by further recording to note the condition of the wreck after the works. Some pre-deconstruction survey work has been undertaken on this wreck, but this is described as a reconnaissance survey to inform the proposed dismantling works, it does not appear to have included an archaeological recording exercise of a standard we would consider suitable for mitigation purposes.
- The production and implementation of a Protocol for Archaeological Discoveries (PAD) is proposed as mitigation for all other marine cultural heritage impacts. This PAD would set out the processes for identifying and recovering cultural heritage material during development works.

1.2 Scope of Document

- 1.2.1 This WSI sets out the strategy and methodology by which Wessex Archaeology will implement the archaeological works. In format and content, it conforms with current best practice and to the guidance outlined in Historic Environment Scotland's *Policy Statement* (Historic Environment Scotland 2016a) and the relevant Chartered Institute for Archaeologists' (CIfA) Standards (CIfA 2014).
- 1.2.2 Archaeological works will also conform to the *Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest* guidance (PIANC 2014), and the Wessex Archaeology guidance on the *Assessment and Management of Marine Archaeology in Port and Harbour Development* (Cooper and Gane 2016).
- 1.2.3 This document will be submitted to Marine Scotland to allow them to consult with the CnES and HES, for comment, prior to the start of the watching brief.



1.3 Location, Topography and Geology

- 1.3.1 The site is located on the south and west side of Stornoway harbour, along the approach to Arnish Point.
- 1.3.2 The underlying geology is mapped as Stornoway Formation of conglomerate sandstones for the eastern part of Arnish Point, and Outer Hebrides Thrust Zone Mylonites Complex – Protocataclasite for the western part of the site. No superficial deposit mapping has been completed in the area (British Geological Survey online viewer).

2 ARCHAEOLOGICAL ASSESSMENT AREAS

2.1 Co-ordinate System

- 2.1.1 The coordinates are projected in British National Grid, EPSG: 27700.

2.2 Archaeological Assessment Areas

- 2.2.1 The assessment area in the original EIAR comprised an Inner Study Area (ISA) and an Outer Study Area (OSA) (Affric Limited 2020, Chapter 13). These comprised the proposed development site boundary and a 1 km buffer respectively. This encompassed all of *Cala Ghlumaig*.
- 2.2.2 The current study uses the proposed dredging area and the construction footprint, both with a 100 m buffer as its study area. However, all wrecks noted in the previous EIA have been included even when outside this area, particularly **WA2003/W3**.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 Introduction

- 3.1.1 The archaeological and historical background was assessed in the Environmental Impact Assessment Report (EIAR) (Affric Limited 2020), which considered the recorded historic environment resource within the proposed development site boundary. A summary of the results is presented below, with relevant entry numbers from the *Comhairle nan Eilean Siar* Historic Environment Record (HER) and CANMORE included. The marine archaeological baseline has been reassessed for this WSI, and additional sources of information are referenced as appropriate, particularly the UKHO wreck database.
- 3.1.2 The EIAR by Affric Limited consulted the following sources of information:
- Designation data downloaded from the Historic Environment Scotland website on 2nd February 2020;
 - The National Record of the Historic Environment (NRHE), including the Canmore database and associated photographs, prints/drawings and manuscripts held by HES;
 - Historic Landscape Assessment data viewed through the HLAMap website;
 - The *Comhairle nan Eilean Siar* Historic Environment Record (HER) – digital data extract received on 11th March 2020;
 - The National Collection of Aerial Photography (NCAP);
 - Geological data available online from the British Geological Survey;

- Historic maps held by the National Library of Scotland;
- Ordnance Survey Name Books;
- Unpublished maps and plans held by the National Records of Scotland;
- Readily available published sources and unpublished archaeological reports; and
- A site walkover and setting visits that were on the 22nd February 2018.

3.2 Terrestrial Archaeological Baseline

- 3.2.1 Two terrestrial assets were identified by the EIAR as lying within the Inner Study Area (Affric Limited 2020, Chapter 13) - an earth and stone field boundary dyke (**WA1001**) next to the extant Arnish Fabrication Yard and the remains of a field system dating to the post-medieval period on a headland to the east of Glumaig Harbour (**WA1002**). Both of these relate to the agricultural history of the area. Canmore lists a further field system on the headland (**WA1003**). A further record is located within the construction footprint of the development, an abandoned traditional boat (**WA1004**). There are also two navigation beacons listed in Canmore (**WA1005** and **1006**). Details of these are set out in **Appendix 1** and displayed in **Figure 1**.

3.3 Marine Archaeological Baseline

EIA

- 3.3.1 The EIA identified 14 known maritime Heritage Assets within the study area from the Canmore Maritime database (Affric Limited 2020, Chapter 13). These included wrecks and recorded losses (i.e. documented wrecking positions where no wreck material has been found). There were 10 other entries that were discounted due to being finds, events and/or wrecks that have been removed or refloated. Following a redesign of the dredge area three of these wrecks (W2, W3 & W10) fall outwith the updated planned area to be dredged but remain within the dredge consent area applied for.

Table 1 EIAR marine gazetteer (Affric Limited 2020, Chapter 13).

Ref.	Name / Location	Type / Date	Easting	Northing	Importance
W1	Alabama: Seid Rocks, Stornoway,	Steamship, 20th Century	142380	931550	Medium
W2	Andalina: Seid Rocks, Cala Ghlumaig,	Hulk, 20th Century	142786	931111	Low
W3	Arnish: Cala Ghlumaig,	Steamship 20th Century	142642	930735	Low
W4	Bjorn: Arnish Point,	Hulk, 20th Century	142813	931043	Low
W5	Bloom: Stornoway Harbour,	Craft, 20th Century	142548	931492	Low
W6	Comrade: Stornoway, (Arbitrary Location)	Steam Drifter, 20th Century	142000	931000	Low
W7	Fisher Lassies: Stornoway Harbour, (Arbitrary Location)	Lugger, 19th Century	142000	931000	Medium
W8	Jane Nicholson: Stornoway Harbour Entrance, (Arbitrary Location)	Craft, 19th Century	142900	931300	Medium
W9	Laurel: Stornoway Harbour Entrance, (Arbitrary Location)	Craft, 19th Century	142900	931300	Medium
W10	Marjory: Arnish Point, Stornoway,	Motor Fishing Vessel, 20th Century	142549	931119	Low
W11	Portugal: Arnish Point, Stornoway,	Hulk, 20th Century	142723	931580	Low
W12	Rap: Stornoway, (Arbitrary Location)	Steamship, 20th Century	142000	931000	Medium
W13	Unknown: Stornoway Harbour Entrance, (Arbitrary Location)	Yawl, 20th Century	142900	931300	Low
W14	Unknown: Stornoway	Craft, Obstruction	142323	930836	Low

