Iarnród Éireann
Irish Rail

Rosslare ORE Hub

EIAR Technical Appendices

Technical Appendix 16:

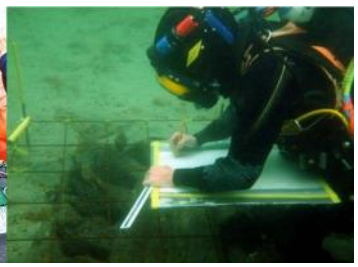
Cultural Heritage

venterra | GDG GAVIN & DOHERTY GEOSOLUTIONS | NICHOLAS O'DWYER an RSK company

Co-funded by the European Union

Rosslare Europort

Archaeological Desktop Assessment

Rosslare Europort

Archaeological Desktop Assessment

Issued	07/07/2023
Client	**Íarnród Éireann**
Project Director	**Niall Brady**
Report Author	**Niall Brady**
Beverley Studios, Church Terrace, Bray, Co. Wicklow	www.adco-ie.com

Contents

Abbreviations

ADCO -	Archaeological Diving Company Ltd
DHLGH -	Department of Housing, Local Government and Heritage
E -	Easting
EIAR -	Environmental Impact Assessment Report
EIS -	Environmental Impact Statement
ITM -	Irish Transverse Mercator
N -	Northing
NGR -	National Grid Reference
NIAH -	National Inventory of Architectural Heritage
OD -	Ordnance Datum
RMP -	Record of Monuments and Places
SMR -	Sites and Monuments Record
UAIA -	Underwater Archaeological Impact Assessment

List of Figures

List of Plates

Executive Summary

Subject: Desktop assessment
Location: Ballygerry, Co. Wexford
ITM: 712968E 612538N
Licences: n/a
Planning ref: pre-planning

Introduction

The archaeological desktop assessment is based on a review of publicly-accessible data sets that record the known archaeological sites under water and on land maintained by the Department of Housing, Local Government and Heritage. A walkover inspection was also completed. The purpose of the assessment is to inform the known archaeological constraints within the project area that will provide input to the final project design.

Policy and guidance

The principal legislations and guidance regulating archaeological work on land and underwater are listed.

Receiving environment

The development of the shoreline at Rosslare is associated with the construction of a harbour at the end of the nineteenth century to facilitate steam ferry traffic between Ireland and the United Kingdom.

The integral nature of a railway connection to the pier head reflects the original association with the Great Western Railway.

More recent reclamation to the west of the original harbour has reclaimed much of the foreshore. The small harbour, Ballygeary Harbour, was constructed during this reclamation to provide a haven for local fishermen.

A series of cultural heritage sites are recorded to the south of the port outside the Foreshore Licence Area (FLA). A single known cultural heritage site is located within the FLA (the Lighthouse at the pier head, NIAH15704829.

The archaeological sites in proximity to but outside the FLA comprise two historic shipwreck site locations and four terrestrial archaeological sites.

Archaeological monitoring of dredging activities associated with maintaining the approach channel in recent years has been carried out. No significant new observations have been made.

Impact assessment

The Foreshore Licence Application Area measures 220ha in total. The proposed development to the west of the current port area will include the construction of new breakwaters, infill of the foreshore, the development of a new berth and a new small

boat harbour to replace Ballygeary Harbour. These works will include capital dredging, which represents a direct impact on the seabed deposits, and reclamation.

The archaeological risk lies in the potential for new discoveries to arise as a result of the capital dredging works, while the inshore area to be reclaimed retains the potential for archaeological to lie buried under the covering sands.

Recommendations

Marine geophysical survey of the proposed reclamation area. This would include multibeam bathymetry, high resolution side-scan sonar, magnetometry survey and sub-bottom profiling. The focus of such survey would be to help determine the presence of archaeological elements comprising principally submerged land surfaces and shipwreck.

Archaeological underwater inspection/diver-truthing of target features identified in the marine geophysical survey data sets and associated data, to clarify the archaeological risk associated with such targets.

Archaeological input to and review of Geotechnical Investigations that will be required to inform the project design.

Archaeological intertidal survey.

Archaeological monitoring of ground and seabed disturbances is anticipated as the principal mitigation during construction works.

A series of archaeological management measures are included in this report.

Recommendations are subject to the approval of the National Monuments Service at the Department of Housing, Local Government and Heritage.

1.0 Introduction

The Archaeological Diving Company Ltd (ADCO) has carried out an archaeological Desktop Survey for Iarnród Éireann to inform the project design for the Rosslare Europort Offshore Renewables Energy Hub (OREH) project at Rosslare Europort in Ballygerry townland, Co. Wexford (Figure 1). The report fulfils foreshore license condition FL007509, condition 18.a.

The assessment is based on a review of publicly-accessible data sets that record the known archaeological sites under water and on land maintained by the Department of Housing, Local Government and Heritage. A walkover inspection was also completed.

2.0 Policy and guidance

The following guidance documents are considered:

Document	Focus	Outputs include
National Monuments Act 1930 to 2014	Provide statutory protection to archaeological features, structures and artefacts that exist above and below ground on land and under water	Sites and Monuments Record (SMR) Register of Monuments and Places (RMP) Historic Shipwreck Inventory (HSI) National Museum of Ireland artefact registrations
Planning and Development Acts 2000 to 2001	Part IV provides for the statutory protection of structures, namely Protected Structures, which are a reserved function of the Local Authorities	Record of Protected Structures (RPS)
Framework and Principles for the Protection of Archaeological Heritage;	Guidelines addressed to practising archaeologists and Planning Authorities	Guidelines
Marine Geophysics Data Acquisition, Processing and Interpretation, Guidance Notes (English Heritage, 2013).	Guidelines addressed to practising maritime archaeologists, hydrographic surveyors and Planning Authorities	Guidelines
DAHGI Policy and Guidelines on Archaeological Excavation (1999).	Guidelines addressed to practising archaeologists and Planning Authorities	Guidelines
European Convention on the Protection of the Archaeological Heritage (Valetta Convention);	A significant international convention to which Ireland is a signatory that provides a guiding platform for the management and development of archaeological heritage	Principles and Guidelines

Document	Focus	Outputs include
United Nations Educational, Scientific and Cultural Organization (UNESCO) 2001 Convention on the Protection of Underwater Cultural Heritage sites	Provides a common legally binding framework to better identify, research and protect underwater heritage	Framework and Guidelines

Table 1: Principal legislation and guidance regulating archaeological work on land and under water in Ireland

3.0 Receiving environment

3.1 Cartographic sources

The historic Ordnance Survey First Edition map series (*c.* 1840) shows a natural shoreline of sand with some indication of rock (Figure 2). No constructed features are recorded at this time.

The development of the shoreline at Rosslare is associated with the construction of a harbour at the end of the nineteenth century to facilitate steam ferry traffic between Ireland and the United Kingdom.

The Ordnance Survey 25-inch map series (*c.* 1911) records Rosslare Pier (Figure 3). The open-ended nature of the pier head, and a note inserted along the line of the pier, indicate that the pier was still under construction. The map also records the steep slopes leading from high ground that overlooked the emerging rail line. Comparison with the First Edition map suggests that the slope was partly engineered, resulting in the formal division between the emerging settlement at the top of the slope and the new harbour area at the base. It also suggests that the shoreline was altered in places to accommodate the railway. Some level of reclamation can be anticipated to have been required. The construction of a Coastguard Station on the high ground, and the row of houses – Tuskar Dwellings – speaks to the formal development of the coastal settlement.

The integral nature of a railway connection to the pier head reflects the original association with the Great Western Railway, which was first developed in 1906.

The Ordnance Survey Third Edition map series (1936) show the pier complete, with the pier head serving as the Harbour Station, complete with a lighthouse, train rails, a Goods Shed and mooring posts (Figure 4).

More recent reclamation in the 1980s to the west of the original harbour to facilitate RoRo storage has infilled much of the foreshore, where it is understood local fishermen would formerly pull their boats ashore onto the hard (Figure 5). The small harbour, Ballygeary Harbour, was constructed during this reclamation to provide a haven for local fishermen.

3.2 Recorded sites and features

A series of cultural heritage sites are recorded to the south of the port outside the Foreshore Licence Area (FLA), which include six archaeological sites and a number of more recent buildings that are listed in the National Inventory of Architectural Heritage (NIAH) (Table 2, Figure 1). A single known cultural heritage site is located within the FLA; namely, the Lighthouse at the pier head, which is recorded as NIAH 15704829.

Register	Reference	Site Type	Site Name	Within FLA	Distance from FLA
HSI	W17556	Shipwreck	*Success (Part of)*, fishing trawler lost in 1982	×	490m E
HSI	W10425	Shipwreck	Unknown	×	40m S
SMR	WX048-018	Archaeological site	Windmill	×	150m S
SMR	WX048-0155	Archaeological site	Excavation site	×	160m S
SMR	WX048-017	Archaeological site	17th-century House	×	490m S
NIAH	15704829	Historic Structure	Lighthouse	✓	Within FLA
NIAH	15704834	Historic Structure	Lighthouse Keeper's House	×	220m S
NIAH	15704833	Historic Structure	Coastguard Station	×	240m S
NIAH	15704835	Historic Structure	Lifeboat Station	×	320m S
NIAH	15704836	Historic Structure	Harbour House	×	340m S
NIAH	15704831	Historic Structure	House	×	330m S
NIAH	15704832	Historic Structure		×	340m S
NIAH	15704830	Historic Structure	House	×	340m S
NIAH	15704840	Historic Structure	Worker's House	×	340m S

Table 2: Known Cultural Heritage sites within Foreshore Licence Area and within 500m outside the Foreshore Licence Area.

HSI: Historic Shipwreck Inventory; SMR: Sites and Monuments Record; NIAH: National Inventory of Architectural Heritage

The archaeological sites in proximity to but outside the FLA comprise two historic shipwreck site locations and four terrestrial archaeological sites. Wreck site W10425 is an historic account of shipwreck located outside and south of the FLA but there is little known about it. W17556 is located 490m east of the FLA and is the site of the trawler *Success (Part of)*, which was lost as a result of a collision event in 1982.

The location of ring ditch burials 1.1km to the southeast of the FLA (WX048-156), along with the site of a seventeenth-century house and a windmill to the southwest (WX048-017, WX048-018),

and a series of small pit features revealed by excavation also to the southwest (WX048-155) highlight the potential for archaeological remains to survive inshore.

The series of younger buildings located in the village to the south of the port and outside the FLA chart the historic of Lifeboat and Coastguard stations that were developed in the nineteenth century.

The only recorded cultural heritage site within the FLA is the lighthouse on the pier head, which was commissioned in 1906 and built by the Fishguard and Rosslare Railways and Harbours Company (NIAH 15704829). It is described as a free-standing single-bay two-stage lighthouse, constructed on a circular plan that is set on a mass concrete block pier. It comprises a sheet iron-covered battered wall in an iron frame on a braced or buttressed plinth with cast-iron spandrels supporting a cantilevered walkway with cast-iron railings centred on a cone-topped lantern.

The area to the west of the port, which is the subject of the proposed development does not retain known archaeological features. However, the potential for archaeology exists within its shallow sands. Research into early prehistoric activity around Ireland's coastline has yet to identify sub-tidal or intertidal archaeological sites in the Rosslare area.[1] The absence of recorded sites is not an indication of the absence of evidence but rather the absence of research and observations because the subject of intertidal and sub-tidal archaeology in Ireland is quite young and there is no national archaeological baseline survey of the shoreline completed. What is known comes from opportunities that have presented themselves. In the case of Rosslare, the shoreline as it existed in the nineteenth century is buried and reclaimed and while it is known that fishermen used to pull their boats ashore there is no formal record of the shoreline when it was exposed up to the 1980s.

3.3 Archaeological interventions

Maintenance dredging projects carried out by Iarnród Éireann along the approach channel into Rosslare have been archaeologically monitored in 2016 and 2021 by ADCO (licence numbers 16E0580 and 21E0066). The dredging extended around the pier head and into the harbour basin. No archaeologically significant material was observed, apart from a 6-inch rifle-loaded Palliser round that would have been shot from a muzzle-loaded gun. Such shells were carried on Iron-clad vessels of the Royal Navy during the late nineteenth century. The shell was not retained and was disposed of by the bomb squad.

3.4 Walkover inspection

A walkover inspection carried out on 16/06/2023 made the following observations.

[1] Kieran Westley and Peter Woodman, 'Ireland : submerged prehistoric sites and landscapes', in G. Bailey, N Galanidou, H. Peeters, H. Jöns, M Mennenga (eds), *The archaeology of Europe's drowned landscapes*. Coastal Research Library, 35 (Springer, 2020), pp 221-248. https://doi.org/10.1007/978-3-030-37367-2_11

The rail line servicing the pier head remains in place but is abandoned (Plate 1).

The land reclaimed for RoRo use has a rock-armoured shore (Plate 2).

Ballygeary Harbour is constructed using embanked gravel and boulders, and employs stone-filled kishes to provide vertical faces when needed (Plates 3–5)

4.0 Impact assessment

The Foreshore Licence Application Area measures 220ha in total.(Figure 1) The proposed development to the west of the current port area will include the construction of new breakwaters, infill of the foreshore, the development of a new berth and a new small boat harbour to replace Ballygeary Harbour. These works will include capital dredging, which represents a direct impact on the seabed deposits, and reclamation.

The archaeological risk lies in the potential for new discoveries to arise as a result of the capital dredging works, while the inshore area to be reclaimed retains the potential for archaeological features to lie buried under the covering sands.

5.0 Recommendations

5.1 Pre-construction recommendations

The following mitigation measures will inform the EIAR and are subject to archaeological consent:

- Marine geophysical survey of the proposed reclamation area. This would include multibeam bathymetry, high resolution side-scan sonar, magnetometry survey and sub-bottom profiling. The focus of such survey would be to help determine the presence of archaeological elements comprising principally submerged land surfaces and shipwreck.
- Archaeological underwater inspection/diver-truthing of target features identified in the marine geophysical survey data sets and associated data, to clarify the archaeological risk associated with such targets.
- Archaeological input to and review of Geotechnical Investigations. The archaeological interest is to observe the strata encountered and to consider the potential for recovery of deposits that may retain archaeological insight. This applies particularly to organic/peat remains as they can include palaeoenvironmental indicators that may be suitable for scientific dating analysis, such as radiocarbon dating. Artefacts may also be retained in these deposits.
- Archaeological intertidal survey.

5.2 Construction phase recommendations

The following mitigation measures will inform the construction phase and are subject to archaeological consent:

- Implementation of Archaeological Exclusion Zones (AEZs) will be applied around known heritage assets. The extent of these would vary depending upon the size of the heritage asset identified and would be agreed in consultation with the DHLGH as the development design progresses, and additional information becomes available.
- Implementation of an Archaeology Management Plan, setting out the principles and management actions for unexpected archaeological discoveries made during the course of development.
- Archaeological monitoring of ground and seabed disturbances is anticipated as the principal mitigation during construction works.

5.3 Archaeological management measures

The project sponsor will appoint an experienced underwater archaeologist to manage and resolve the archaeological requirement.

Archaeological interventions are licensed by the Department of Housing, Local Government and Heritage. The Licence applications take four working weeks to be processed and must be granted before archaeology-related site-work can commence. An excavation licence will be required for the monitoring work. Since 2017, excavation licence applications must be accompanied by a letter from the client on client letterhead that follows a prescribed format.

THE TIME SCALE works will be made available to the archaeologist, with information on where and when the various elements and ground disturbances will take place.

SUFFICIENT NOTICE. The project sponsor will provide sufficient notice to the archaeologist/s in advance of the investigations works commencing. This will allow for prompt arrival on site to undertake additional surveys and to monitor ground disturbances if required. As often happens, intervals may occur during the investigations phase. In this case, it will also be necessary to inform the archaeologist/s as to when ground disturbance works will recommence.

DISCOVERY OF ARCHAEOLOGICAL MATERIAL. In the event of archaeological features or material being uncovered during the investigations phase, any machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material.

ARCHAEOLOGICAL MATERIAL. Once the presence of archaeologically significant material is established, full archaeological recording of such material will be facilitated. If it is not possible for the construction works to avoid the material, full excavation is recommended. The extent and duration of excavation will be a matter for discussion between the project sponsor and the archaeological licensing authorities.

ARCHAEOLOGICAL TEAM. It is recommended that the core of a suitable archaeological team, be on standby to deal with any such rescue excavation. This will be complimented in the event of a full excavation.

SECURE TEMPORARY SITE OFFICES and facilities will be provided on or near those sites where excavation is required within the site boundary

SECURE WET AND DRY STORAGE for artefacts recovered during the course of the monitoring and related work should be provided on or near those sites within the site boundary where excavation is required.

ADEQUATE FUNDS to cover site work, post-excavation analysis, and any testing or conservation work required will be made available.

MACHINERY TRAFFIC during construction will be restricted as to avoid any of the selected sites and their environs.

SPOIL will not be dumped on any of the selected sites or their environs.

POST-INVESTIGATIONS PROJECT REPORT AND ARCHIVE. It is a condition of archaeological licensing that a detailed project report is lodged with the DHLGH within 12 months of completion of site works. The report will be to publication standard and will include a full account, suitably illustrated, of all archaeological features, finds and stratigraphy, along with a discussion and specialist reports. Artefacts recovered during the works will meet the requirements of the National Museum of Ireland.

PLEASE NOTE: Recommendations are subject to the approval of the National Monuments Service at the Department of Housing, Local Government and Heritage.

7.0 References

Westley, Kieran and Woodman, Peter, 'Ireland : submerged prehistoric sites and landscapes', in G. Bailey, N Galanidou, H. Peeters, H. Jöns, M Mennenga (eds), *The archaeology of Europe's drowned landscapes*. Coastal Research Library, 35 (Springer, 2020), pp 221-248. https://doi.org/10.1007/978-3-030-37367-2_11

Online sources

Historic Environment Viewer, https://maps.archaeology.ie/HistoricEnvironment/

1009.