3.3.2 The 14 maritime heritage assets are set out in **Table 1**. These comprise a mixture of nineteenth and twentieth century vessels known to have sunk in and around Glumaig Harbour. Six of the assets are recorded losses (W6, W7, W8, W9, W12 and W13) so there may or may not be wreck material present at their position. The remaining nine known wrecks comprise seven named twentieth century vessels (W1 to W5, W10 and W11) known to have sunk in Glumaig Harbour, and one un-named undated wreck (W14) charted as an obstruction and visible at low water.

Current Methodology

3.3.1 The baseline has been reassessed for the purposes of this WSI. The marine themes relevant to marine archaeological baseline as assessed in this report are:

- Seabed paleogeography (for example, palaeochannels and other features that contain sedimentary deposits of archaeological interest, and derived early prehistoric artefacts e.g. stone tools, and ecofacts); and,
- Seabed features, including maritime sites (such as shipwrecks and associated material including cargo, obstructions and fishermen's fasteners) and aviation sites (aircraft crash sites and associated debris).

3.3.2 Database searches of the following sources were completed:

- The Wrecks and Obstructions database held by the United Kingdom Hydrographic Office (UKHO);

- Historic Environment Scotland Records (Canmore); and,
- *Comhairle nan Eilean Siar* Historic Environment Record.

3.3.3 A report from a geophysical survey undertaken by Aspect Land & Hydrographic Surveys Ltd was also consulted (Aspect Land & Hydrographic Surveys Ltd 2013).

3.3.4 In order to compile the marine archaeological baseline as presented in this report, where possible, the data were incorporated into a project Geographic Information System (GIS) using ArcGIS 10.6.1, enabling the data to be spatially analysed. The data were subsequently compiled into gazetteers of maritime sources within the study area. The updated marine gazetteer is contained in **Appendix 2**.

3.3.5 The national and local HER records have been discriminated between records for which there is known material on the seabed and 'recorded losses' (vessels that are known to have been lost, but do not, except by chance, have material on the seabed at their recorded loss location). A list of recorded losses within the Study Area is provided in **Appendix 3**.

3.3.6 For archaeological sites that were recorded in a national or local HER as well as the UKHO database, the co-ordinates from the UKHO are used in the gazetteer and GIS. As these relate to surveyed co-ordinates and supporting survey metadata, they are judged likely to be more accurate (unless other verifiable spatial data is available).

3.3.7 The sites in the gazetteer have been renumbered using a Wessex Archaeology numbering system, as there are additional sites from those listed in the original EIA. For clarity the EIA references will also be stated in this report.

Seabed Prehistoric

3.3.8 There are no known submerged prehistoric sites in the study area.

Paleogeographic Potential

3.3.9 There may be the potential for paleogeographic evidence to survive in the Study Area. Further assessment of the available geotechnical data is required to assess this possibility.

Designated Maritime and Aviation Assets

3.3.10 There are no designated maritime or aviation sites within the study area.

Known Maritime and Aviation Sites

3.3.11 The study area contains four charted wrecks, **WA2001/W1**; **WA2005/W5**; **WA2007/W11**; and **WA2008/W14** (**Figure 1**). These are discussed further below.

3.3.12 There are five wrecks and obstructions that the UKHO now lists as dead, i.e. they have not been detected by repeated surveys and therefore they are considered not to represent a navigational hazard (**WA2002/W2**; **WA2003/W3**; **WA2004/W4**; **WA2006/W10**; **WA2009** and **WA2010**) (**Figure 1**). Most of these records appear to have been amended to dead at the request of the Stornoway Harbourmaster in 2005/6, presumably following development or clearance work. The wrecks listed as dead were all sunk in the 20th century, although **WA2002/W2** *Andalina*, **WA2003/W3**; *Arnish* and **WA2004/W4** *Bjorn* may have been constructed in the 19th century.

3.3.13 There are no known aviation sites within the study area.

WA2001/W1: SS Alabama

- 3.3.14 The SS *Alabama* was a steel screw steamship built in 1899 by Charles Connell & Company, Glasgow for Det Forenede Dampskibs Selskab (DFDS), Copenhagen. It had a gross registered tonnage of 4454, a length of 375 ft, a breadth of 50 ft and a depth of 25 ft. It was wrecked in 1904 at Peninsula Point, Stornoway after dragging its anchor. It was on passage from Copenhagen for Baltimore in ballast and had halted to repair heavy weather damage.
- 3.3.15 The UKHO record states that the HMS *Herald* reported in 1975 that the wreck 'is intact but distorted with protruding torn plates. It lies on its side, covering an area 70 metres long and 20 metres wide. The keel lies on an orientation of 118/298 degrees. The least depth by echosounder at the southern end was 5.8 metres.'
- 3.3.16 RAF Brize Norton Sub Aqua Club reported in 1976 that 'the wreck located at the above position is extensive and confused, showing every sign of dispersal by explosives. The recognition of objects was difficult due to the damage and poor visibility. The wreck is covered in a fine layer of silt. The highest obstruction is believed to be a cargo boom which was at a recorded depth of 6 metres. The bulk of the wreck lies between 10.6 - 15.2 metres or the bottom.'
- 3.3.17 The wreck is known to have been dispersed to 6 metres below low water spring tide in 1931. As stated by RAF Brize Norton Sub Aqua Club, this may have been by explosives. Certain parts of it are also known to have been salvaged nearer the time of sinking, the Aberdeen Press and Journal reported on 04 May 1905: 'The wreck of the Danish steamer Alabama, Copenhagen (7000 tons gross), in the bunkers of which there is 1000 tons of coal, and which is lying submerged in about eight fathoms water in Stornoway Loch, was yesterday exposed for sale, and realised £490. A number of articles salvaged from the deck of the steamer—anchors, chains, boats, and binnacles—realised good prices.'
- 3.3.18 In addition, according to Leask Marine, 'there have been two attempts to blow it up and various attempts to disperse the wreckage by use of towed cables. As a result there is 'little resemblance to a vessel on viewing the remains' (Leask Marine 2019).
- 3.3.19 In 2020, a survey of the wreck was undertaken by Leask Marine (Leask Marine 2019; 2020). The purpose of the operation was to assess how much of the wreck projected above -8 m CD, and to make an estimate of the cost of removing these parts (Leask Marine 2019). The survey showed that the wreck has points above the -8 m LAT contour for approximately 85 m in length (Leask Marine 2020). The wreck site itself will be longer than this.
- 3.3.20 The diving survey reportedly found: 'that around 70 % of the identified elements are a mix between Angle Iron, I Beams and Steel Plates The thickness of the steel components ranges from 4 mm to 14 mm. Some of the identified pieces were "flexible" steel, beams or plates with high concentration of corrosion; however, several other objects still hold a considerable amount rigidity throughout the wreck' (Leask Marine 2020). In addition, 'the vessel is laying on its port side and some machinery is still on-site as is the case of a vessel winch and the propeller of the ship was found at stern of the wreck' (Leask Marine 2020). A video of the dive was recorded.
- 3.3.21 Other data is available regarding the SS *Alabama*:
- An image of the vessel is available at www.clydeships.co.uk/view.php?ref=4745#v
 - A video of a recreational dive on the wreck from 2018 is available at <https://www.youtube.com/watch?v=r6CnyTk9XB0>

- There is a steel steamer report on *Alabama* at Lloyd's Register Foundation <https://hec.lrfoundation.org.uk/archive-library/documents/lrf-pun-gls184-0191-r>
- There is a report on the machinery of *Alabama* at Lloyd's Register Foundation <https://hec.lrfoundation.org.uk/archive-library/documents/lrf-pun-gls184-0192-r>

Other Wrecks

3.3.22 The other charted wrecks in the Study Area are:

- **WA2005/W5** the *Bloom*, a fishing vessel that sank in 1957 and was largely dispersed in 1958, despite not being located since, the UKHO record remains *live*;
- **WA2007/W11** the *Portugal*, a steam collier that sank in the 1950s. The wreck appeared broken up when examined in 1976. It was relocated by multibeam bathymetry survey in 2019.
- **WA2008/W14** an unknown wreck first observed in 1975. The wreck is described as approximately 20 m long with iron ribs with a small amount of timber attached, suggesting a composite construction. Site surveys have not located this site.

3.3.23 The recorded location of unknown wreck (**WA2008/W14**) is within the construction footprint (but evidence of the wreck has not been located at this location); *Bloom* (**WA2005/W5**) and *Portugal* (**WA2007/W11**) are within the dredging area (**Figure 1**).

Maritime Archaeological Potential

- 3.3.24 There is potential for discoveries of maritime craft from the Mesolithic to the modern period. Post-medieval and modern wrecks, as they were generally made of more substantial material, are more likely to have been discovered through surveys undertaken by UKHO and others, and thus recorded in the archaeological record. However, there is still potential for discovery of previously unrecorded wreck sites, particularly of wooden wrecks, broken up wrecks or partially buried wrecks that are more difficult to detect through geophysical survey.
- 3.3.25 Many vessels were lost without a record being made, and sometimes even the records that were created have since been lost (Cant, 2013). Examining the recorded losses provides an indication to the potential for further discoveries, as do the factors discussed below.
- 3.3.26 Recorded Losses are records for ships or aircraft that are known to have wrecked or crashed offshore, but for which the exact locations are not known. Recorded Losses are often grouped together by their general area of loss into Maritime Named Locations (displayed spatially as polygons or centre points of polygons, often associated with NRHE data), however many records (particularly from the HER dataset) are given co-ordinates (displayed spatially as points), although these are similarly unsubstantiated.
- 3.3.27 Recorded Losses can be considered as an indication of the potential for archaeological maritime remains to exist within the study area and the type and number of wrecks that could be present. These records relate to vessels reportedly lost or for which no physical wreck remains have ever been identified. There will be a bias in these records towards vessels dating to the post-medieval period and later, and also towards vessels that sank in inshore waters. **Table 2** shows the distribution of these documented losses according to the date of loss for those records whose positions fall within the study area. Details regarding these losses are presented in **Appendix 3**.

Table 2 Recorded Losses – summary by date

Date	Number of records of ships	Number of records of aircraft
Post-medieval	1	0
19th Century	4	0
Modern	4	0
Unknown	0	0
Total	9	0

- 3.3.28 The losses generally represent 19th and 20th century vessels, including those involved in national and international trade and the fishing industry.
- 3.3.29 There is potential for the presence of archaeological material of maritime nature spanning from the Mesolithic period to the present day within the study area. The key areas of potential are summarised in **Table 3** below.