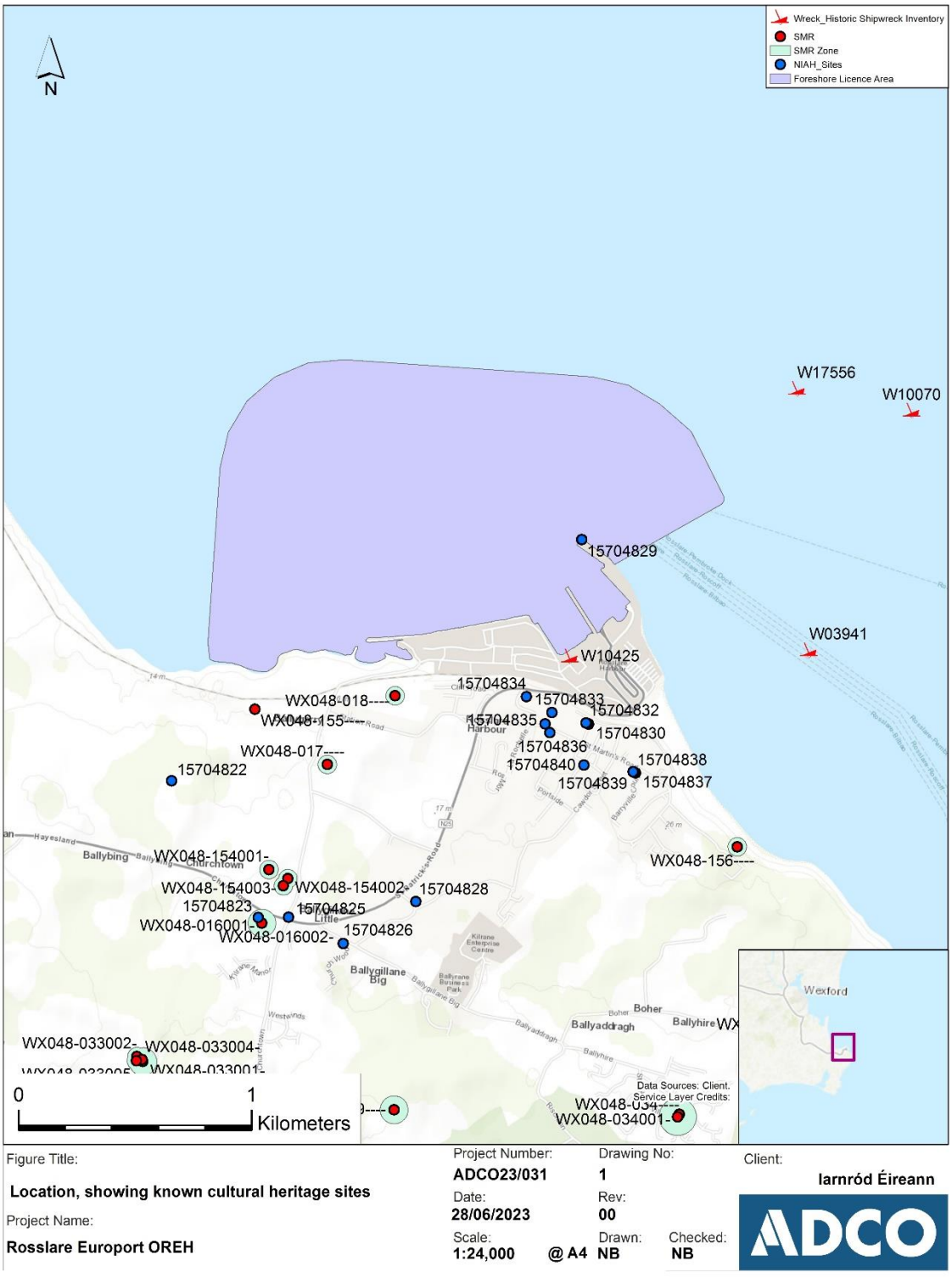


Figure Title:	Project Number:	Drawing No:	Client:
Location, showing known cultural heritage sites	**ADCO23/031**	**1**	**Iarnród Éireann**
Project Name:	Date:	Rev:	
Rosslare Europort OREH	**28/06/2023**	**00**	
	Scale: **1:24,000** @ A4	Drawn: **NB**	Checked: **NB**

Figure 1: Location map showing known cultural heritage sites.

Figure 2: Extract from Ordnance Survey First Edition six-inch sheet WX048, showing the coastline at Rosslare in *c.* 1840.

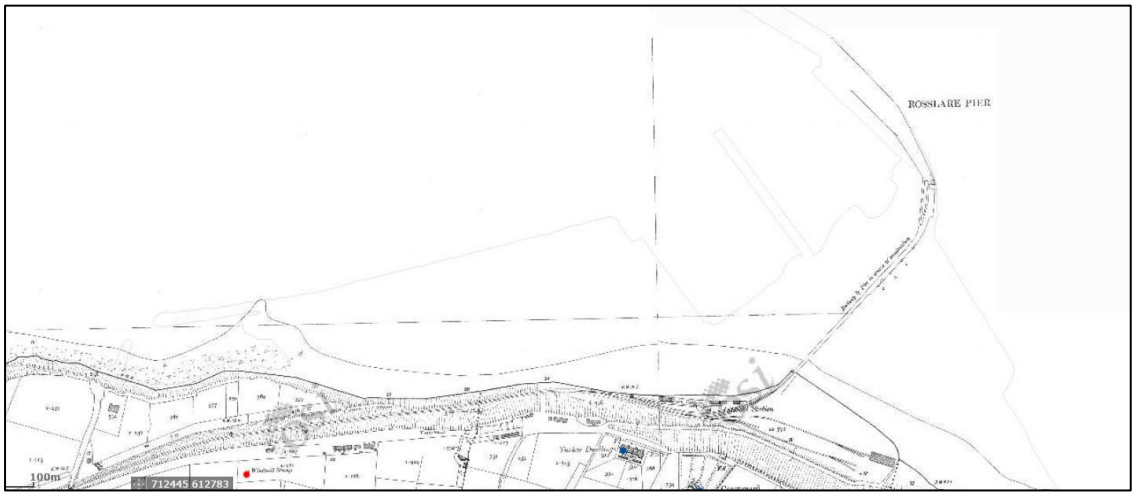


Figure 3: Extract from Ordnance Survey 25-inch sheet, showing the coastline at Rosslare in *c.* 1911.

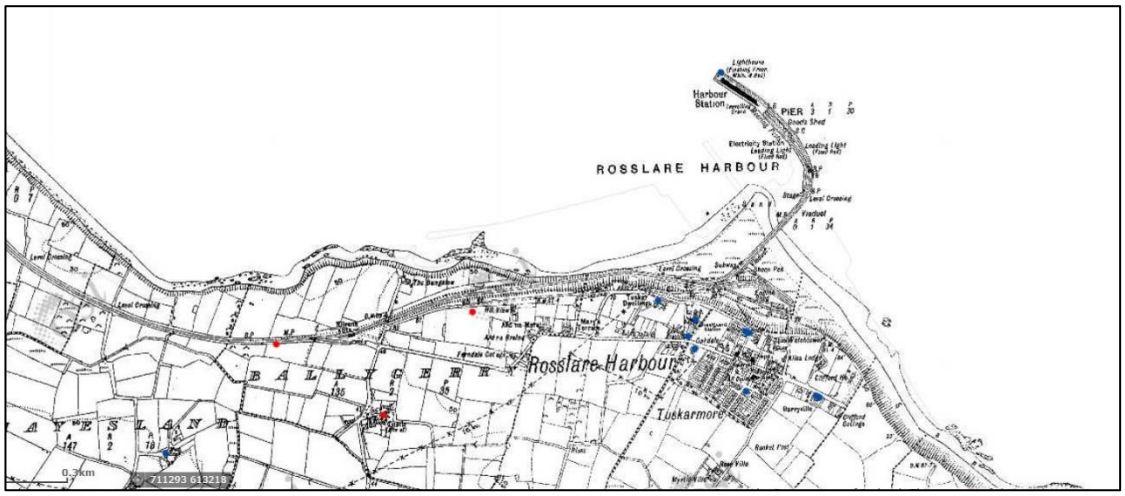


Figure 4: Extract from Ordnance Survey Third Edition six-inch sheet WX048, showing the coastline at Rosslare in *c.* 1936.

Figure 5: Extract from Ordnance Survey Ortho Imaging, showing the coastline at Rosslare in *c.* 2020.

Plate 1: View looking southwest along trainline that remains *in situ* if no longer in use.

Plate 2: View looking east along shoreline from RoRo terminal towards pier head.

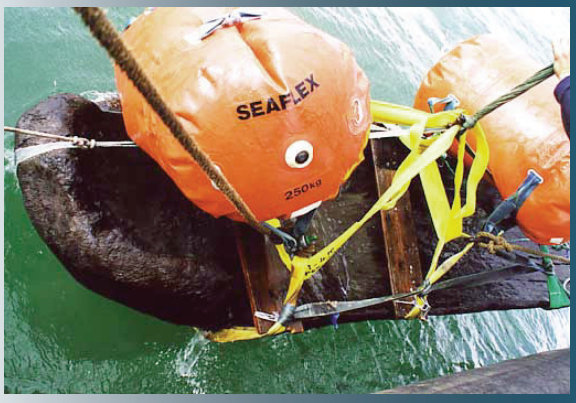
Plate 3: View looking west into Ballygeary Harbour.

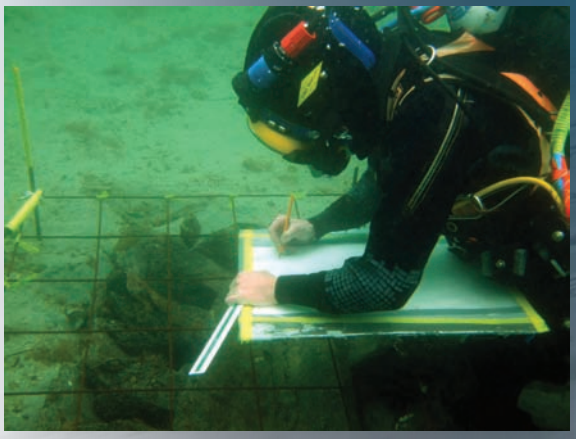
Plate 4: View looking west at northern breakwater in Ballygeary Harbour.

Plate 5: View looking east along northern breakwater in Ballygeary Harbour and across to the pier head in the distance.

ADCO

Leading Maritime Archaeology





Providing effective underwater and land-based archaeological solutions since 1999.

Conducting intelligent diving and underwater/marine inspections for the civils and scientific sectors.

Specialised in marine geophysical data interpretation.

ADCO works closely with clients from project inception, through EIS, to full construction stages, delivering the highest quality effectively.

ADCO Ltd.
Church Terrace, Bray
Co. Wicklow, Ireland

www.adco-ie.com
info@adco-ie.com
+353 (0) 1 908 1541

Archaeology Management Plan (AMP) in the event of the discovery of archaeological material during Marine Geophysical Survey

- Setting
- Scope
- Consent
- National Monuments Act
- Archaeological protocols when a discovery of archaeological/cultural material is made
- Project report and data to ADCO
- Q&A

ADCO
Leading Maritime Archaeology

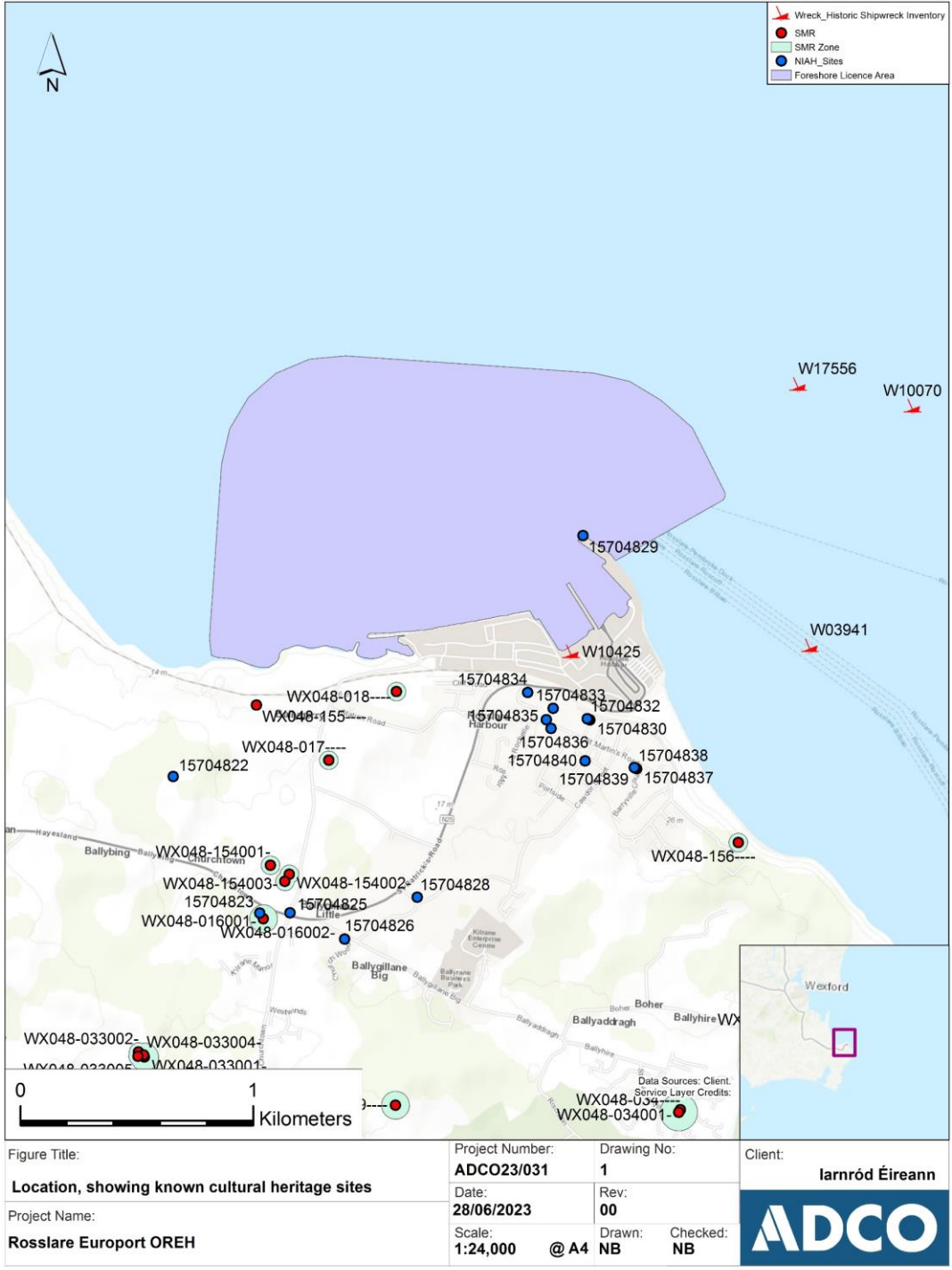
Toolbox Talk
Rosslare Europort OREH Boreholes 2023

Niall Brady PhD FSA
Archaeological Diving Company Ltd

nbrady@adco-ie.com
www.adco-ie.com

Setting

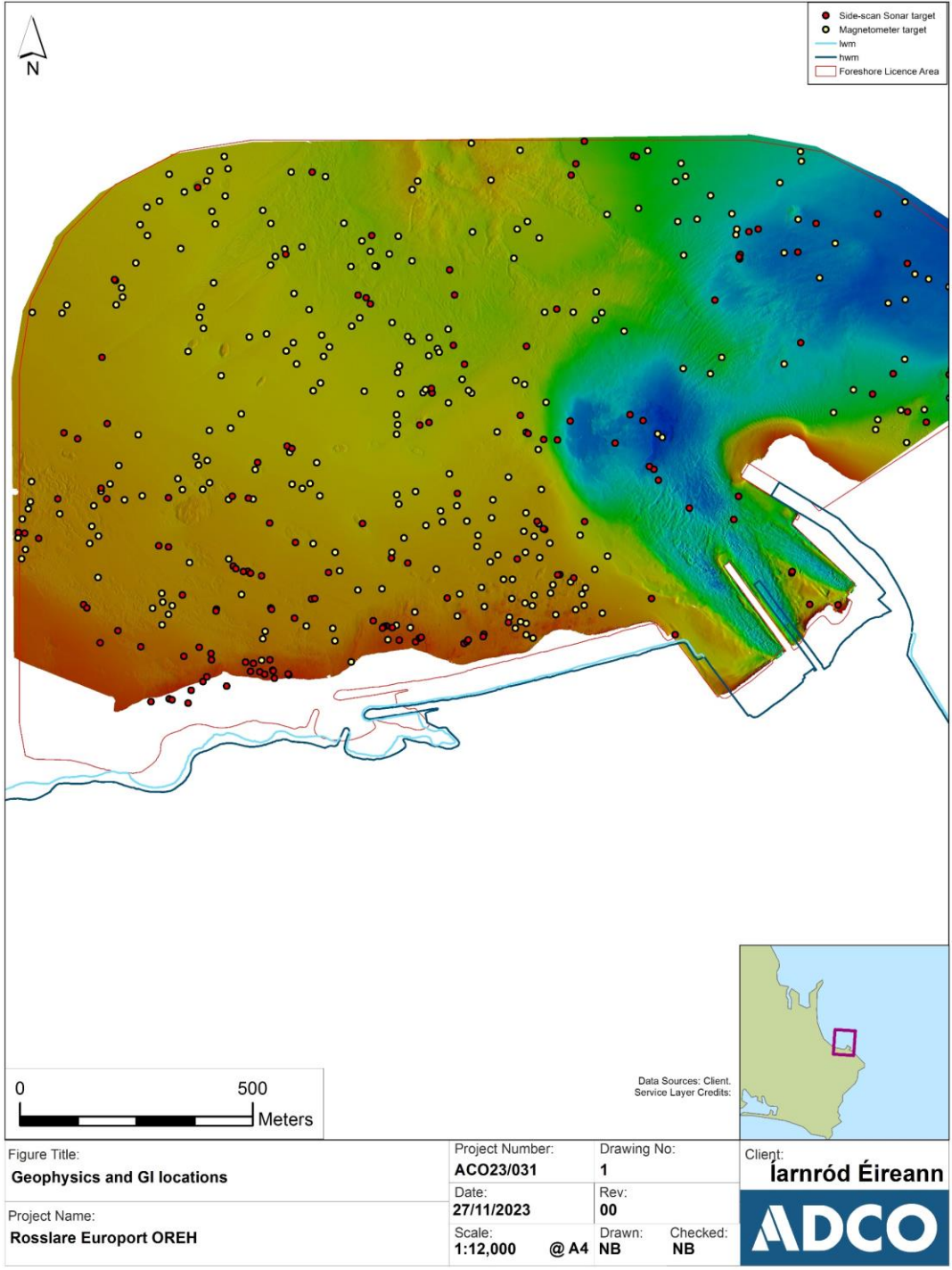
- There are no known archaeological sites within the project GI area.
- Nevertheless, the potential for identifying submerged palaeo coastlines exists.
- The potential also exists to identify shipwreck sites.