Table 3 Summary of key areas of maritime potential

Period	Summary
Pre-1508 AD	Low potential for material associated with prehistoric maritime activities. Prehistoric maritime activities include coastal travel, fishing and the exploitation of other marine and coastal resources. Vessels of this period include rafts, hide covered watercraft and log boats.
	Low potential for material associated with later prehistoric maritime activities, including seaworthy watercraft suitable for overseas voyages to facilitate trade and the exploitation of deep water resources. Such remains are likely to comprise larger boat types, including those representing new technologies such as the Bronze Age sewn plank boats which are associated with a growing scale of seafaring activities.
	Low potential for material of Romano-British date, associated with the expansion and diversification of trade with the Continent. Watercraft of this period, where present, may be representative of a distinct shipbuilding tradition known as 'Romano-Celtic' shipbuilding, often considered to represent a fusion of Roman and northern European methods.
	Low potential for material associated with coastal and seafaring activity in the 'Dark Ages', associated with the renewed expansion of trade routes and Germanic and Norse invasion and migration. Vessels of this period may be representative of new shipbuilding traditions such as the technique.
	Low potential for material associated with medieval maritime activity, including that associated with increasing trade between the UK and Europe, the development of established ports around the southern North Sea and the expansion of fishing fleets and the herring industry. Vessels of this period are representative of a shipbuilding industry which encompassed a wide range of vessel types (comprising both larger ships and vernacular boats). Such wrecks may also be representative of new technologies (e.g. the use of flush-laid strakes in construction), developments in propulsion, the development of reliable navigation techniques and the use of ordnance.
1509 to 1815	Medium potential for post-medieval shipwrecks representative of continuing technological advances in the construction, fitting and arming of ships, and in navigation, sailing and steering techniques. Vessels of this period continued to variously represent both the clinker techniques and construction utilising the flush-laid strakes technique.
	Medium potential for post-medieval shipwrecks associated with the expansion of transoceanic communications and the opening up of the New World.
	Medium potential for post-medieval shipwrecks associated with the establishment of the Royal Navy during the Tudor period and the increasing scale of battles at sea.
	Medium potential for post-medieval shipwrecks associated with continuing local trade and marine exploitation including the transport of goods associated with the agricultural revolution.
1816 to 1913	Higher potential for the discovery of shipwrecks associated with the introduction of iron and later steel in shipbuilding techniques. Such vessels may also be representative of other fundamental changes associated with the industrial revolution, particularly with regards to propulsion and the emergence of steam propulsion and the increasing use of paddle and screw propelled vessels.

	Higher potential for the discovery of shipwrecks demonstrating a diverse array of vernacular boat types evolved for use in specific environments.
	Higher potential for wrecks associated with large scale worldwide trade, the fishing industry or coastal maritime activity including marine exploitation.
1914 to 1945	Higher potential for the discovery of shipwrecks associated with the two world wars including both naval vessels and merchant ships. Wrecks of this period may also be associated with the increased shipping responding to the demand to fulfil military requirements. A large number of vessels dating to this period were lost as a result of enemy action.
Post- 1946	Potential for wrecks associated with a wide range of maritime activities, including military, commerce, fishing and leisure. Although ships and boats of this period are more numerous, losses decline due to increased safety coupled with the absence of any major hostilities. Vessels dating to this period are predominantly lost as a result of any number of isolated or interrelated factors including human error, adverse weather conditions, collision with other vessels or navigational hazards or mechanical faults.

Aviation Archaeological Potential

- 3.3.30 Marine aviation archaeology receptors comprise the remains or associated remains of military and civilian aircraft that have been lost at sea. Evidence is divided into three primary time periods based on major technological advances in aircraft design: Pre-1939; 1939-1945; and post-1945.
- 3.3.31 Although there are currently no known aircraft crash sites located within the study area within Scotland, England and the Exclusive Economic Zone (EEZ) there is the potential for the discovery of previously unknown aircraft material, particularly in relation to Second World War. Aircraft crash sites are also difficult to identify through archaeological assessments of geophysical survey, although past experience indicates material from the site, such as engines or other material may be recorded as small obstructions or anomalies.

4 AIMS AND OBJECTIVES

4.1 Aims

- 4.1.1 The specific aim of this WSI is to set out the baseline resource for the known and potential archaeological assets within the Stornoway DWP site, and the mitigation strategies proposed to address the impacts identified.

4.2 Objectives

- 4.2.1 In order to achieve the above aim, the objectives of the watching brief are:

- To determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the specified works area;
- To record and establish, within the constraints of the works, the extent, character, date, condition and quality of any surviving archaeological remains (a preservation by record);
- To place any identified archaeological remains within a wider historical and archaeological context in order to assess their importance; and
- To make available information about the archaeological resource on the site by preparing a report on the results of the watching brief.

- 4.2.2 The objective in relation to the marine works are:

- To fulfil the requirements of the Archaeological Curators (Historic Environment Scotland and LPA) - in respect of archaeological monitoring and mitigation of works associated with the watching brief and dredging activities aspects of this project;
- To mitigate the impact of dredging within the Stornoway DWP site via appropriate and recognised strategies;
- To propose measures for mitigating effects upon any unexpected archaeological discoveries that may be encountered during the operations associated with the development;
- To ensure that any further geophysical and geotechnical investigations associated with the project are subject to archaeological input and review with subsequent recording and sampling if necessary;
- Set out a practicable Protocol for Archaeological Discoveries, to be in place throughout the project; and
- To establish the reporting, publication, conservation and archiving requirements for the archaeological works undertaken in the course of the scheme.



5 TERRESTRIAL MITIGATION METHODS

5.1 Introduction

- 5.1.1 The principal contactor will be responsible for ensuring an archaeological watching brief will be undertaken. The principal contractor will set out a WSI that conforms to ClfA Standards and Guidance is signed off by the Western Isles Archaeologist and the client. All works will be undertaken in accordance with the detailed methods set out within the WSI. Any significant variations to these methods will be agreed in writing with the Western Isles Archaeologist and the client, prior to being implemented.
- 5.1.2 The watching brief will monitor all onshore ground-breaking works associated with construction of the Deep Water Port (**Figure 1**).

6 MARINE MITIGATION METHODS

6.1 Marine Geophysical Data Review

- 6.1.1 Geophysical and geotechnical surveys have previously been undertaken for the proposed development. These will be archaeologically assessed, and an Archaeological Assessment Report produced.
- 6.1.2 Relevant data sources with the potential for identifying archaeological remains are summarised as follows:
- Sidescan Sonar data may identify wrecks and other related debris of all periods that lie (at least in part) above the surface of the seabed;
 - Magnetometer data may identify wrecks and other related debris of all periods (though principally post-medieval and modern) on the surface of and under the seabed,
 - Bathymetry (Multibeam Echo Sounder may be used to characterise wrecks and other related debris of all periods that lie (at least in part) on the surface of the seabed; and
 - Sub-bottom profiler data may be used to identify and characterise submerged prehistoric landscapes in conjunction with geotechnical core analysis.
- 6.1.3 Survey data will be reviewed by Wessex Archaeology, and will be interpreted by an archaeologist with an appropriate level of expertise. If any further items of interest are identified, Archaeological Curators will be consulted prior to any changes to the mitigation strategy.
- 6.1.4 Currently Multibeam Echo Sounder (MBES) data is available for the marine development area (Figure 1).
- 6.1.5 In addition to the existing MBES dataset side scan sonar (SSS) survey is proposed for two wreck sites (during late June 2021) – SS *Alabama* and *Portugal*.

6.2 Archaeological Exclusion Zones

- 6.2.1 An Archaeological Exclusion Zone of +10 m has been agreed with the Developer around the extent of *Andalina* (WA2002). The AEZ should be of sufficient extent to mitigate physical effects to the wreck site, as agreed with the relevant Curators.

6.3 Wreck Recording

- 6.3.1 The principal archaeological mitigation proposed in this WSI is the production of a basic plan based on MBES and SSS datasets of the *Alabama* and *Portugal* wrecks before they are impacted by the development works.

WA2001/W1: SS *Alabama*

- 6.3.2 The intention is to remove parts of the SS *Alabama* (W1) protruding above -8 m Chart Datum as it would otherwise be an obstruction to navigation within the Deep Water Port. It is estimated around 300 – 400 tonnes of steel will be detached from the wreck and placed within the wreck superstructure. To inform the specifics of the works to be undertaken a reconnaissance survey was carried out in March 2020 to identify elements of W1 above -8 m CD and spaces within the superstructure which items can be placed (Leask Marine 2019; 2020).

- 6.3.3 After a recommendation by HES, the mitigation set out in the EIAR (Affric Limited 2020) was to include a 'before and after' survey of the wreck to ensure that a suitable record was made of the wreck both before and after dismantling. This was to consist of a measured survey, to be supplemented by video footage of the dive survey. The EIAR described the 2020 Leask survey as the 'before' survey (Section 13.6.1.1).
- 6.3.4 Following the 2020 survey by Leask the EIAR states that 'It remains an extensive and confused wreck, with some elements of the ship's structure intact and recognisable. These include a propeller, some railings along the starboard side and some H-beam ribs of the hull. There is also much loose steel plate and associated metal debris. The wreck appears to be oriented roughly NE/SW, with the bow towards the shoreline' (Section 13.5.2.1).
- 6.3.5 The video footage of the dive survey was assessed by Wessex Archaeology as not having adequate coverage of the Site for informing a full archaeological assessment. Therefore, further wreck recording is proposed using the upcoming SSS and existing MBES data to constitute the ('before') pre-dredge site recording.

WA2007/W11: Portugal

- 6.3.6 A wreck referred to as the *Portugal*, lies within the Main Channel,¹ and is proposed for sidescan sonar survey, MBES survey prior to complete removal.

6.4 Geoarchaeological/Geotechnical Data Review

- 6.4.1 A substantial amount of geotechnical work has already been completed within the Stornoway DWP Site. These are set out in a number of reports:
- Causeway Geotech 2018 Stornoway Deep Water Berth: Ground Investigation. Report No.: 17-0769a Factual
 - Causeway Geotech 2018 Stornoway Deep Water Berth: Ground Investigation. Report No.: 17-0769a Interpretative
 - Causeway Geotech 2019 Stornoway Deep Water Port: Ground Investigation. Report No.: 19-0382
 - Causeway Geotech 2020 Stornoway Deep Water Port Phase 3: Ground Investigation. Report No.: 19-1559
 - Gavin and Doherty Geosolutions 2019 Stornoway Deepwater Berth GIR. Document reference: 19023-R-00-00
- 6.4.2 Boreholes 7 and 18 outwith the dredge area indicate shallow organic content. These are within -7m CD so potentially of archaeological interest in understanding the paleoenvironment resource within the development (Gavin and Doherty Geosolutions 2019).
- 6.4.3 This dataset will be archaeologically assessed to the standards of a Stage 1 geoarchaeological assessment. This will inform the understanding of paleogeographic potential based on desk-based review of geotechnical logs (Gribble and Leather 2011).

6.5 Protocol for Archaeological Discoveries

- 6.5.1 Unexpected material that may only be encountered during the course of the project will be addressed through adherence to the Protocol for Archaeological Discoveries (PAD) which is included in the Construction Environmental Management Document (CEMD). Prior to any

¹ "Navigation Channel At Dredge" – SDWP-WS2139-XX-00-DR-C-1003, Rev T01, received 12th May 2021.

dredging works all relevant contractors will be briefed by the Client's appointed archaeologist on the use of a PAD and the appropriate system of contacts set up.

7 POST-EXCAVATION METHODS AND REPORTING

7.1 Finds Evidence

- 7.1.1 All retained finds reported through the marine PAD will, as a minimum, be washed, weighed, counted and identified. They will then be recorded to a level appropriate to the aims and objectives of the watching brief. The report will include a table of finds by feature/context.
- 7.1.2 Where appropriate metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate materials, stored in a stable environment. The X-raying of objects and other conservation needs will be undertaken by Wessex Archaeology in-house conservation staff, or by another approved conservation centre.
- 7.1.3 Finds will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the ClfA (2014b).

7.2 Stratigraphic Evidence

- 7.2.1 A written description will be made of all archaeologically significant features and deposits identified through the Stage 1 geoarchaeological review of geotechnical logs and sub-bottom profiler (SBP) seismic data, ordered by period and/or feature group as appropriate.

7.3 Environmental Evidence

- 7.3.1 During previous geotechnical sampling Holocene and Pleistocene sediments were not competent and sub-samples pertaining to these upper, unconsolidated sediment sequences were not suitable for further assessment, and hence were not retained. The Stage 1 geoarchaeological review is confined to utilising the existing core logs and SBP datasets.