Leading Maritime Archaeology

Geophysical Survey

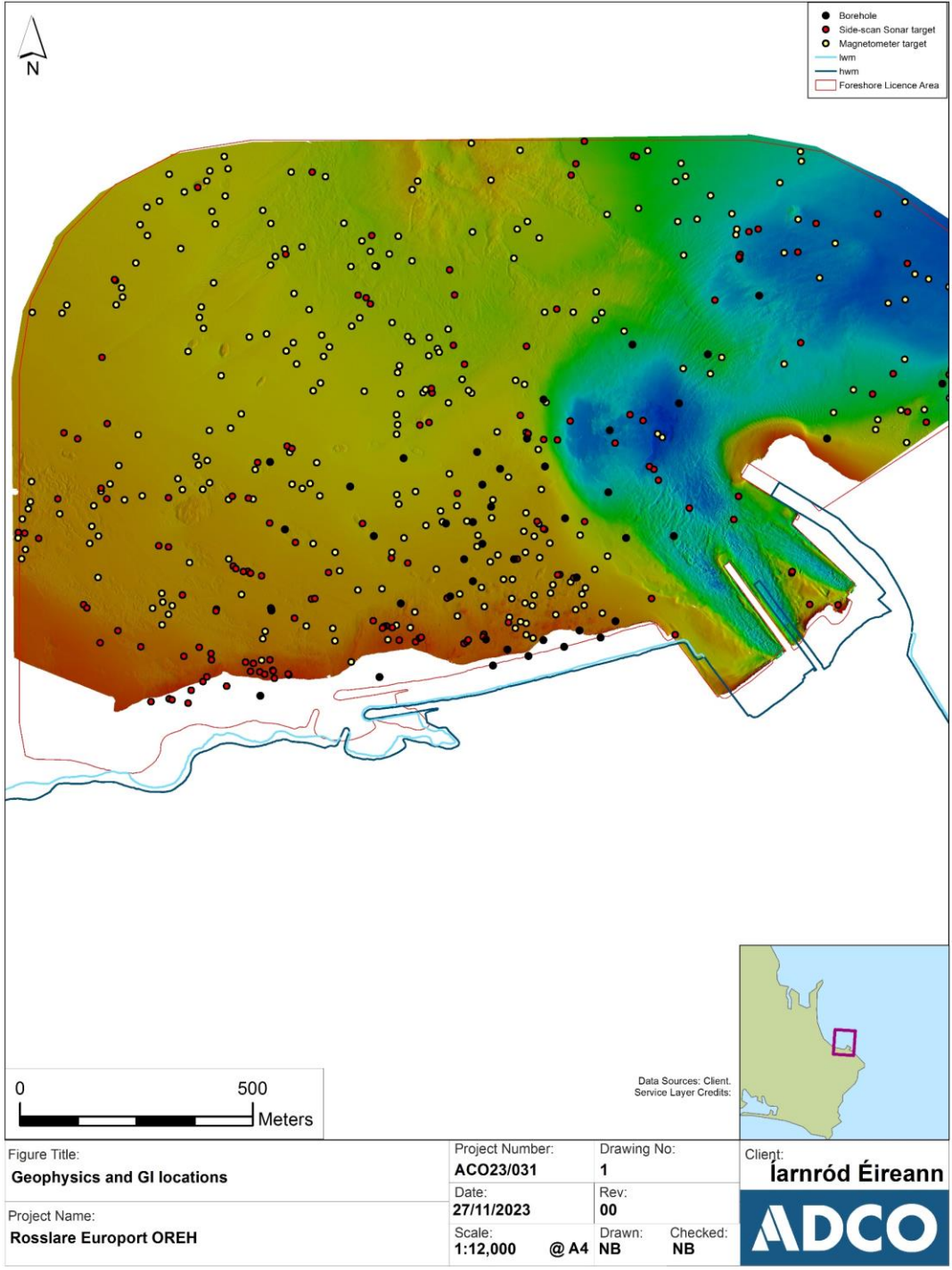
- Hydromaster's 2023 marine geophysical survey has recorded a large series of acoustic targets across the project area:
- 152 side-scan sonar targets
- 264 magnetometer targets
- With correlations in several instances



ADCO
Leading Maritime Archaeology

Geophysical Survey

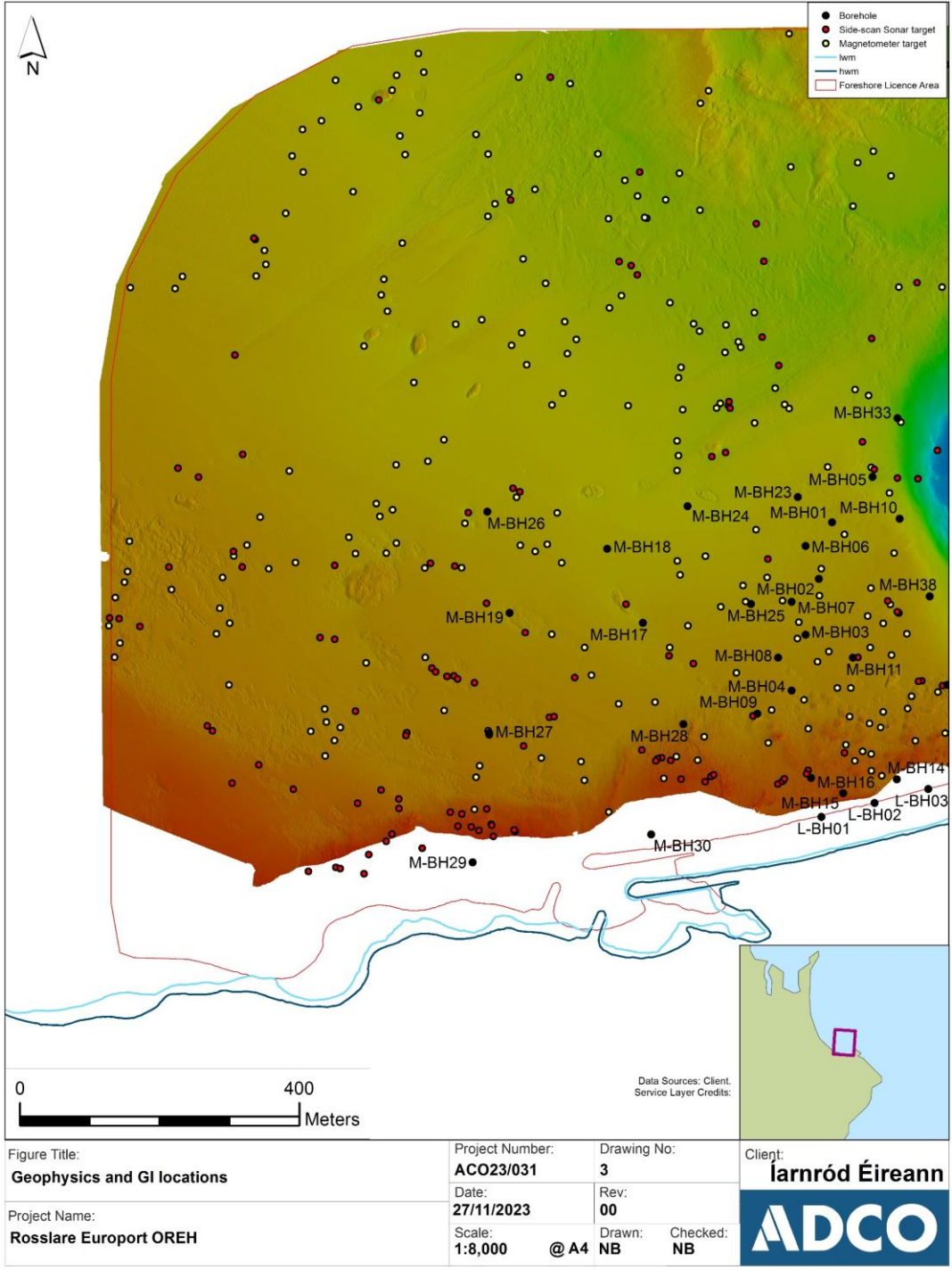
- The overlay of proposed Boreholes



ADCO
Leading Maritime Archaeology

Geophysical Survey

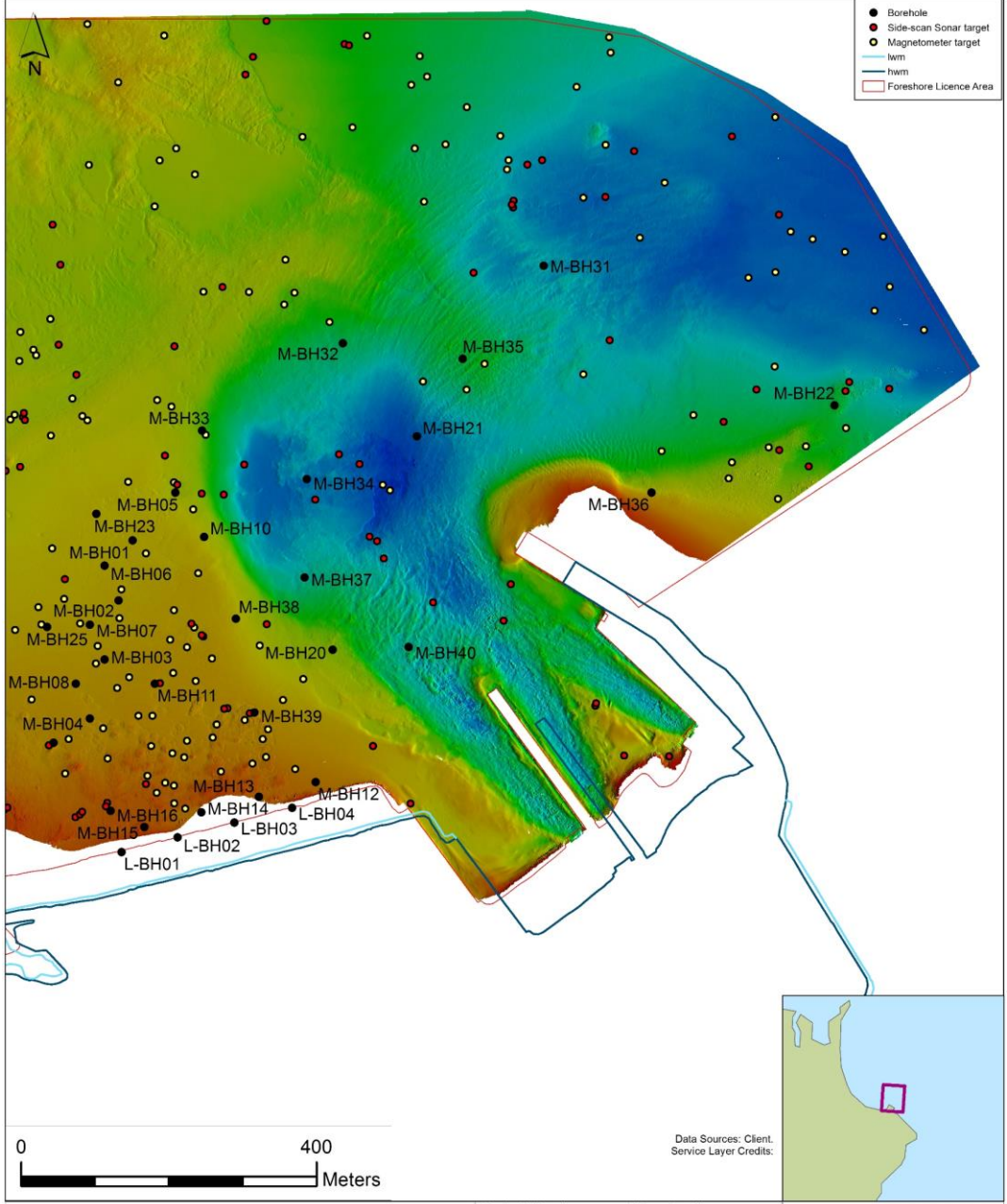
- The overlay of proposed Boreholes



ADCO
Leading Maritime Archaeology

Geophysical Survey

- The overlay of proposed Boreholes



ADCO
Leading Maritime Archaeology

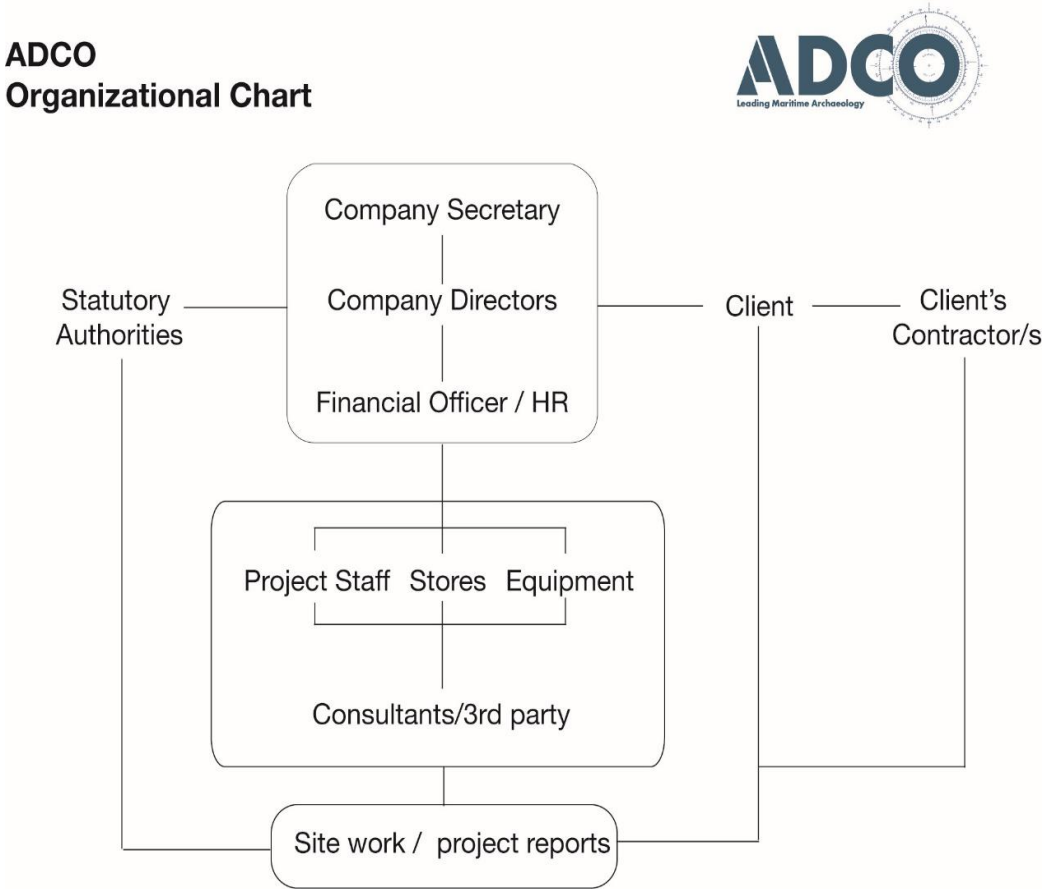
Scope

- The proposed work locations will not impact with any known archaeological asset.
- Archaeological monitoring will not take place.
- The proposed works will however take place in a location where there are many acoustic targets.
- The archaeological analysis of the acoustic data sets is ongoing.
- The Toolbox Talk advises of the archaeological risk and the protocols required in the event of archaeological findings.
- The results of the GI campaign will be made available to ADCO, who will complete an archaeological interpretation report/s on the data.

ADCO
Leading Maritime Archaeology

Communication

- ADCO is appointed by Íarnród Éireann as the project archaeologist to manage its archaeological requirement for the 2023 GI project, marine element.
- Correspondence and communication throughout the project is between ADCO and Íarnród Éireann/GDG.
- Correspondence can also be with Causeway provided Íarnród Éireann/GDG are copied in.
- ADCO is represented by Niall Brady, archaeologist and project manager, off-site.
- The Department of Housing, Local Government and Heritage (DHLGH) regulates the archaeological matters through the National Monuments Service (NMS), and communicates directly with ADCO.



Consent

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Form NMS 2 – 06

Application for a Consent to use a Detection Device

Section 2 (2) of the National Monuments (Amendment) Act 1987

- The GI work does not require archaeological licensed consent.
- The GI work, however, is required to follow an Archaeology Management Plan protocol.

ADCO
Leading Maritime Archaeology

Archaeological Licensing & Requirements under the National Monuments Act, and now the Historic and Archaeological Heritage and Miscellaneous Provisions Bill 2023

- The discovery of archaeological material is required by law to be notified to the National Monuments Service within four (4) days of its discovery.
- The law applies to the contractor as finder and to Íarnród Éireann/GDG as project sponsor.
- The AMP presents a protocol to ensure that any such discovery complies with the law.

SI works, schedules

- The schedules for the works campaigns will be made available to ADCO, with information on where and when works will take place.
- The details of the works operation will be made available to ADCO.

SI works, daily reports

- Íarnród Éireann will include ADCO in the Daily Report communications that focus on progress of the works and observations therein.

SI works, archaeology

- Archaeological or cultural material may be defined as any material that is man-made or adapted by mankind to create an object or artefact.

ADCO
Leading Maritime Archaeology

SI works, archaeology

- In the event that archaeological/cultural material or potential archaeological/cultural material is identified during the SI works, Íarnród Éireann /GDG will ensure that the source sample is logged and recorded, and the information communicated to ADCO immediately. The record will include:

    1. Date of observation
    2. Nature of sample
    3. Sample number
    4. Location coordinates
    5. Photographic images

Pottery

Ship's timbers

SI works, archaeology

- In addition, **the material will be maintained in a waterlogged condition** in sea water from the survey area and stored in a sealed container.
- ADCO will determine when a feature or material is significant.
- ADCO will inform Íarnród Éireann /GDG and the DHLGH.
- <u>All archaeological samples observed during the works will be transferred to shore in Ireland prior to the departure of the GI vessel/s</u>.

Archaeological protocols when a significant discovery is made

In the event of archaeologically or culturally significant features or material being uncovered during the GI works, such as ship's timber or flint tools, the following step process will be activated:

STEP 1

1. The contractor will report the observations to Íarnród Éireann /GDG's representative.

2. Íarnród Éireann /GDG representative will report the observations to ADCO.

3. ADCO will determine the archaeological significance of the observation.

ADCO
Leading Maritime Archaeology

Archaeological protocols when a significant discovery is made

STEP 2

1. The borehole being excavated will continue to termination, unless advised otherwise by ADCO/DHLGH.

2. The record of the full borehole will be made available to ADCO.

3. An **exclusion zone** will be applied to the proposed find location and machine work will cease within the exclusion zone to allow for archaeological inspection of any such material.

4. The size of the exclusion zone will be informed by ADCO's observations.

ADCO
Leading Maritime Archaeology

Archaeological protocols when a significant discovery is made

STEP 3

1. Archaeological inspection would take place after the works platform has left the site area and it is safe to access the location.

Exiting the site

- The National Monuments Act makes it illegal to leave Ireland with archaeological objects without the necessary archaeological licence to do so.
- It is also determined to be illegal to import archaeological objects into another jurisdiction without the requisite import licence.
- Consequently, it is a requirement that any archaeological objects recovered during the GI campaign are transferred from the works vessel to shore in an Irish port before the works vessel leaves Irish waters, where the objects will be handed over to ADCO.

ADCO
Leading Maritime Archaeology

Project report and data to ADCO

- ADCO will be provided with the project data report that describes the findings, and will serve as the basis for ADCO to prepare an archaeological report for submission to the DHLGH.

Leading Maritime Archaeology

The archaeological review of the marine geophysical survey data sets is ongoing and must be reported to the National Monuments Service

GI works will avoid locations with acoustic targets are located until permitted by NMS

Q&A

Niall Brady PhD FSA
Archaeological Diving Company Ltd

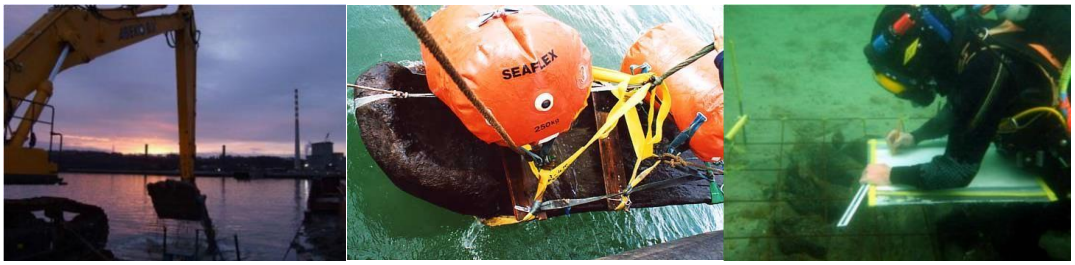
nbrady@adco-ie.com
www.adco-ie.com

Rosslare Europort OREH

Underwater Archaeological Impact Assessment

GI Campaign 2023, position review

01/12/2023



Rosslare Europort OREH

Underwater Archaeological Impact Assessment

GI Campaign 2023, position review

01/12/2023

Final	01/12/2023
Client	**Íarnród Éireann**
Project Director	**Niall Brady**
Report Author	**Niall Brady**
Beverley Studios, Church Terrace, Bray, Co. Wicklow	www.adco-ie.com

Contents

Abbreviations

ADCO -	Archaeological Diving Company Ltd
AIA -	Archaeological Impact Assessment
BH -	Borehole
CPT -	Cone Penetration Test
CR -	Cable Route
DHLGH -	Department of Housing, Local Government and Heritage
E -	Easting
ECR -	Export Cable Route
GI -	Geotechnical Investigations
ITM -	Irish Transverse Mercator
LAT -	Lowest Astronomical Tide
MHW -	Mean High Water
N -	Northing
NGR -	National Grid Reference
OD -	Ordnance Datum
SMR -	Sites and Monuments Record
UAIA -	Underwater Archaeological Impact Assessment
UTM -	Universal Transverse Mercator
VC -	Vibrocore

List of Figures

List of Plates

1.0 Overview

The Rosslare Europort OREH project is meeting its Foreshore Licence conditions as set out in FS007509, within which Condition 18d and 19 require marine archaeological assessment of proposed Geotechnical Investigation locations based on existing information informed by marine geophysical survey.

A series of marine archaeological reports have informed the development of the project, including desktop assessment, and an archaeological interpretation report of marine geophysical survey data acquired across the Foreshore Licence Area under license granted by the Department of Housing; Local Government and Heritage (DHLGH), licenses 23D0102 and 22R0407.[1]

The Geotechnical Investigations (GI) will comprise 40 Marine Boreholes, 60 Marine Vibrocores and 40 Marine Cone Penetration Tests (CPT). Four boreholes are proposed along the shoreline. In addition, two FPOD buoys and two wave buoys will be established for monitoring purposes (Table 1).

The boreholes will extend into the underlying bedrock. The Vibrocore and CPTs will be shallow impacts.

Marine geophysical survey recorded numbers of acoustic contacts across the GI works area. The contacts include side-scan sonar and magnetometer targets. The majority of the targets indicate the presence of boulders across the seabed surface, and some element of debris. It is suggested that the debris relates to abandoned fishing gear and associated materials.

No shipwreck sites were identified in the data sets.

No indications of submerged landscape were identified in the data sets.

There is no requirement for Archaeological Exclusion Zones (AEZ) across the works area.

The observations are illustrated in Figures 1–3.

2.0 GI Campaign 2023

The borehole locations are presented in Table 1 and are illustrated in Figures 1–3.

Borehole	Target Depth (m)	ITM coords	
		Northing	Easting
M-BH01	15.00	613014.5203	712931.4424
M-BH02	12.50	612934.338	712912.025
M-BH03	12.50	612854.1556	712892.6076
M-BH04	10.00	612773.9732	712873.1902
M-BH05	15.00	613080.3713	712989.1761
M-BH06	15.00	612981.4327	712892.5626
M-BH07	10.00	612901.3077	712873.1591
M-BH08	10.00	612821.1253	712853.7416
M-BH09	10.00	612740.9429	712824.3242
M-BH10	12.50	613020.4468	713028.2652

[1] Niall Brady, 'Rosslare Europort, Archaeological Desktop Assessment' ADCO report for Íarnród Éireann, 2023; Niall Brady, 'Rosslare Europort, Marine Geophysical Survey, archaeological interpretation, 23D0102l; 23R0407', ADCO report for Íarnród Éireann, 2023.

M-BH11	10.00	612821.2435	712960.9709
M-BH12	10.00	612687.6488	713179.1483
M-BH13	10.00	612667.5365	713101.7234
M-BH14	10.00	612647.4217	713024.2886
M-BH15	10.00	612627.3054	712946.8481
M-BH16	10.00	612648.5018	712900.7578
M-BH17	10.00	612870.8631	712659.5883
M-BH18	10.00	612977.2347	712609.4227
M-BH19	10.00	612884.5647	712468.9374
M-BH20	10.00	612866.5678	713201.5214
M-BH21	12.50	613155.8573	713316.1502
M-BH22	10.00	613198.0495	713881.6469
M-BH23	10.00	613051.3327	712881.7643
M-BH24	10.00	613038.1849	712724.0474
M-BH25	10.00	612898.0744	712815.0009
M-BH26	10.00	613030.1291	712436.8507
M-BH27	10.00	612710.8829	712439.9385
M-BH28	10.00	612726.1541	712718.0418
M-BH29	10.00	612528.0694	712415.5298
M-BH30	10.00	612567.6291	712672.4751
M-BH31	12.50	613386.5298	713487.6193
M-BH32	12.50	613281.5875	713215.6568
M-BH33	10.00	613163.7644	713025.4021
M-BH34	10.00	613098.4767	713166.7047
M-BH35	12.50	613261.1501	713378.0245
M-BH36	10.00	613079.9406	713634.3662
M-BH37	10.00	612964.7169	713164.1631
M-BH38	10.00	612909.4835	713070.8996
M-BH39	10.00	612782.4826	713096.4122
M-BH40	10.00	612871.3705	713304.5481
Land BHs			
L-BH01	10.00	612592.8358	712915.9622
L-BH02	10.00	612613.0558	712991.8708
L-BH03	10.00	612633.1708	713069.3007
L-BH04	10.00	612653.2858	713146.7306
Buoys			
FPOD Array 1	n/a	613076	712690
FPOD Array 2	n/a	613653	712491
Wave Buoy 1	n/a	613354	713986
Wave Buoy 2	n/a	613697	713315

Table 1: Proposed GI locations, 2023.

The locations are generally at a remove from recorded acoustic targets. The locations overlap recorded acoustic targets in 10 instances (Table 2).

Borehole	ITM cords		Acoustic contact	
	Northing	Easting		
M-BH01	613014.5203	712931.4424	No acoustic target recorded	
M-BH02	612934.338	712912.025	No acoustic target recorded	
M-BH03	612854.1556	712892.6076	Magnetometer target recorded	✓
M-BH04	612773.9732	712873.1902	No acoustic target recorded	
M-BH05	613080.3713	712989.1761	Magnetometer target recorded; bedrock recorded	✓
M-BH06	612981.4327	712892.5626	No acoustic target recorded	
M-BH07	612901.3077	712873.1591	Magnetometer target recorded	✓
M-BH08	612821.1253	712853.7416	No acoustic target recorded	
M-BH09	612740.9429	712824.3242	Boulders recorded	✓
M-BH10	613020.4468	713028.2652	No acoustic target recorded	
M-BH11	612821.2435	712960.9709	Bedrock recorded	✓
M-BH12	612687.6488	713179.1483	No acoustic target recorded	
M-BH13	612667.5365	713101.7234	No acoustic target recorded	
M-BH14	612647.4217	713024.2886	No acoustic target recorded	
M-BH15	612627.3054	712946.8481	No acoustic target recorded	
M-BH16	612648.5018	712900.7578	Boulders recorded	✓
M-BH17	612870.8631	712659.5883	No acoustic target recorded	
M-BH18	612977.2347	712609.4227	No acoustic target recorded	
M-BH19	612884.5647	712468.9374	No acoustic target recorded	
M-BH20	612866.5678	713201.5214	No acoustic target recorded	
M-BH21	613155.8573	713316.1502	No acoustic target recorded	
M-BH22	613198.0495	713881.6469	No acoustic target recorded	
M-BH23	613051.3327	712881.7643	No acoustic target recorded	
M-BH24	613038.1849	712724.0474	No acoustic target recorded	
M-BH25	612898.0744	712815.0009	Magnetometer target recorded	✓
M-BH26	613030.1291	712436.8507	No acoustic target recorded	
M-BH27	612710.8829	712439.9385	Magnetometer target recorded	✓
M-BH28	612726.1541	712718.0418	No acoustic target recorded	
M-BH29	612528.0694	712415.5298	Outside marine geophysical survey area	
M-BH30	612567.6291	712672.4751	Outside marine geophysical survey area	
M-BH31	613386.5298	713487.6193	No acoustic target recorded	
M-BH32	613281.5875	713215.6568	No acoustic target recorded	
M-BH33	613163.7644	713025.4021	Magnetometer target recorded	✓
M-BH34	613098.4767	713166.7047	No acoustic target recorded	
M-BH35	613261.1501	713378.0245	No acoustic target recorded	
M-BH36	613079.9406	713634.3662	No acoustic target recorded	
M-BH37	612964.7169	713164.1631	No acoustic target recorded	
M-BH38	612909.4835	713070.8996	No acoustic target recorded	
M-BH39	612782.4826	713096.4122	Boulder target recorded; Magnetometer target recorded	✓
M-BH40	612871.3705	713304.5481	No acoustic target recorded	

Borehole	ITM cords		Acoustic contact	
	Northing	Easting		
Land BHs				
L-BH01	612592.8358	712915.9622	Area of rock armour protection	
L-BH02	612613.0558	712991.8708	Area of rock armour protection	
L-BH03	612633.1708	713069.3007	Area of rock armour protection	
L-BH04	612653.2858	713146.7306	Area of rock armour protection	
Buoys				
FPOD Array 1	613076	712690	No acoustic target recorded	
FPOD Array 2	613653	712491	Magnetometer target recorded	✓
Wave Buoy 1	613354	713986	No acoustic target recorded	
Wave Buoy 2	613697	713315	No acoustic target recorded	

3.0 GI Campaign, Method

The GI campaign will be carried out by the contractor Causeway Geotech. A jack-up barge will serve as the works platform: *Causeway Giant* (Plate 1). The barge measures 24m by 7m length by width. The four spud legs each measure 1.22m diameter and are 36m long. The campaign is programmed to commence immediately.

The spud legs will impact on the seabed.

The buoys will be provided by Techworks and placed by Alphamarine.

4.0 Conclusion and recommendation

The ten GI locations where impacts will occur at recorded acoustic contacts will take place over boulders, bedrock or magnetometer targets.

The one buoy location where a buoy is to be placed next to an acoustic contact is next to a magnetormeter reading of low amplitude where there is no target presence visible on the seabed surface, suggesting that either the target is buried or that the amplitude variation is natural in origin.

The proposed GI locations will not impact with any known archaeological asset.

The proposed buoy locations will not impact with any known archaeological asset.

The need to avoid impact locations with recorded acoustic targets should not be required.

Archaeological monitoring will not take place.

A Toolbox Talk has been given to the Causeway crew in advance of site works commencing, advising the crew of the archaeological risk and the protocols required in the event of archaeological findings.

The results of the GI campaign will be made available to ADCO, who will complete an archaeological interpretation report on the data.

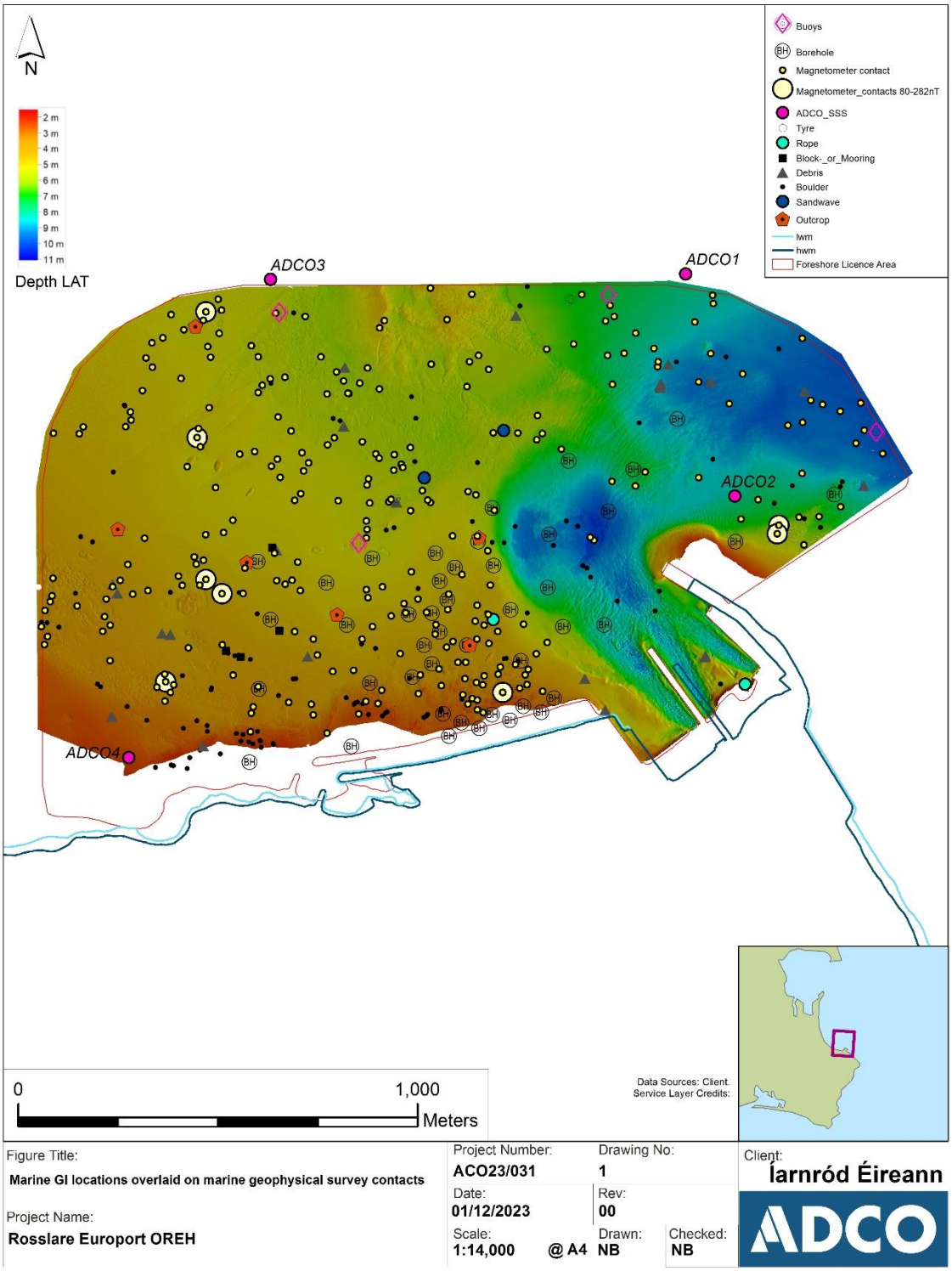


Figure 1: Proposed GI locations overlaid on marine geophysical survey contacts.

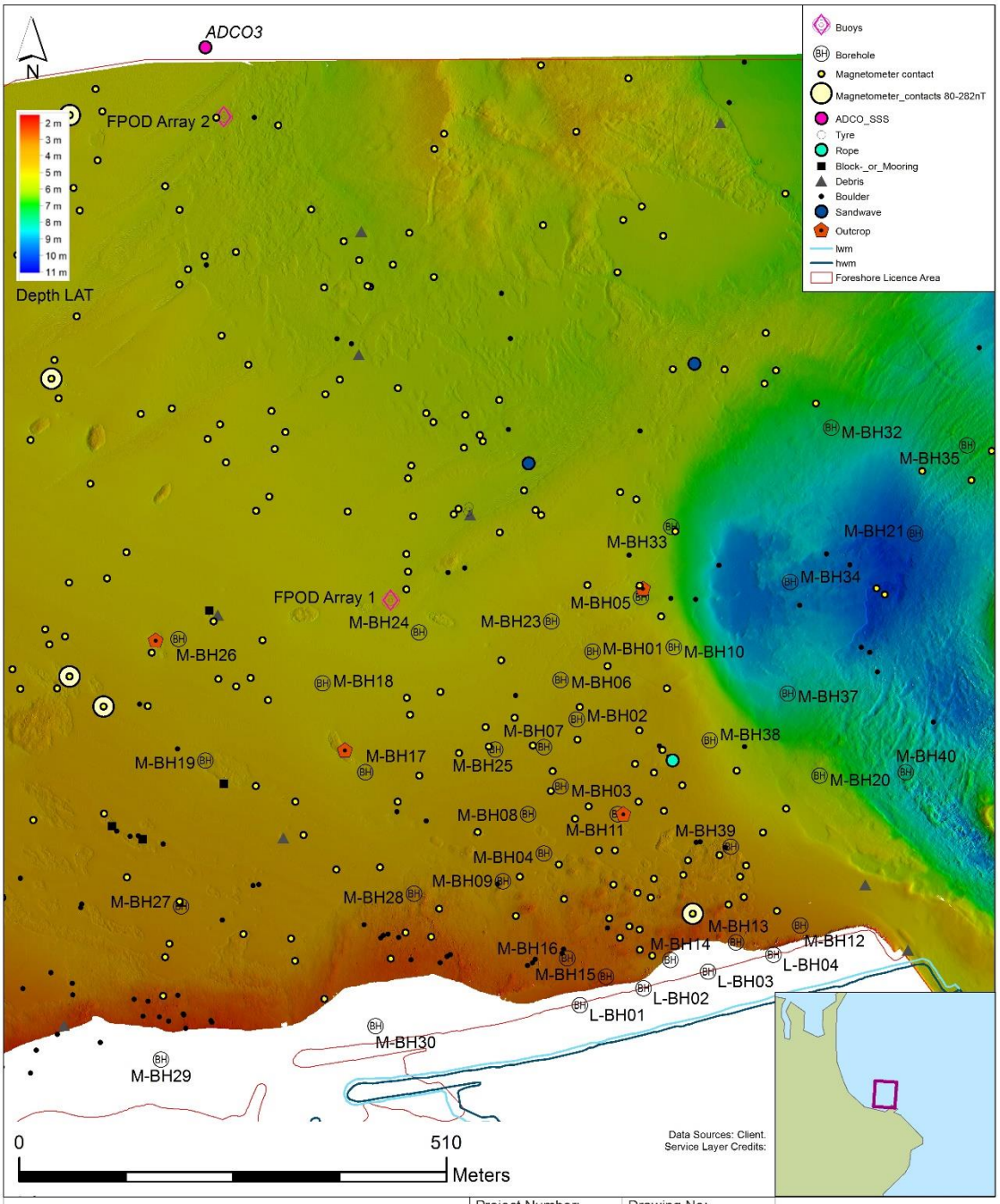


Figure 2: Proposed GI locations overlaid on marine geophysical survey contacts, Detail 1.

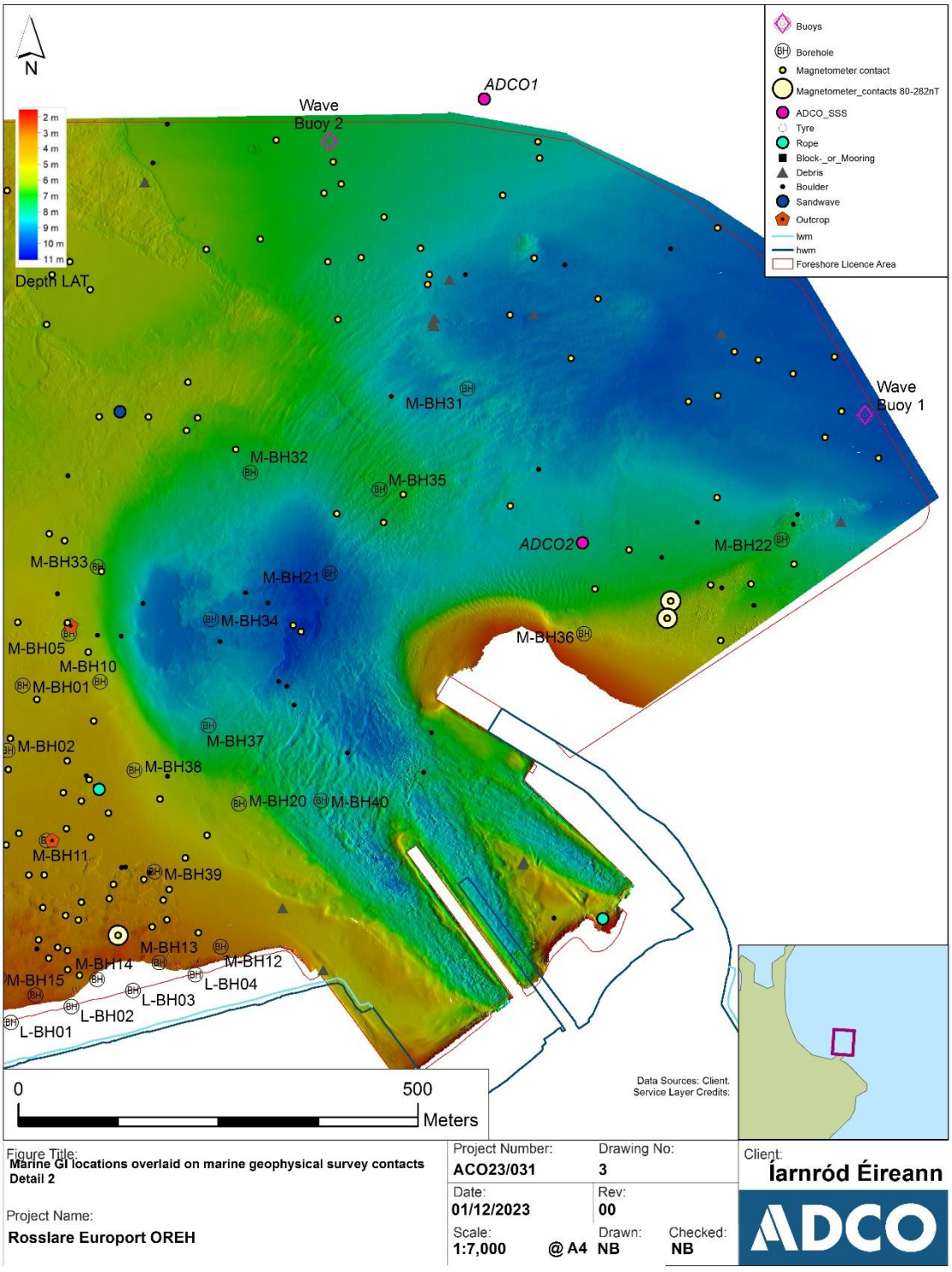
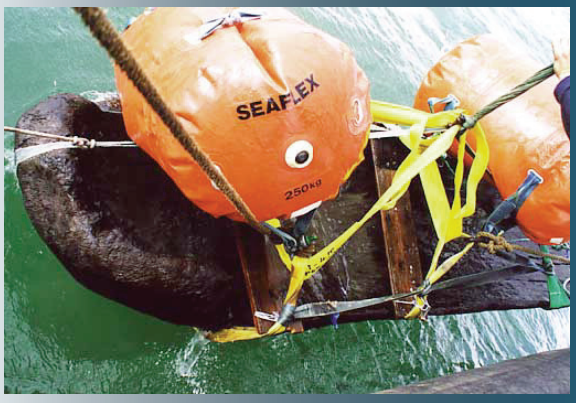


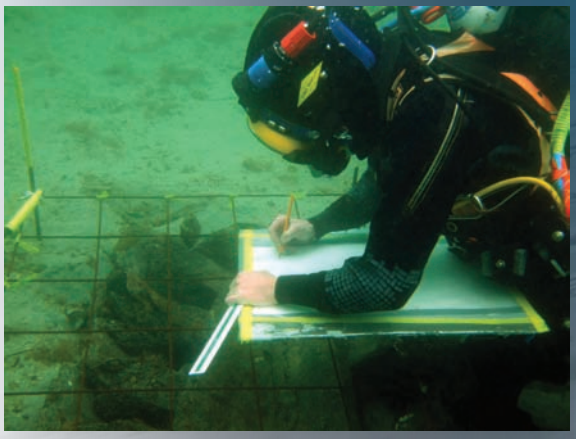
Figure 3: Proposed GI locations overlaid on marine geophysical survey contacts, Detail 2.