7.4 Reporting

- 7.4.1 Following completion of the desk-based review and the construction phase a marine archaeological technical report will be submitted for approval to the client and the Curators, within 12 weeks. Once approved, a final version will be submitted and archived.
- 7.4.2 The technical report will include the following elements:
 - a non-technical summary;
 - project number, planning reference numbers, dates of fieldwork and National Grid Reference;
 - an account of the background to the project and circumstances of work;
 - the methodologies used;
 - a description of the archaeology identified;
 - a summary of the artefactual/environmental material recovered from the Site;
 - recommendations for further work, should this be warranted;
 - plans and sections at an appropriate scale locating the site, location of known archaeological structures, architectural features and observations, and deposits and their extent;

- details of the archive and its proposed location
- Appendices inclusive of:
 - a detailed context index;
 - tabulation of finds data by context and by material type;
 - tabulation of small finds;
 - tabulation of environmental samples by context and potential;
 - tabulation of the graphics record; and
 - tabulation of the photographic archive.

7.4.3 A copy of the data structure report(s) and surveyed spatial digital data (.dxf or shapefile format) relating to the archaeological findings will be deposited with HES.

Publication

7.4.4 Following the completion of all fieldwork, the need for additional post excavation work and any other forms of publication will be assessed, in consultation with the Western Isles Archaeologist and the client.

OASIS and DES

7.4.5 An OASIS online record (<http://oasis.ac.uk/pages/wiki/Main>), including an entry for Discovery and Excavation in Scotland (DES) will be created, with key fields completed, and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue (a paper copy will also be included with the archive).

8 ARCHIVE STORAGE AND CURATION

8.1 Treasure Trove

8.1.1 If finds are made, details of the site name, location, excavating unit, point of contact for the project and composition/size of archaeological assemblage will be submitted to the Treasure Trove Unit via the 'Standard organised fieldwork reporting' and 'Reporting of finds for Treasure Trove Assessment' forms.

8.1.2 Under the laws of Treasure Trove and *bona vacantia*, all material recovered by archaeological intervention in Scotland belongs to the Crown. Material may not be removed from Scotland without the prior written permission of the Queen's and Lord Treasurer's Remembrancer. Should it be necessary to transport finds outside of Scotland then permission will be sought via an 'Application form for authority to borrow unallocated Treasure Trove for research purposes'.

8.2 Aircraft

8.2.1 The majority of aircraft wrecks are military and therefore fall under the Protection of Military Remains Act 1986. Any finds that are suspected of being military aircraft will be reported immediately to Wessex Archaeology. In the case of a military aircraft being investigated under licence, any human remains will be reported immediately.

8.3 Wreck

- 8.3.1 Archaeological artefacts that have come from a ship are 'wreck' for the purposes of the Merchant Shipping Act 1995. Stornoway Port Authority should ensure that the Receiver of Wreck is notified within 28 days of recovery, for all items of wreck that have been recovered.

8.4 Museum

- 8.4.1 The archive will be deposited with Historic Environment Scotland and *Comhairle nan Eilean Siar* HER. The final deposition of any artefacts/ecofacts will be allocated through the Treasure Trove Unit panel.
- 8.4.2 Provision will be made for the cost of long-term storage in the post-fieldwork costs. The museum will receive notification following review by the Treasure Trove Unit panel and an accession number will be obtained.

8.5 Preparation of Archive

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

8.6 Selection Policy

- 8.6.1 Wessex Archaeology follows National guidelines on selection and retention (SMA 1993; Brown 2011, section 4) will be followed. In accordance with these, and any specific guidance prepared by the receiving museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum, and fully documented in the project archive. Material not selected for retention may be used for teaching or reference collections by the museum, or by Wessex Archaeology.

8.7 Security Copy

- 8.7.1 In line with current best practice (eg, Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

9 OUTREACH AND SOCIAL MEDIA

- 9.1.1 The Developer will seek opportunities to disseminate the results of the watching brief and engage with the local community through social media, press releases, open days and volunteer involvement, while taking into account issues such as Health & Safety, confidentiality and vandalism.

10 COPYRIGHT

10.1 Archive and Report Copyright

- 10.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*. In some instances, certain regional museums may require absolute transfer of copyright, rather than a licence; this should be dealt with on a case-by-case basis.

10.2 Third Party Data Copyright

- 10.2.1 This document, the watching brief report and the project archive may contain material that is non-Wessex Archaeology copyright (eg, Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material.

11 WESSEX ARCHAEOLOGY PROCEDURES

11.1 External Quality Standards

- 11.1.1 Wessex Archaeology is registered as an archaeological organisation with the Chartered Institute for Archaeologists (CIfA) and fully endorses its *Code of conduct* (CIfA 2014d) and *Regulations for professional conduct* (CIfA 2014e).

11.2 Internal Quality Standards

- 11.2.1 Wessex Archaeology is an ISO 9001 accredited organisation (certificate number FS 606559), confirming the operation of a Quality Management System which complies with the requirements of ISO 9001:2015 – covering professional archaeological and heritage advice and services. The award of the ISO 9001 certificate, independently audited by the British Standards Institution (BSI), demonstrates Wessex Archaeology's commitment to providing quality heritage services to our clients. ISO (the International Organisation for Standardisation) is the most recognised standards body in the world, helping to drive excellence and continuous improvement within businesses.
- 11.2.2 Wessex Archaeology operates a computer-assisted project management system. Projects are assigned to individual project managers who are responsible for the successful completion of all aspects of the project. This includes monitoring project progress and quality; controlling the project budget from inception to completion; and all aspects of Health and Safety for the project. At all stages the project manager will carefully assess and monitor performance of staff and adherence to objectives, timetables and budgets, while the manager's performance is monitored in turn by the team leader or regional director.
- 11.2.3 All work is monitored and checked whilst in progress on a regular basis by the project manager, and all reports and other documents are checked (where applicable) by the team leader/technical manager, or regional director, before being issued. A series of guideline



documents or manuals form the basis for all work. The technical managers in the Graphics, Finds & Analysis, GeoServices and IT sections provide additional assistance and advice.