Plate 1: Causeway Giant 2*. Source: Causeway Geotech.*

ADCO

Leading Maritime Archaeology





Providing effective underwater and land-based archaeological solutions since 1999.

Conducting intelligent diving and underwater/marine inspections for the civils and scientific sectors.

Specialised in marine geophysical data interpretation.

ADCO works closely with clients from project inception, through EIS, to full construction stages, delivering the highest quality effectively.

ADCO Ltd.
Church Terrace, Bray
Co. Wicklow, Ireland

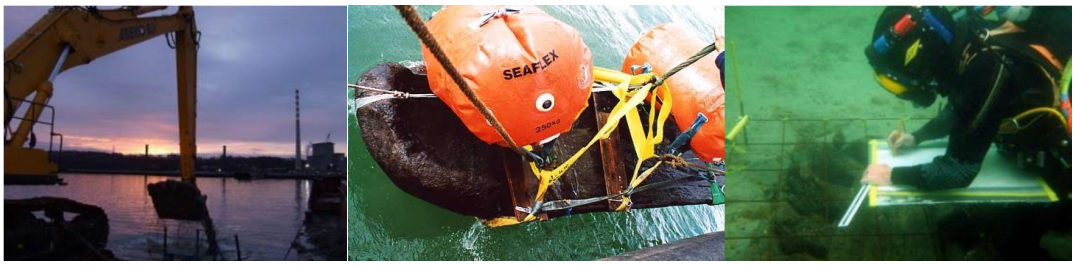
www.adco-ie.com
info@adco-ie.com
+353 (0) 1 908 1541

Rosslare Europort OREH

Marine Geophysical Survey

Archaeological Interpretation

23D0102; 23R0405



Rosslare Europort OREH

Marine Geophysical Survey

Archaeological Interpretation

23D0102; 23R0405

Final	29/11/2023
Client	**Íarnród Éireann**
Project Director	**Niall Brady**
Report Author	**Niall Brady**
Beverley Studios, Church Terrace, Bray, Co. Wicklow	www.adco-ie.com

Contents

Abbreviations

ADCO -	Archaeological Diving Company Ltd
AIA -	Archaeological Impact Assessment
DHLGH -	Department of Housing, Local Government and Heritage
E -	Easting
EIS -	Environmental Impact Statement
GI -	Geotechnical Investigations
ITM -	Irish Transverse Mercator
INFOMAR -	Integrated Mapping for the Sustainable Development of Ireland's Marine Resource
LAT -	Lowest Astronomical Tide
MAG -	Magnetometer
MHW -	Mean High Water
N -	Northing
NGR -	National Grid Reference
NMS -	National Monuments Service
OD -	Ordnance Datum
RMP -	Register of Monuments and Places
SBP -	Sub-bottom Profile
SI -	Site Investigations
SSS -	Side-Scan Sonar
UAIA -	Underwater Archaeological Impact Assessment
UAU -	Underwater Archaeology Unit

List of Figures

List of Plates

Executive Summary

Project: Rosslare Europort OREH
Location: Rosslare Harbour, Ballygerry townland, Co. Wexford
ITM 29N: 712914E 613130N (centre point)
Consent 23D0102 ; 23R0407
Subject: Archaeological review of marine geophysical survey data acquired across project area

Introduction

A Marine Geophysical Survey has been carried out within the Foreshore Licence Area associated with the Rosslare Europort Offshore Renewables Energy Hub project.

The purpose of the current report is to provide sufficient information to understand the nature and extent of the archaeological risk associated with the survey area by describing existing baseline information established from desk studies and from the 2023 site-specific survey.

Receiving environment

The potential exists for prehistoric material to be associated with submerged palaeocoastlines and for shipwreck, although no known archaeological discoveries of submerged landscape or shipwreck are recorded within the project area.

Marine geophysical survey 2023

The Marine geophysical survey completed in 2023 for the project under consent 23D0102 and 23R0407 included multibeam bathymetry, side-scan sonar, magnetometry and sub-bottom profile survey.

The present report focuses on a review and interpretation of the data sets acquired.

The extent of survey completed is robust and comprehensive.

The data shows confirms the sand and gravel substrate and indicates bedrock at depth.

A series of acoustic targets were recorded, comprising side-scan sonar and magnetometer targets. A series of ADCO observations were also made (ADCO1–ADCO4). The majority of the targets indicate the presence of boulders across the seabed surface, and some element of debris. It is suggested that the debris relates to abandoned fishing gear and associated materials.

No shipwreck sites were identified in the data sets.

No indications of submerged landscape were identified in the data sets.

Recommendations

The principal of avoidance with known archaeological sites and sites of archaeological potential is recommended. No Archaeological Exclusion Zones (AEZ) apply to the areas surveyed in 2023.

It is recommended that archaeological dive inspection is conducted at the location of ADCO4, to consider what function this contact feature might have served. Dive survey should extend to include a data gap in the southwestern sector.

The current report addresses Condition 18.b of the Foreshore Licence conditions, and is one part of a staged approach to managing the archaeological potential of the project area as set out in the Foreshore conditions.

The recommendations contained in this report are subject to the approval of the National Monuments Service (NMS) at the DHLGH.

1.0 Introduction

The Archaeological Diving Company Ltd (ADCO) is appointed by Íarnród Éireann as the project archaeologist for the Rosslare Europort Offshore Renewables Energy Hub (OREH) project, which proposes to reclaim an expanse of seabed to the west of the current harbour basin off Ballygerry townland, Co. Wexford, to create an extended area of hard-standing. A programme of work will facilitate the project, which includes archaeological impact assessment; marine geophysical survey to inform archaeological issues and engineering design; underwater archaeological inspection; geotechnical investigations to inform engineering design, and overall project reporting. The archaeological inputs are in accordance with Condition 18 set out in Foreshore Licence application FS007509. A desktop archaeological assessment is completed.[1] Preparations for underwater inspection are in process.[2] The current report considers the marine geophysical survey that was carried out in October 2023 by Hydromaster Ltd under archaeological consents applied for by ADCO and granted by the Department of Housing, Local Government and Heritage (DHLGH), references 23D0102 and 23R0407.[3]

The purpose of the current report is to provide sufficient information to understand the nature and extent of the archaeological risk associated with the survey area by describing existing baseline information established from desk studies and from the 2023 site-specific survey. Details relating to observations as a result of the 2023 site-specific survey are presented in Section 3.

The report also sets out at a high level the archaeological strategy and requirements expected to ensure that the integrity of the maritime cultural heritage is maintained and that any new discoveries which may come to light in the course of project works are observed, recorded and resolved where necessary. It is anticipated that the observations, assessment and recommendations will continue to be refined as the project develops.

2.0 Receiving environment[4]

The development of the shoreline at Rosslare is associated with the construction of a harbour at the end of the nineteenth century to facilitate steam ferry traffic between Ireland and the United Kingdom.

The integral nature of a railway connection to the pier head reflects the original association with the Great Western Railway.

[1] Niall Brady, 'Rosslare Europort, Archaeological Desktop Assessment' ADCO report for Íarnród Éireann, 2023.
[2] Dive Survey and Detection Device applications have been submitted by Rex Bangerter of ADCO to the Department of Housing, Local Government and Heritage.
[3] Marie Talarmin, 'Rosslare Europort Offshore Wind Hub, Geophysical Survey report. DRAFT', Hydromaster for Causeway Geotech, 2023.
[4] For fuller description, see Brady, Rosslare Europort, Archaeological Desktop Assessment'.

More recent reclamation to the west of the original harbour has reclaimed much of the foreshore. The small harbour, Ballygeary Harbour, was constructed during this reclamation to provide a haven for local fishermen.

A series of cultural heritage sites are recorded to the south of the port outside the Foreshore Licence Area (FLA) (Figure 1). A single known cultural heritage site is located within the FLA (the Lighthouse at the pier head, NIAH15704829).

The archaeological sites in proximity to but outside the FLA comprise two historic shipwreck site locations and four terrestrial archaeological sites.

There is no record of submerged palaeo landscapes withing the project area.[5] The potential for archaeology nevertheless exists within its shallow sands. Research into early prehistoric activity around Ireland's coastline has yet to identify sub-tidal or intertidal archaeological sites in the Rosslare area.

Archaeological monitoring of dredging activities associated with maintaining the approach channel in recent years has been carried out.[6] The dredging extended around the pier head and into the harbour basin. No archaeologically significant material was observed, apart from a 6-inch rifle-loaded Palliser round that would have been shot from a muzzle-loaded gun. Such shells were carried on Iron-clad vessels of the Royal Navy during the late nineteenth century. The shell was not retained and was disposed of by the bomb squad.

3.0 Marine geophysical survey 2023

3.1 Extent

Marine geophysical survey completed in 2022 for the project under consents 23D0102 and 23R0407 has conducted multibeam bathymetry, side scan sonar, magnetometry and sub-bottom profile survey. The survey extent is indicated on Figure 2, which shows the extent of the of the multibeam bathymetry map produced from the survey.

The survey was carried out by Hydromaster Ltd in September 2023, using the *Ros Áine*, a shallow-water survey vessel, measuring 13m long with a draft of 800mm.

The 2023 survey was able to reach against the Low Water Mark for much of the survey area, except along the southwestern edge, where it fell short of the LWM by between 35m and 130m over a *c.* 90m-long stretch outside and to the of Ballygeary Harbour due to shallow depths. This leaves a gap in coverage that has not been surveyed to the LWM.

[5] Kieran Westley and Peter Woodman, 'Ireland : submerged prehistoric sites and landscapes', in G. Bailey, N Galanidou, H. Peeters, H. Jöns, M Mennenga (eds), *The archaeology of Europe's drowned landscapes*. Coastal Research Library, 35 (Springer, 2020), pp 221-248. https://doi.org/10.1007/978-3-030-37367-2_11

[6] Archaeological licence numbers 16E0580 and 21E0066.

The present report focuses on an archaeological review and interpretation of the data sets acquired over the survey area.

3.2 Data

The following data received was reviewed:

Reference	Source File	Type
Bathymetry	.tiff	Processed georeferenced image files
Side Scan Sonar	.xtf files, High Frequency: 109 files; .xlsx Target Listing	Primary data files, per survey line
Magnetometer	.xlsx Target Listing	Excel file
Sub Bottom Profile	.tiff Processed; 120	Processed primary data files, per survey line
Tracklines	.shp	Shape Files for each device deployment
Hydromaster Survey Report	.pdf	'Rosslare Europort Offshore Wind Hub, Geophysical Survey report. DRAFT', Hydromaster for Causeway Geotech, 2023

Table 1: Data made available for archaeological review.

3.3 Survey grid

The multibeam bathymetry achieved 100% coverage of the survey area except along the southwestern edge, where shallow sub-tidal water depths inhibited access above the 2m Lowest Astronomical Tide (LAT) contour (Figure 2).

Primary survey lines were deployed for the most part in a NW-SE alignment at 20m separations but on occasion 40m separations (Figure 3). Two survey lines were acquired at right angles (NW-SW alignment) at 500m separation. Side-scan sonar, magnetometer and sub-bottom profile were deployed along the same grid.

The multibeam, side scan sonar and sub-bottom profiler were boat-mounted. The magnetometer was towed astern and was not deployed close inshore along the southwestern sector or within the berthing pockets of the harbour as it was not possible to manoeuvre the towed device around fishing gear in the shallow water of the southwestern sector and jetties and ships in the harbour (Figure 3).

3.4 Multibeam: Topography

The multibeam data records a seabed surface of sand interspersed with gravel and boulders to the west of and outside the harbour, while the well-defined berthing pockets within the harbour alongside the quays reflects the dredging activities conducted here (Figure 2).

Water depth is generally shallow, ranging from 0m LAT to –11m LAT, with the depths of –7m and deeper only associated with the harbour and its approach channel that reaches away to the east. The presence of –7m depths within the approach channel reflects siltation, which is currently dredged on a four-yearly cycle of maintenance dredging.

3.5 Side-scan Sonar and Magnetometer

The side-scan sonar data was presented in 109 .xtf High Frequency data files, and an Excel file of the picked targets with location coordinates and basic dimensions/descriptions. The primary data files were imported into CODA Octopus Survey Engine and examined in playback mode.

The magnetometer data was presented in an Excel file of picked targets with location coordinates and the Amplitude reading (NanoTesla [nT]) that records the magnetic variation of the target feature compared to the ambient or background magnetism recorded on the survey line.

The side-scan sonar range setting for much of the survey was at 60m, and between 30m and 40m ranges for the shallower waters. With 20 m line-spacing this allowed for over 100% overlap between the survey lines. The data quality was generally very good, with some interference from the sub-bottom profiler but not enough to distort or disrupt the data rolls. The surveyed lines were gathered using the zig-zag method, which proceeds in one direction for one line and returns in the opposite direction for the next line. This ensures that the same area of seabed is recorded from opposing directions. The side scan sonar data set is robust and comprehensive.

The magnetometer does not benefit from swath capture and is effectively only recording data from directly beneath the survey device, resulting in a smaller sample coverage over the survey area but the close line spacing countered this and resulted in a comprehensive data set.

The side-scan sonar data confirms the topography recorded in the multibeam data sets. Away from the dredged harbour, it shows flat sand/silt surface with patches of gravel and sand rippling (Plate 1). Rock outcrop was also detected.

The side scan sonar records a series of target features. Hydromaster identified 153 side scan sonar contacts, and divides them into a series of categories that include natural features (boulders, outcrop, sand waves) and features associated with activities that, for the most part, may be regarded as casual loss (block, debris, moorings, rope, tyres). The information is summarised in Table 2. No shipwreck site or potential site is identified in the data. The distribution by type is illustrated on Figure 4.

Hydromaster Classification	Number of targets
Block	3
Boulder/s	102
Bouder patch	9
Outcrop/possible outcrop	6

Hydromaster Classification	Number of targets
Sand waves/ripples	2
Debris, linear	10
Debris	13
Moorings and rope	2
Rope	2
Tyre	4
Shipwreck	0
Hydromaster Total	*153*

Table 2: Summary of side-scan sonar targets identified by Hydromaster.

The majority of the side scan sonar contacts are considered to be boulders, with a smaller number of outcrop and other natural features being recorded, accounting for 113 of the 153 contacts.

ADCO's review of the data sets agrees with these principal findings and adds four additional observations (Table 3, Figure 4). Image captures of the ADCO contacts are presented in Plates 2–5.

ADCO Classification	Target No.
Debris	ADCO 1
Boulder/s	ADCO 2
Fishing Gear	ADCO 3
Line of stakes, possible	ADCO 4
ADCO additional total	*4*

Table 3: Summary of side-scan sonar targets identified by ADCO.

The side scan sonar contacts are spread widely across the survey area and do not form significant clusters. The relative distribution of 'debris' contacts on the approach channel into the harbour is perhaps explained by the volume of vessel traffic on this route, while a similar pattern outside the entrance to Ballygeary Harbour can be associated with the traffic of fishing vessels.

The magnetometer survey recorded 286 magnetic contacts across the survey area (Figure 5). The contacts are spread right across the surveyed area, and the absence of such contacts within the harbour berths and along the southwestern sector reflects the absence of magnetometry survey in these locations due to access issues (see Figure 3). The contacts recorded include contacts with low amplitude variation from the ambient magnetism as well as contacts that show more striking variation. Low amplitude (i.e. low nT levels) can suggest that the contact is buried deeply in the underlying strata or has only a small ferrous metal contact. It can also suggest natural variation in the background magnetic field. Archaeologically, more intense variations are

indicative of ferrous metal on the seabed. Accordingly, Figure 6 shows only those magnetometer contacts with amplitudes that exceed 80nT in the data set, which ranges from 2.3nT up to 282nT.

The results do not alter the overall impression that the seabed within the surveyed area retains debris interspersed with boulders. The proximity of magnetometer contacts to side scan sonar targets can support observations that the side scan sonar contact retains metallic content, but it is also the case that certain 'debris' contacts lack any magnetic signature, while certain 'boulder' contacts retain a magnetic signature.

There are a small number of contact clusters, where debris and boulders occur at locations that also have magnetometer contacts. These clusters are not significant enough to suggest wreckage; rather they suggest small-scale snag points where the boulders may entrap netting or other casual loss from maritime activity.

No shipwrecks were identified in the data sets.

3.6 Sub-bottom profile

The sub-bottom profile data was presented in 120 .tiff image files that trace the primary data as recorded on each survey line (Plate 6).

The data records the principal strata present, which effectively shows a stratum of sands and silt as the covering layer that can reach 3m in thickness, and which overlies bedrock. The bedrock is not flat but rises in a series of troughs and peaks that breach the surface on occasion, as recorded in several instances in the side scan sonar data (Figure 5). There is an intervening stratum, some 1500mm below the surface sands and gravels and above bedrock, but the stratum is not continuous.

There is no indication within the profiles of submerged shipwreck.

There is no clear indication within the profiles of deposits that might be associated with peat or organic elements, which in turn could be indicators for submerged landscape.

4.0 Conclusions

The 2023 marine geophysical survey data sets are robust and provide comprehensive insight to the nature of the seabed and its underlying strata within the surveyed area.

A series of acoustic targets were recorded, comprising side-scan sonar and magnetometer targets. The majority of the targets indicate the presence of boulders across the seabed surface, and some element of debris. It is suggested that the debris relates to abandoned fishing gear and associated materials.

No shipwreck sites were identified in the data sets.

No indications of submerged landscape were identified in the data sets.

5.0 Recommendations

The principal of avoidance informs the design process, whereby impacts on known archaeological sites will be avoided wherever possible. Such a measure ensures that known archaeological sites are protected from direct impacts associated with the proposed development.

The marine geophysical survey did not identify any significant archaeological site or feature within the surveyed area. The need to establish Archaeological Exclusion Zones (AEZ) is consequently not required at this juncture.

It is recommended that archaeological dive inspection is conducted at the location of ADCO4, to consider whether there is a linear stake feature at this location, and what its function might be if identified.

Archaeological dive survey should extend to include a data gap in the southwestern sector.