- 11.2.4 All staff are responsible for following Wessex Archaeology's quality standards but the overall adherence to and setting of these standards is the responsibility of the senior management team in consultation with the team leaders/regional directors who also ensure projects are adequately programmed and resourced within Wessex Archaeology's portfolio of project commitments.

REFERENCES

- ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service & Digital Antiquity Guides to Good Practice
- Affric Limited, 2020 *Stornoway Deep Water Port: Environmental Impact Assessment Report, Volume 2, Main Document*.
- Aspect Land & Hydrographic Surveys Ltd 2013 *Multibeam and Geophysical Survey Stornoway Harbour, Isle of Lewis, Scotland: Survey Report A5006*.
- British Geological Survey online viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 10 May 2021)
- Brown, D H 2011 *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (revised edition). Archaeological Archives Forum
- Cant, S 2013 *England's Shipwreck Heritage: from log boats to U-boats*. English Heritage.
- Chartered Institute for Archaeologists (CIfA) 2014a Standard and guidance for archaeological field evaluation. Reading, CIfA
- CIfA 2014b *Standard and Guidance for an Archaeological Watching Brief*. Reading, CIfA
- CIfA 2014c *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*. Reading, CIfA
- CIfA 2014d *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading, CIfA
- CIfA 2014e Standard and Guidance for nautical archaeology recording and reconstruction. Reading, CIfA
- CIfA 2014f *Code of Conduct*. Reading, CIfA
- CIfA 2014g *Regulations for Professional Conduct*. Reading, CIfA
- Cooper, V and Gane, T 2016 *The Assessment and Management of Marine Archaeology in Port and Harbour Development*. Wessex Archaeology, Salisbury
- English Heritage 2011 *Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation* (second edition). Portsmouth, English Heritage
- Gavin and Doherty Geosolutions 2019 *Stornoway Deepwater Berth GIR*. Document reference: 19023-R-00-00
- Gribble, J and Leather, S 2011 *Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector*. COWRIE
- Historic England 2015 *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. Swindon, Historic England
- Historic Environment Scotland 2016a *Policy Statement*. Historic Environment Scotland

Historic Environment Scotland 2016b *Operational Policy Paper 5: The Treatment of Human Remains in Archaeology*. Historic Environment Scotland

Leask Marine 2019 *Method Statement: Alabama Wreck Survey*. Document Number: LSK-11001-OP01-MS01-R01

Leask Marine 2020 *Diving Report: Alabama Wreck Depth Survey*. Document Number: LSK-11001-DR01-R02

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 147–71

PIANC 2014 *Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest*. PIANC Guidance Document no. 124 - 2014

SMA 1993 *Selection, Retention and Dispersal of Archaeological Collections*. Society of Museum Archaeologists

SMA 1995 *Towards an Accessible Archaeological Archive*. Society of Museum Archaeologists

Watkinson, D and Neal, V 1998 *First Aid for Finds: practical guide for archaeologists*. United Kingdom Institute for Conservation of Historic & Artistic Works



APPENDICES

Appendix 1: Terrestrial Gazetteer

WA ID	Other References	Description	Eastings	Northings
1001	HER MWE142507	Earth and stone field boundary dyke	142311	930587
1002	Canmore 335488; HER MWE142511	Field system dating to the post-medieval period	142851	930975
1003	Canmore 335489	Field system dating to the post-medieval period	142956	931070
1004	Canmore 335487; HER MWE142506	Abandoned traditional boat	142223	931475
1005	Canmore 296439	Beacon, Sgeir Na Pacaid	142467	931100
1006	Canmore 296438	Beacon, Arnish Point	142947	931209