The current report addresses Condition 18.b of the Foreshore Licence conditions, and is one part of a staged approach to managing the archaeological potential of the project area as set out in the Foreshore conditions.

The recommendations contained in this report are subject to the approval of the National Monuments Service at the Department of Housing, Local Government and Heritage.

6.0 References

Brady, Niall, 'Rosslare Europort, Archaeological Desktop Assessment' ADCO report for Íarnród Éireann, 2023.

Talarmin, Marie, 'Rosslare Europort Offshore Wind Hub, Geophysical Survey report. DRAFT', Hydromaster for Causeway Geotech, 2023.

Westley, Kieran and Woodman, Peter, 'Ireland : submerged prehistoric sites and landscapes', in G. Bailey, N Galanidou, H. Peeters, H. Jöns, M Mennenga (eds), *The archaeology of Europe's drowned landscapes*. Coastal Research Library, 35 (Springer, 2020), pp 221-248. https://doi.org/10.1007/978-3-030-37367-2_11

Online resources:

Historic Environment Viewer: https://maps.archaeology.ie/HistoricEnvironment/

Historic Shipwreck Inventory: https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=89e50518e5f4437abfa6284ff39fd640

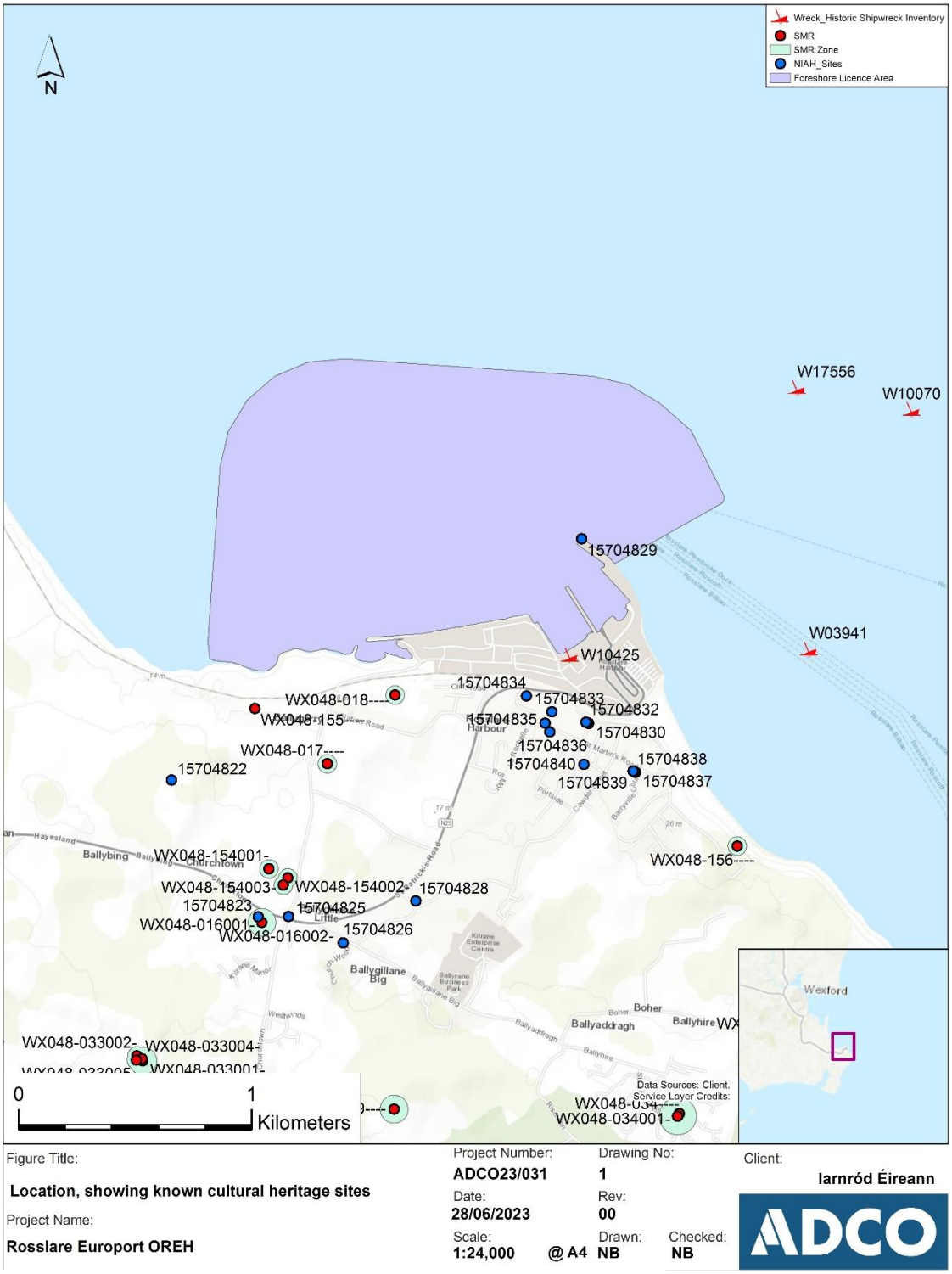


Figure 1: Project area, showing known cultural heritage assets within and in proximity to the Foreshore Licence Area.

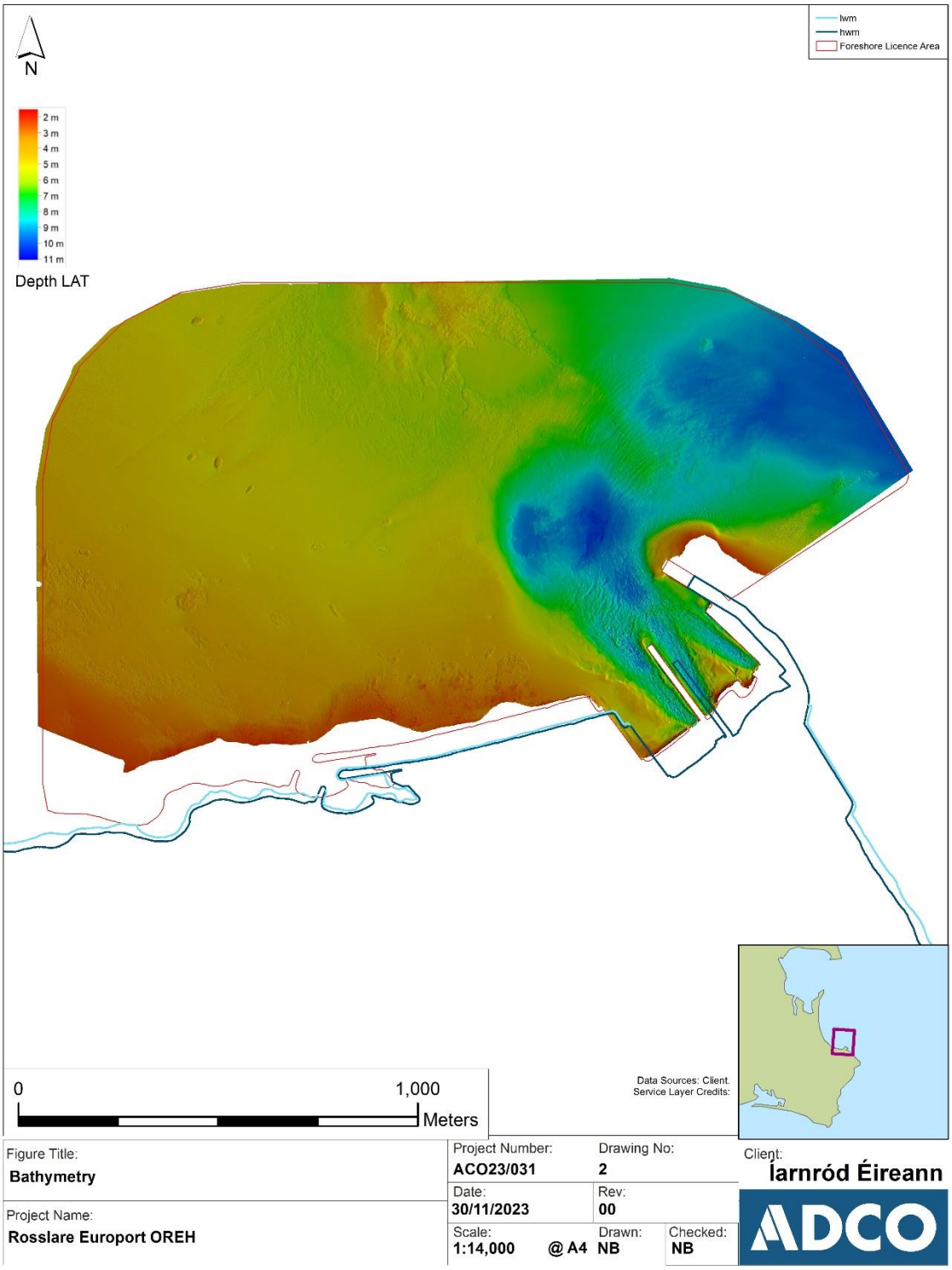


Figure 2: Project area, showing bathymetry as Digital Elevation Model.

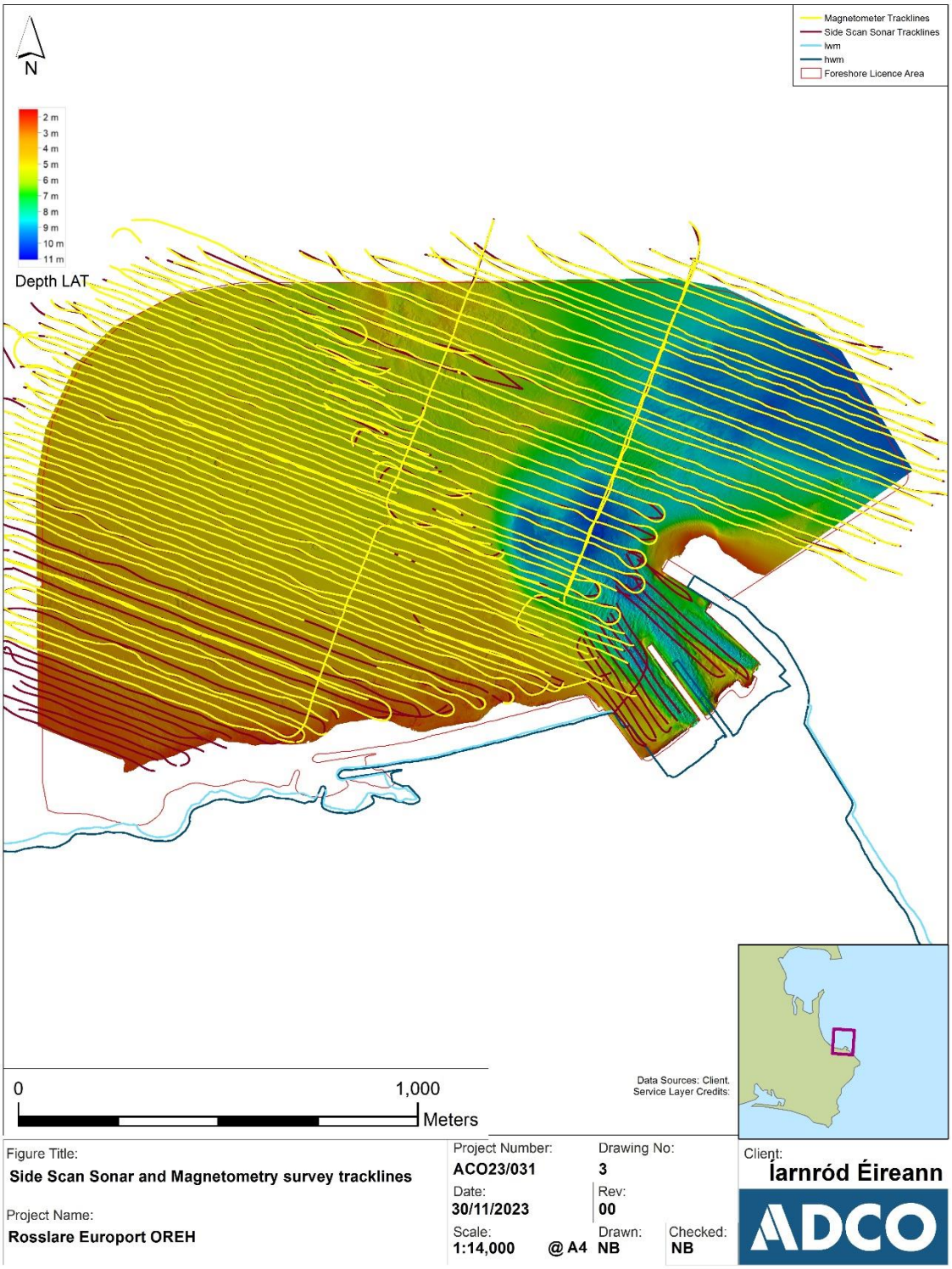


Figure 3: Project area, showing side scan sonar and magnetometer survey tracklines..

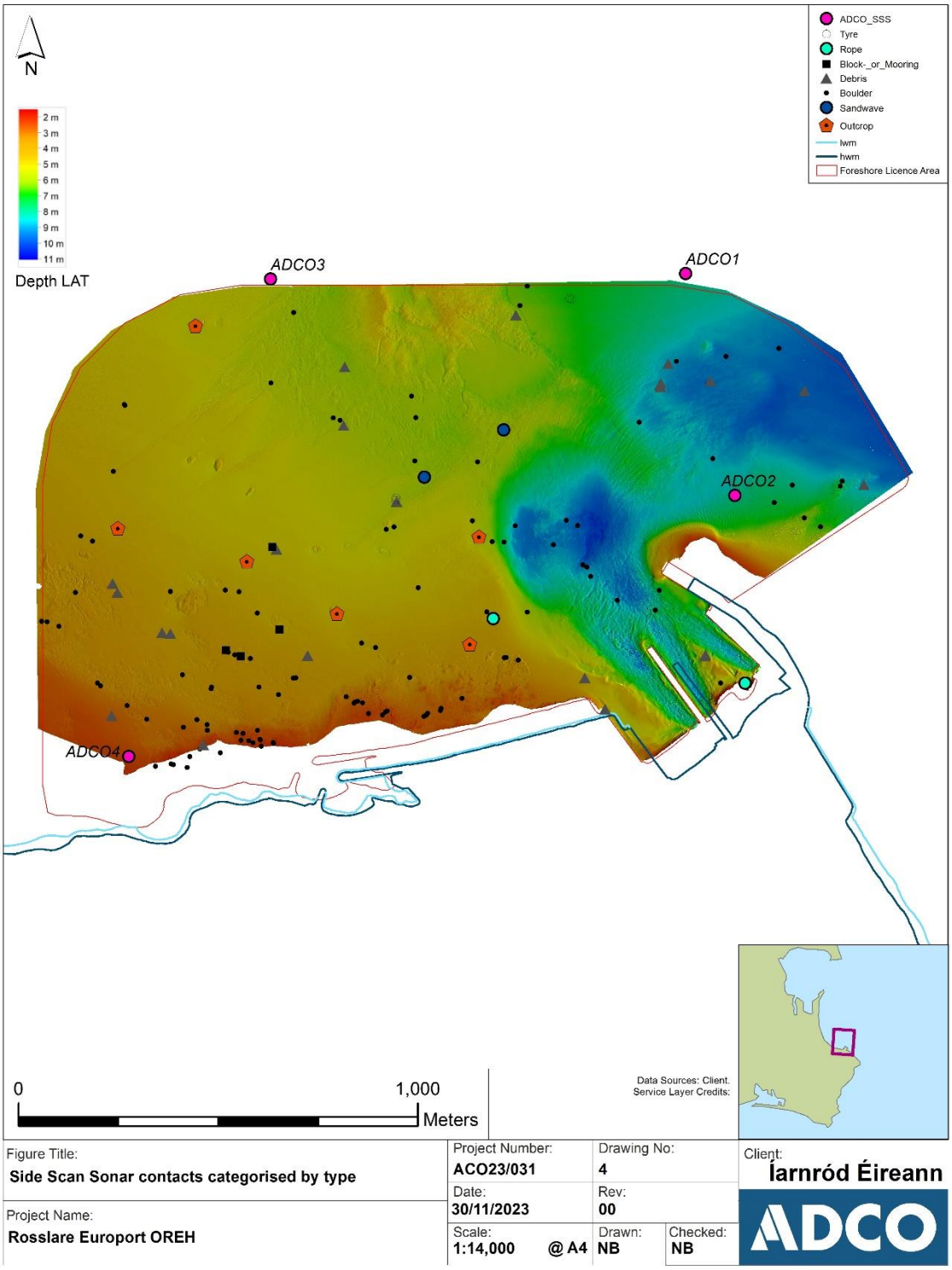


Figure 4: Project area, showing side scan sonar contacts recorded and categorised according to type.

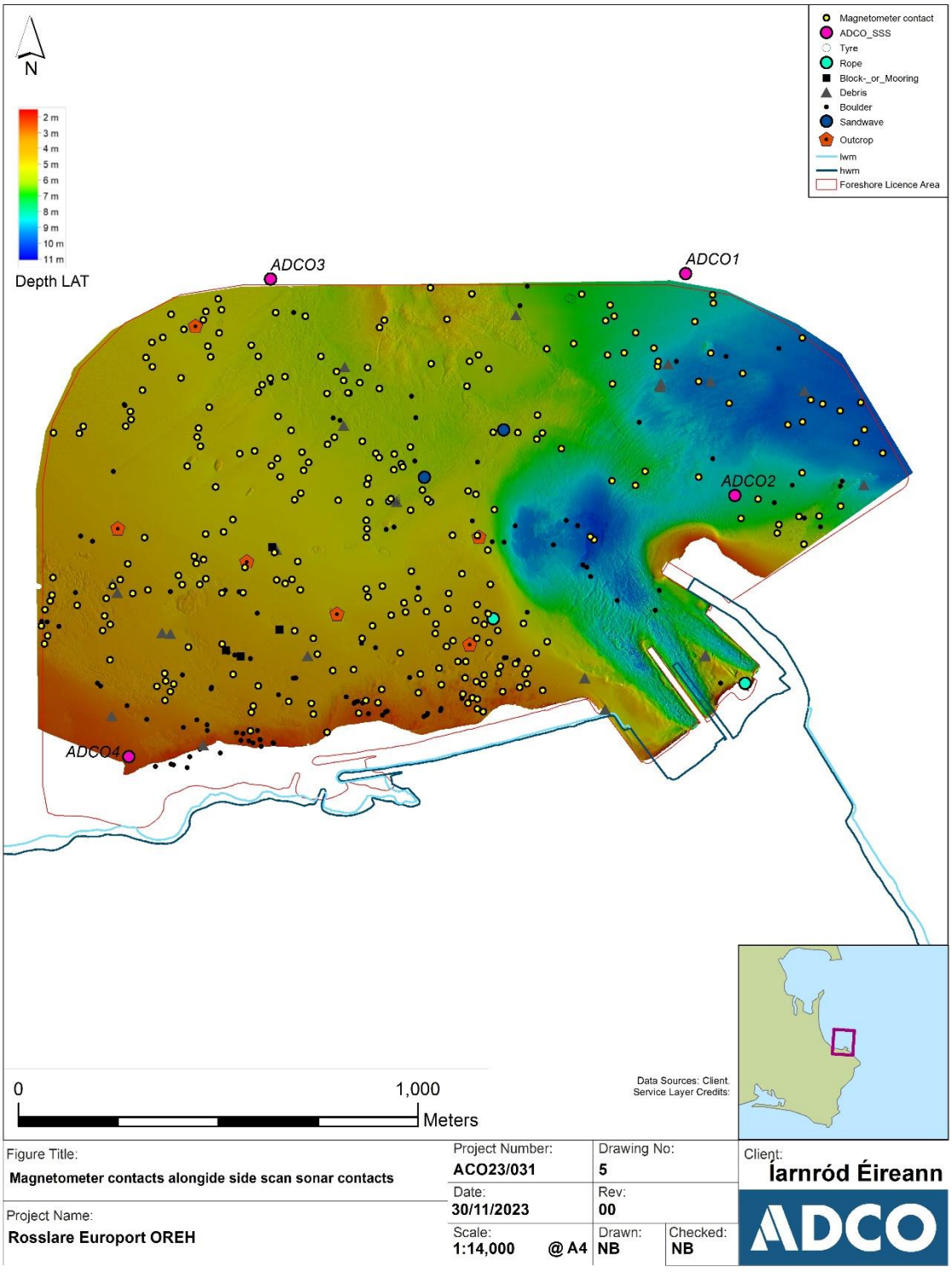


Figure 5: Project area, showing magnetometer contacts recorded overlaid on to side scan sonar targets.

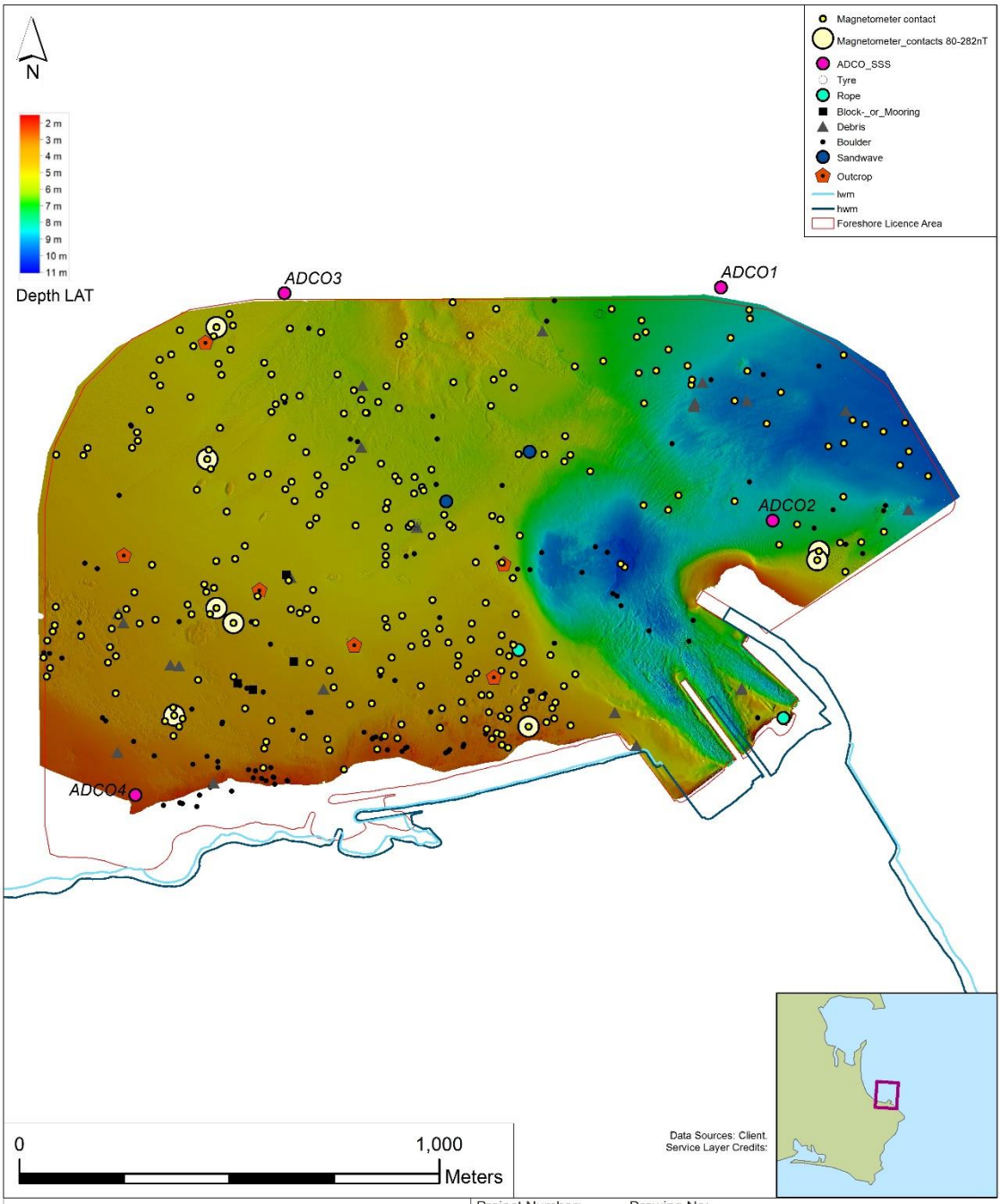


Figure 6: Project area, highlighting high amplitude magnetometer contacts (above 80nT) among the wider magnetometer contacts recorded, overlaid on to side scan sonar targets.

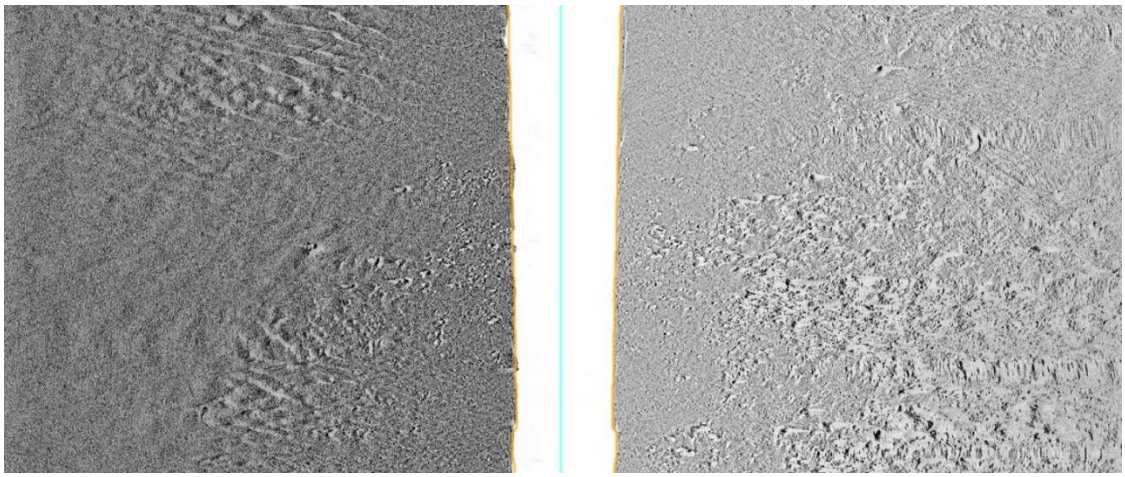


Plate 1: Seabed image showing sand and sand ripples on left side of data trace, with gravel and stone on the right side. Location is centred on ITM 713730E 613082N, east of the harbour. Source file: Survey Line 62.

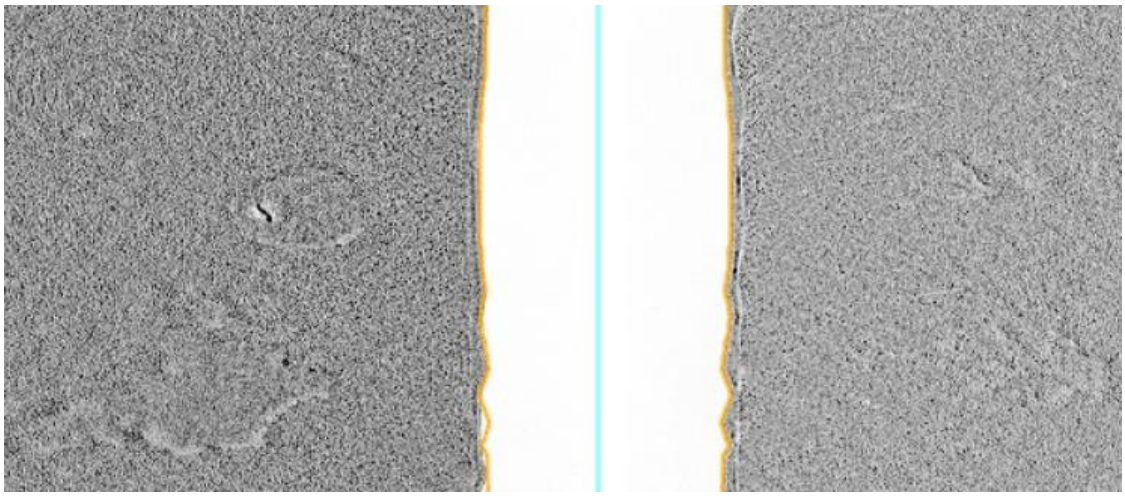


Plate 2: ADCO1. Side scan sonar data trace showing 3.8m long piece of debris inside a 7m-wide ovoid area indicative of netting. Centred on ITM 713509E 613750N. Source file: Survey Line 70, also recorded on Line 69.

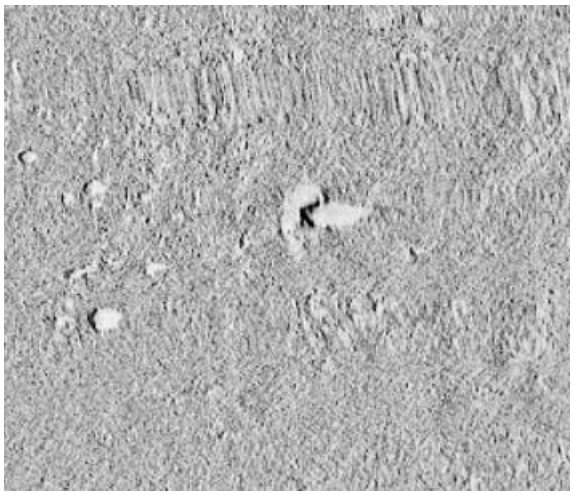


Plate 3: ADCO2. Side scan sonar data trace showing probable boulder measuring 1.3m x 18m in size in small scour pocket. Centred on ITM 713632E 613194N. Source file: Survey Line 60.

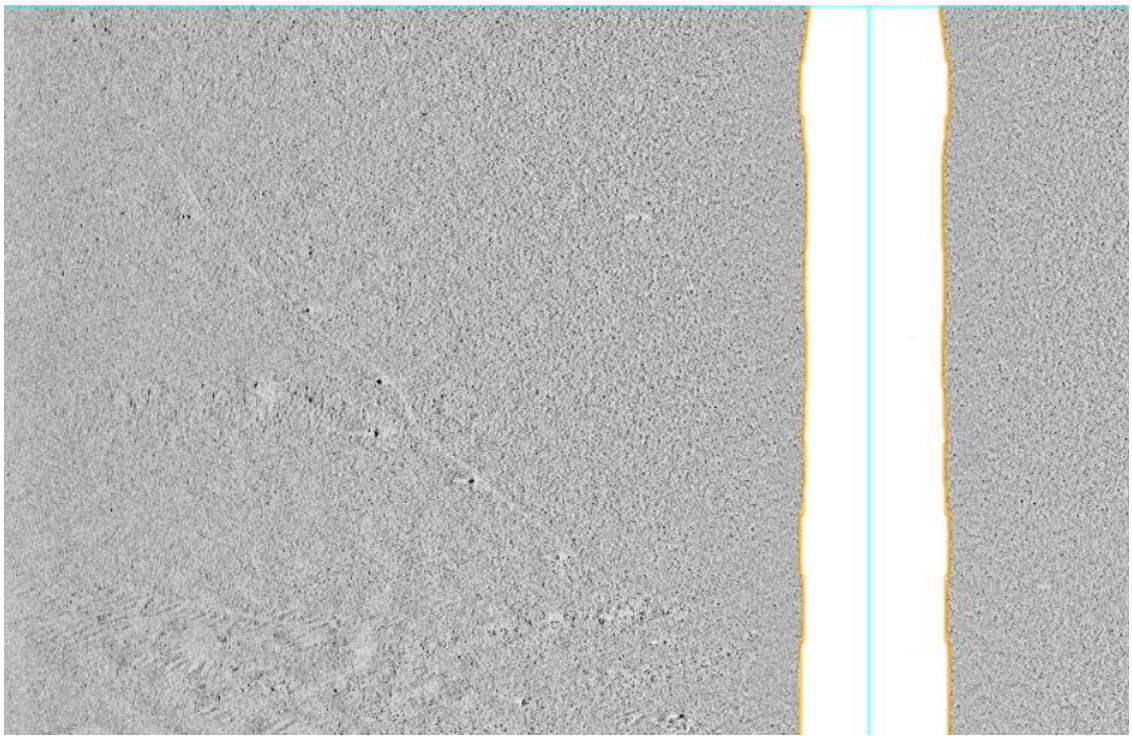


Plate 4: ADCO3. Linear feature reaching 85m in length with pinpoints along its route at 7-9m separations suggestive of fishing gear. Also recorded on Line 41. Centred on ITM 712469E 613736N. Source file: Survey Line 42.

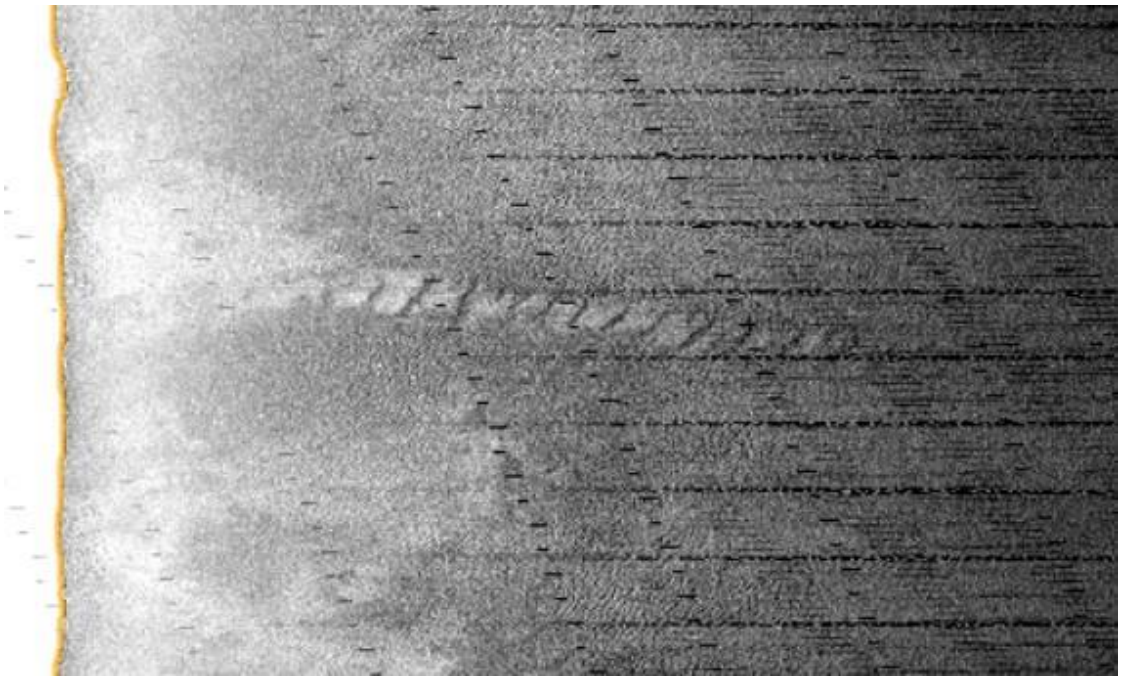


Plate 5: ADCO4. Side scan sonar data trace showing possible line of c. 14 stakes, c. 1m long and c. 1m separations, extending c. 14m in length close inshore in vicinity of and west of

Ballygeary Harbour. Centred on ITM 712114E 612539N, Source file: Survey Line SF173607, also recorded, faintly, on lines SF173245 and SF172947. The image also shows interference lines from other device deployments.

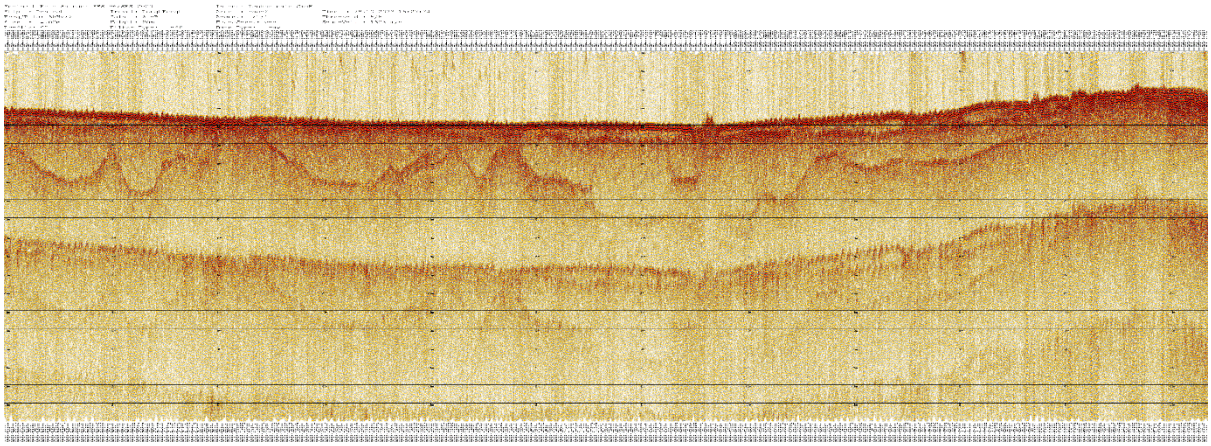
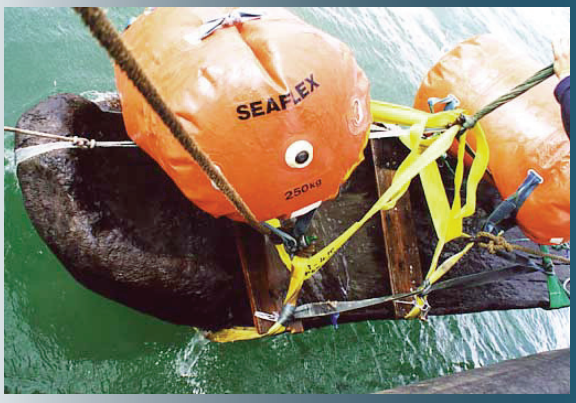
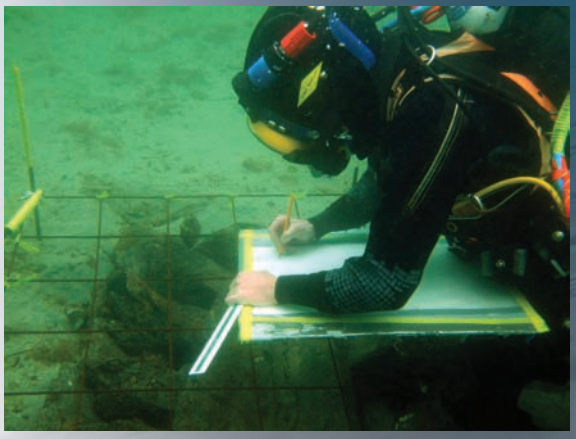


Plate 6: Sub-bottom profile line SF162734. The survey line extends from northwest to southeast, and runs across the southern side of the project area, west of the harbour. The image shows the principal strata that recur across the project area, with a shallow sand/silt surface that overlies a stratum some 1500mm below the surface and above bedrock. The bedrock retains folds and troughs and breach the surface on occasion, and these breaches are recorded in the side scan sonar record as SSS65, SSS64 and SSS70.

ADCO

Leading Maritime Archaeology





Providing effective underwater and land-based archaeological solutions since 1999.

Conducting intelligent diving and underwater/marine inspections for the civils and scientific sectors.

Specialised in marine geophysical data interpretation.

ADCO works closely with clients from project inception, through EIS, to full construction stages, delivering the highest quality effectively.