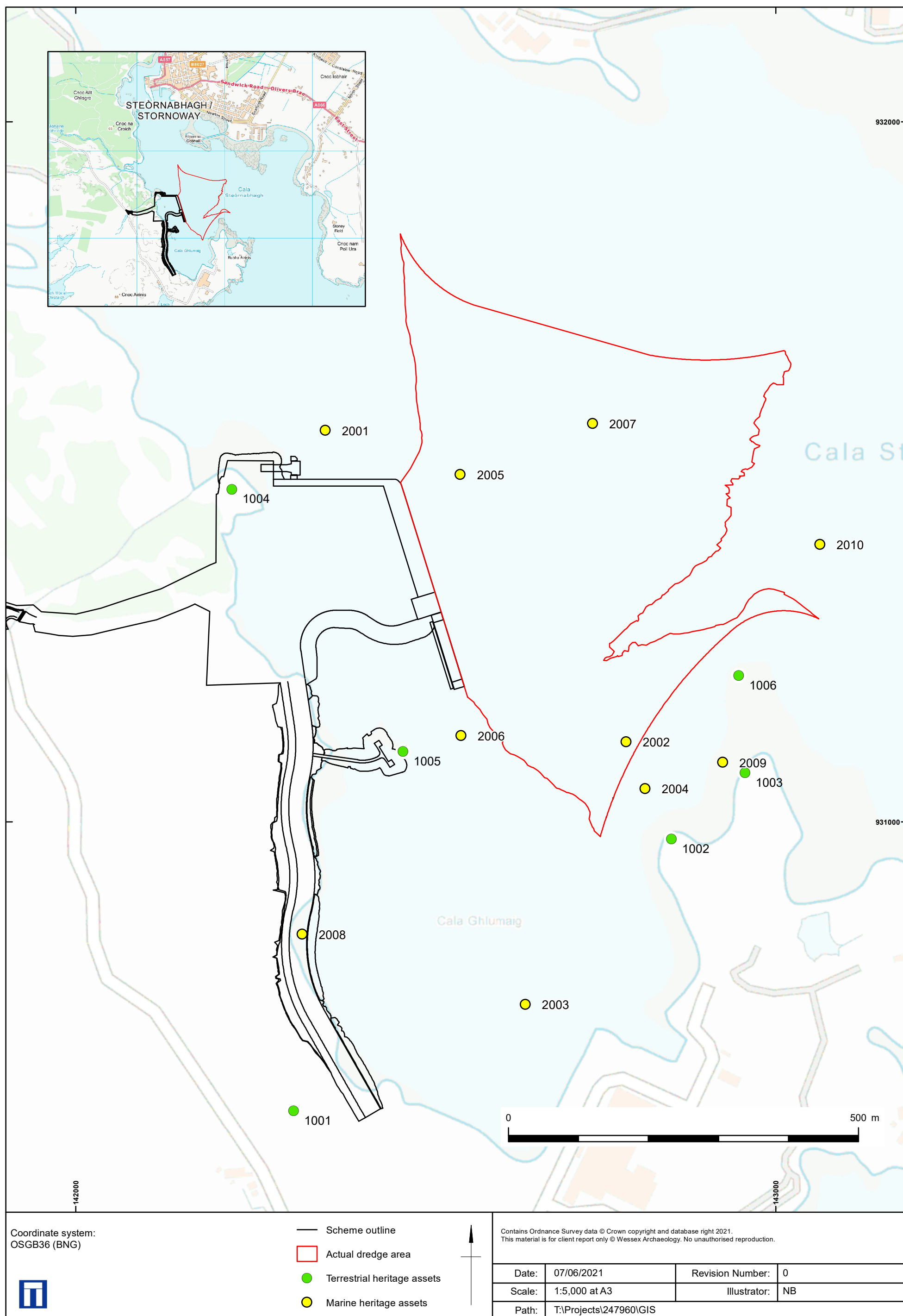
Appendix 2: Marine Gazetteer

WAID	EIAR	Other References	Name	Period	Description	Easting	Northing
2001	W1	UKHO 752; Canmore 102827 and 321418; MWE102827	ALABAMA	Sunk 1904	A Danish steam ship built in 1899. It had a length of 114m and a gross tonnage of 4454. It was in ballast when sunk. The wreck length is 70m. It lies on its side, the wreckage is confused and shows sign of having been dispersed by explosives. In 2013 Aspect Land & Hydrographic Surveys Ltd tentatively identified a wreck they surveyed at 142369, 931549 as the Alabama.	142356	931559
2002	W2	UKHO 749; Canmore 102826; HER MWE102826	ANDALINA	Possibly 1923	The wreck of a wooden vessel with a cargo of coal, was largely broken up with a boiler and part of the stern remaining in 1983. It was amended to dead in 2006. In 2013 Aspect Land & Hydrographic Surveys Ltd tentatively identified a wreck they surveyed at 142785, 931116 as the Andalina.	142786	931114
2003	W3	UKHO 744; Canmore 102824; HER MWE102824	ARNISH	Sunk 1923	A steam ship with a wooden hull, 37m in length and with a gross tonnage of 271. Some wreckage and a boiler were observed by divers in 1976. Amended to dead in 2005.	142642	930739
2004	W4	UKHO 746; Canmore 102825; HER MWE102825	BJORN	Sunk 1921	A wreck with a cargo of coal that was intact in 1976. Its length was 50 m. If it was named Bjorn it was possibly a steal steam ship built in 1904, a composite steamship built in 1889 or a wooden barque built in 1869. Amended to dead in 2005. A wreck surveyed by Aspect Land & Hydrographic Surveys Ltd in 2013 at 142818, 931048 was found to have a height of 1.7m above the seabed in shallow water, a significant magnetic signature and was largely intact with frames visible on the sidescan data.	142813	931047
2005	W5	UKHO 751; Canmore 296435	BLOOM	Sunk 1957	A fishing vessel that was largely dispersed in 1958. It was not located by HMS Herald in 1976, nor by multibeam bathymetry survey in 2019. However, it has not been amended to dead.	142549	931496
2006	W10	UKHO 748; Canmore 102846; HER MWE102846	MARJORY	20th Century	The wreck of a 20th century wooden motor fishing vessel, that was in an advanced stage of collapse in 1976. It was amended to dead in 2005. In 2013 Aspect Land & Hydrographic Surveys Ltd tentatively identified a wreck they surveyed at 142544, 931127 as the Marjory.	142550	931123
2007	W11	UKHO 753; Canmore 102828; HER MWE102828	PORTUGAL	20th Century	The wreck of a steam ship carrying a cargo of coal. Its mast and funnel showed above water in 1951, but were no longer visible in 1952. Wreck was broken up when examined in 1976. It was relocated by multibeam bathymetry survey in 2019.	142738	931569
2008	W14	UKHO 745; Canmore 102813; HER MWE102813	Unknown	Unknown	A wreck first observed in 1975. The wreck is approximately 20m long and has iron ribs with a small amount of timber attached, suggesting a composite construction. The wreck is in the intertidal zone.	142323	930839
2009		UKHO 64753; Canmore 324025	Unknown	20th Century	The wreck of a stranded barge first charted in 1958. By 1976 it was no longer visible and could not be located. Now considered dead.	142924	931085
2010		UKHO 65496; Canmore 324083			Foul ground thought to be steel hawser. Amended to dead in 2005.	143063	931396



Appendix 3: Recorded Losses

Canmore ID	HER ID	EIAR ID	Name	Date of Loss	Description
217463	MWE147701		Fair Hibernian	1796	A full-rigged ship, with cargo of hemp, iron and deals, travelling from Petersburg to Dublin
271980		W8	Jane Nicholson	1826	Stornoway Harbour Entrance, Lewis, North Minch
282444		W9	Laurel	1849	Stornoway Harbour Entrance, Lewis, North Minch
217516		W7	Fisher Lassies	1894	Lugger wrecked in Stornoway outer harbour.
247758	MWE147856		Exile	19th century	Stornoway Harbour Entrance, Lewis, North Minch. May have returned to service after being stranded
296474		W12	Rap	1909	Steamship stranded at Stornoway Harbour
296503		W6	Comrade	1947	Steam Drifter that blew up at Stornoway
220829	MWE147635	W13	Unknown	20th century	Unknown Yawl, Stornoway Harbour Entrance, Lewis, North Minch
214587	MWE147524		Atlantic Proctor	20th century	Motor ship wrecked at Broag, Stornoway, Lewis, North Minch





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



FS 606559