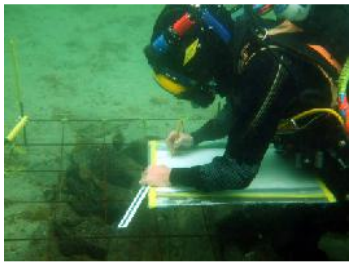
ADCO Ltd.
Church Terrace, Bray
Co. Wicklow, Ireland

www.adco-ie.com
info@adco-ie.com
+353 (0) 1 908 1541

Underwater Archaeological Impact Assessment (UAIA)
Small Boat Harbour and Nearshore Area
Ballygerry, South Bay
Rosslare, Co. Wexford

Rosslare Europort

23D0111 Ext., 23R0512 Ext.

Underwater Archaeological Impact Assessment (UAIA)
Small Boat Harbour and Nearshore Area
Ballygerry, South Bay
Rosslare, Co. Wexford

Rosslare Europort

23D0111 Ext., 23R0512 Ext.

2nd December 2025

Project Director **Rex Bangerter MA**

ADCO, Beverley Studios, Church Terrace, Bray, Co. Wicklow www.adco-ie.com

CONTENTS

LIST OF ABBREVIATIONS

ADCO	The Archaeological Diving Company Ltd
CD	Chart Datum
DHLGH	Department of Housing, Local Government, and Heritage.
E	Easting
N	Northing
HWM	High Water Mark
ITM	Irish Transverse Mercator
LWM	Low Water Mark
ING	Irish National Grid
NIAH	National Inventory of Architectural Heritage
NMI	National Museum of Ireland
NMS	National Monuments Service
OD	Ordnance Datum
OS	Ordnance Survey
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
SMB	Surface Marker Buoy
SMR	Sites and Monuments Record
UAIA	Underwater Archaeological Impact Assessment
UAU	The Underwater Archaeology Unit

EXECUTIVE SUMMARY

Subject: UAIA, Small Boat Harbour and Nearshore Area.
Location: Ballygerry townland, South Bay, Rosslare, Co. Wexford.
Survey Extent: ITM 712242E, 612452N – ITM 713119E, 612646N

The Archaeological Diving Company (ADCO) Ltd. was appointed by Iarnród Eireann to undertake an underwater archaeological impact assessment (UAIA) of the Small Boat (Ballygeary) Harbour in Ballygerry townland, South Bay, Rosslare, Co. Wexford, to inform proposed works at Rosslare Europort. The UAIA was completed in fulfilment of the requirement for pre-disturbance archaeological assessment (DHLGH-FS007219) prior to proposed rehabilitation of the Small Boat Harbour, an endeavour which was to include dredging of the existing harbour area. However, subsequent project design changes now confirm that the existing harbour will be reclaimed instead, with a new harbour being constructed on its seaward side; to be completed as part of the Rosslare Europort Offshore Renewables Energy Hub (OREH) project.

The Small Boat Harbour was constructed in 1992, with subsequent remedial works to install gabion baskets, along the edge of the breakwater that forms the northern extent of the harbour area, being carried out in 2013 and 2014. The harbour is located 637m west of Rosslare Harbour at ITM 712622E, 612489N (centrepoint).

The UAIA, which comprised sub-tidal, intertidal, and foreshore assessment, included the nearshore area extending *c.* 280m to the west and *c.* 500m to the east of the Small Boat Harbour. Three (3) marine geophysical targets (ADCO 4, AT05, and AT06) were also subject to underwater inspection; located at distances of 415m (ADCO 4), 478m (AT06), and 638m (AT05) from the entrance to the harbour.

The work was carried out under licence from the Department of the Housing, Local Government, and Heritage (DHLGH) on the 9th May 2025; licence numbers 23D0111 Ext. and 23R0512 Ext. (licences extended to 31st July 2025).

No archaeologically significant material, deposits, or features were encountered as part of the assessment. In addition, no target was encountered at ADCO 4, the image being presumably the result of interference or perhaps from a mobile target. AT05 comprised a cage from a mussel boat (or similar), discarded and/or reused as a mooring, and AT06 comprised a large piece of trawler-deck machinery, also reused as a mooring.

No further archaeological mitigation is required in advance of the proposed reclamation works at the Small Boat Harbour. It is understood that no dredging will now take place within the extent of the existing Small Boat Harbour (or as part of the construction of the new harbour). However, in the event that dredging operations are required as part of the reclamation process, it is recommended that archaeological monitoring of any such seabed/foreshore disturbances takes place. This work is to be

completed by a suitably qualified and experienced maritime archaeologist, with the proviso to resolve fully any archaeological material observed at that point.

The recommendations in the report are subject to the approval of the National Monuments Service at the Department of Housing Local Government and Heritage (DHLGH).

LIST OF FIGURES

LIST OF PLATES

Plate 11: East-southeast view of rubble used to from southwest side of inner harbour area.

Plate 12: West-northwest view of concrete slip and pontoon structure.

Plate 13: East-southeast view of intertidal foreshore on west side of outer part of harbour area.

Plate 14: Example shot deep deposit of silt that has built up within the inner harbour area.

Plate 15: Aerial view of showing deep silt deposits covering the inner harbour area.

Plate 16: Southeast-facing of harbour, taken from point close to the sub-tidal channel.

Plate 17: West-facing of entrance to harbour, scale delineating east side of sub-tidal channel.

Plate 18: East-facing view along rock-armour revetment forming edge of reclaimed foreshore extending between the Small Boat Harbour and Rosslare Europort.

Plate 19: Aerial view of rock-armour revetment forming edge of reclaimed foreshore extending between the Small Boat Harbour and Rosslare Europort.

Plate 20: West-northwest view of upper foreshore to west of the Small Boat Harbour.

Plate 21: Aerial view of intertidal foreshore to west of the Small Boat Harbour.

Plate 22: Example shot of exposed section of glacial till along base of low-lying cliff to west of the Small Boat Harbour.

Plate 23: West-northwest view of intertidal foreshore to west of the Small Boat Harbour.

Plate 24: Example shot of seabed composition below the LWM.

1.0 INTRODUCTION

The Archaeological Diving Company (ADCO) Ltd. was appointed by Iarnród Éireann to undertake an underwater archaeological impact assessment (UAIA) of the Small Boat (Ballygeary) Harbour in Ballygerry townland, South Bay, Rosslare, Co. Wexford (Figure 1, Plate 1). The underwater assessment is to be carried out in advance of the proposed dredging of the Small Boat Harbour, as part of a future Maintenance Dredging programme at Rosslare Europort. However, Iarnród Éireann now plans to reclaim the existing Small Boat Harbour Harbour, with a new harbour being constructed on its seaward side, as part of the Rosslare Europort Offshore Renewable Energy Hub (OREH) project. The aforementioned maintenance dredging is a distinct project in itself.

Desk based assessment and archaeological interpretation of the marine geophysical survey undertaken for the OREH project has also been completed by ADCO, the appointed project archaeologist.[1]

The current assessment comprised systematic visual inspection of the intertidal and sub-tidal areas of the harbour and sought to record intertidal/seabed topography, assess the potential of these deposits to retain archaeological material, and identify any features/structures of archaeological or historic significance that may be present (Figure 2). Targeted metal-detection was also employed to help assess the foreshore/seabed areas and highlight any metallic concentrations present.

The nearshore area, extending both east (*c.* 500m) and west (*c.* 280m) of the Small Boat Harbour, was included in the assessment. In addition, three (3) marine geophysical targets, ADCO 4, AT05, and AT06, were subject to underwater inspection, the latter inspections being undertaken to inform the EIAR for the OREH project.

The UAIA was carried out in accordance with Section 5 of the National Monuments Act (2004 Amendment) by a team of underwater archaeologists on the 23rd March 2021, under licence from the DHLGH; licence numbers 21D0020 Ext. and 20R0028 Ext.

The following report addresses the known and potential archaeological environment; assesses the actual and proposed impacts on that environment from the proposed reclamation of the Small Boat Harbour; and makes recommendations to resolve any further archaeological requirements that may arise.

[1] Niall Brady, 'Rosslare Europort, Archaeological Desk Assessment', ADOC report issued July 2023; and Niall Brady, 'Rosslare Europort OREH, Marine Geophysical Survey, Archaeological Interpretation', Licence Numbers 23D0103, 23R0405, ADCO Report issued November 2023.

2.0 PROPOSED DEVELOPMENT

It was originally planned that the intertidal and subtidal areas of the Samll Boat Harbour were to be subject to backhoe dredging (down to original bed-levels); the harbour, in the most part, being currently inaccessible to vessels during a low tide cycle. However, proposed reclamation, as part of the OREH project, of the expanse of seabed to the north, east, and west of the current harbour basin, off Ballygerry townland, Co. Wexford, will require relocation of the Small Boat Harbour. It is now understood that the harbour is to be located seaward of the existing facility, on the west side of the proposed OREH reclamation area; the latter creating an extended area of hard-standing along the foreshore. It is in the context of the OREH project that the three (3) marine geophysical targets were subject to inspection.

No capital dredging will be required as part of the construction of the new Small Boat Harbour; the harbour being located within sufficiently deep water as to minimise the potential for future maintenance dredging programmes. Required works are to include sheet piling and tubular piling along the harbour extent. The new harbour will have the capacity to accommodate sixty-four (64) local boats with a pontoon berth, and a separate pontoon for Operation and Maintenance (O&M) requirement, and for the RNLI.

The following UAIA is primarily concerned with existing Small Boat Harbour, archaeological mitigation relating to the OREH development and the proposed relocated Small Boat Harbour being presented in the project EIAR.[2]

3.0 RECEIVING ENVIRONMENT

Wexford Harbour & South Bay

The earliest exploitation of the Wexford coastline is likely to date to the Mesolithic Period (*c.* 5000BC - 3000BC) and is confirmed by the recovery of flint tools of 'Larnian type' from the east and south east coast. Further prehistoric activity is evidenced with the presence of coastal midden sites, of possible Neolithic date, at Clare Island and the River Slaney Estuary. It is likely that any prehistoric settlement within Co. Wexford was focused around the River Slaney Estuary; a valuable landscape resource providing transport links, coastal exploitation, and fertile floodplains for the earliest settlers. This resource was further developed within the Bronze Age, with the Wexford coast acting as an arrival-point for influences, artefacts, and individuals from Britain and the Continent.

The arrival of Celtic speaking peoples from the continent (*c.* 500BC) saw increased coastal exploitation, the beginning of maritime trade, and construction of sophisticated seagoing vessels. This maritime culture was additionally developed by the introduction of Scandinavian seafaring peoples in the tenth-century, establishing complex commercial operations based around the exploitation of Ireland's east coast, most notably in Wexford, Waterford, and Dublin.

[2] Rosslare ORE Hub, Environmental Impact Assessment Report, Chapter 15, Cultural Heritage, Niall Brady, ADCO; full EIAR currently under internal review.

This maritime economy was accelerated with the Anglo-Norman incursion into Ireland (1169-70) and the subsequent settlement of Wexford Town. The medieval period saw a blossoming of maritime activity, both in shipbuilding, mercantile seafaring, and fishing within the estuarine settlements at Waterford, New Ross, and Wexford town.

In the sixteenth and seventieth centuries, Wexford established itself as one of the more important fishing ports on the east coast. In addition, a vibrant trade had been created, one in which large quantities of coal was being imported (from Wales) and fish, hides, timber, and raw produce were being exported from Wexford and New Ross. Moreover, the fishing industry was of great importance to the local communities and by the seventeenth-century, fish had become major export commodity.

By the latter part of the eighteenth century, Wexford was the sixth busiest port in Ireland, becoming a prominent centre for the export of goods to England and Wales. However, by the nineteenth century the complexities of navigation within Wexford harbour, coupled with ongoing siltation of its navigation channels, led to the establishment of Rosslare Harbour; providing safe anchorage on the south easternmost tip of the South Bay, *c.* 15km from Wexford town.

Rosslare Harbour

Rosslare Harbour was constructed *c.* 1882. Its location was chosen due to its proximity to Wexford Harbour, coupled with an advantages geographic situation for cross-channel shipping; being positioned *c.* 50m miles from the Welsh coast.

A contemporary account of the problem of navigation within Wexford Harbour and the subsequent establishment of a harbour at Rosslare, including aspirations to develop the harbour further, is provided in Bassett's Wexford County Guide and Directory, published 1885:

> Treacherous but beautiful. This is, unfortunately, a faithful description of the harbour of Wexford. The banks which obstruct its entrance shift so frequently as to render it difficult to accurately trace their movements. Not many years ago reports showed only from three to four feet of water on the bar. In July, 1884, it had improved to elven feet six inches. An idea of the nature of the banks may be formed from the fact that the Dogger, one of them, five of six yards since, was two hundred yards from the mainland. Since then it has come in and joined it. At the period when Wexford enjoyed its greatest foreign trade, the Hantoon channel was open. Now it is closed for trading purposes.
>
> At the time of the very low state of water upon the bar, the hope for Wexford was centred at Greenore Point, or what is now known as Rosslare Harbour. A government loan of £75,000 was procured on the strength of a recommendation by Captain Calver, R.N., Hydrographer to the Admiralty, and Mr. Rendel, C.E. Consulting Engineer to the Public Works Loans Commissioners of England. Of this amount £61,000 was expended in building a breakwater at Greenore Point, 1,500 feet in length. The harbour at present is in a condition to give refuge to a certain class of vessels, but it is said that it cannot be generally used until the breakwater has been extended a further 200 feet further. In anticipation of a speedy completion of the project, a line of railway was built from Wexford to Rosslare Harbour, a distance of nine miles, at a cost of £120,000. The line has been opened for traffic, but the visions of a cross-channel trade from the new harbour are yet unrealized. The distance from Rosslare Harbour to Fishguard is 58miles, to Milford 64 miles- 48 miles less than that from Waterford to Milford.

> The prospect of making Rosslare Harbour a station for steam ships trading between New York and Milford was an attractive one, and it was easy to use it as a basis for the opinion that the lands in the vicinity of the Harbour would soon be covered with stores, warehouses and shops of the "New Wexford". There is no second opinion as to the great benefits which would be derived from such as that which was projected for Rosslare; but there has been a diversity of opinion as to the possibility of making the present unfinished harbour a thorough success. A harbour or refuge on the coast of Wesfod would be of inestimable value to shipping. Scores of ships have gone to pieces because of a lack of it……The Waterford and Wexford Line is known locally as the Ballygeary Railway. The original intention was that it should connect Waterford to Wexford, but whether it will ever be extended beyond it present terminus is a question which the future must decide.[3]

Shortly after the above account, the Fishguard and Rosslare Railways and Harbours Company, a joint venture between the British Great Western Railway and the Irish Great Southern and Western Railway, developed an integrated rail and ferry system to transport goods, mail, and people between Rosslare and Fishguard. This included the required extension to the existing harbour area, completed *c.* 1902 (Plate 2). By 1906 the Fishguard to Rosslare Harbour Ferry Service was officially opened, paving the way for the present day Europort.

The harbour was further improved in 1962 to provide Ro-Ro services. More recent development works (1980s-1990s), which included reclamation, altered much of the foreshore between the original harbour and the Small Boat Harbour at Ballygerry (Plate 3). The boat harbour was also constructed (1992) as part of the reclamation works to provide a haven for local fishermen; their fishing boats previously being pulled ashore onto the hard.

Today the port functions largely as a ferry, roll-on roll-off, terminal with connections to Hollyhead, Fishgaurd, and ports on mainland Europe (Plate 4). An integrated railway connection still serves the port, reflecting its original association with the Great Southern and Western Railway.

3.1 Cartographic Information

The OS First Edition (1839) map depicts an un-developed stretch of coastline extending between the townlands of Ballygillane Big to the east, and Ballygerry to the west (Figure 3). The foreshore is characterised by a relatively narrow intertidal zone (< *c.* 40m), comprising sand and shingle, bounded by a low-lying cliffs. Two (2) rectangular structures are located in proximity shoreline (70m inland), close to the townland boundary between Ballygillane Little and Ballygerry (Figure 3; Map Item 1). A short distance to the west (*c.* 300m), a circular feature, annotated '*Wind Mill Stump*' is shown (Figure 3; Map Item 2; RMP WX048-018). A windmill is depicted within the Down Survey of Ireland, included on both barony (Forth) and parish (Kilrane) level mapping, and likely represents the same cartographic feature as depicted on the aforementioned OS map (Plates 5-6). No upstanding remains of the windmill are visible today, although it understood that part of the structure did remain visible above ground until *c.* 1930.

[3] Extract from George Henry Bassett's Wexford County Guide and Directory, 1885, published by Sealy, Bryers, and Walker, Dublin.

The OS 25-inch Edition (1911) shows the '*Railway and Pier in the course of construction*' (Figure 4; Map Item 3). It also shows the newly established (railway connection between Wexford and Roslare Harbour, including '*Rosslare Harbour Station*', a '*Turn Table*', and warehouses/engine-shed (Figure 4; Map Items 4-6). The railway is shown as raised and embanked on its approach to the harbour. A railway connection was first realised in the 1870s, but closed in in 1889 due to financial issue. It was later reopened, as depicted on the OS 25-inch map, in 1906 by Fishguard and Rosslare Railways and Harbours Company. A '*Coastguard Station*' (NIAH 15704833) and a '*Lifeboat Station'* are also shown, close to the inshore terminus of '*Rosslare Pier*' (Figure 4; Map Items 7-8).

A number of terraced dwellings are now shown, overlooking the sea, close to the railway line that extend along the upper foreshore of the townlands of Ballygerry, Ballygillane Little, and Ballygillane Big. The most prominent of these is annotated '*Tusker Dwellings*' (Map Item 9, NIAH 15704834). The '*Windmill Stump*' (RMP WX048-018), as previously discussed, is also depicted.

The foreshore area at Ballygerry remains as depicted on the OS Frist Edition map and no intertidal features, such as fish weirs, slipways or jetties are shown.

The OS Third Edition map (1836) shows significant settlement of Rosslare Harbour, with dwelling concentrated to the south of the harbour, primarily within the townland of Ballygillane Big, annotated '*Tuskermore*' (Figure 5; Map Item 10). The completed pier extension, associated rail-line, and station (annotated '*Harbour Station*') are also shown (Figure 5; Map Item 11); along with a lighthouse that occupies the pier-head (NAIH 15704829).

3.2 Known Sites and Monuments

The Record of Monuments and Places (RMP) is a list of archaeological sites based on the Sites and Monuments Record (SMR) files, maintained by the National Monuments Section at the DCHG. SMR entries include detailed descriptions of archaeological sites based on site visits and historic studies and associated mapping where available. The SMR focuses on sites that are pre-1700AD in date. While later buildings are not well represented in the archive, all structures that are more than 100 years old are considered as archaeological sites today.

There are no sites listed in the RMP for the stretch of coastline surrounding the Small Boat Harbour. Three (3) sites are listed for the wider townland area of Ballygerry, as detailed below in Table 2 (Figures 2-5).

RMP Number	Classification	ITM	Townland	Proxmity
WX048-017-----	Houe; seventheenth century	712443E, 611986N	Ballygerry	527m SSW
WX048-018-----	Windmill	712713E, 612301N	Ballygerry	3.3km NNW
WX048-155-----	Excavation; miscellaneous	709996E, 612849N	Ballygerry	2.4km SW

Table 2: Known sites and monuments located within a 1km radius of the Small Boat Harbour.

3.3 National Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) is a county-by-county database that identifies, records, and evaluates the post-1700 architectural heritage of Ireland as an aid to the protection and conservation of the nations' built heritage. The NIAH surveys provide the basis for the recommendations of the Minister for the DHLGH to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

No NIAH entries are for the stretch of coastline surrounding the Small Boat Harbour at Ballygerry. Twelve (12) entries are listed for Rosslare Harbour, within the townlands of Ballygillane Little and Ballygillane Big, as tabulated below in Table 3 (Figures 2-5). These relate to the development of Rosslare Harbour in the late nineteenth century/early twentieth century.

Registration No.	Date	ITM	Description
15704829	1900-1910	713466E, 613026N	Freestanding single-bay two-stage lighthouse, commissioned 1906, on a circular plan. Sheet iron-covered battered walls in iron frame on braced or buttressed plinth with cast-iron spandrels supporting cantilevered walkway having cast-iron railings centred on cone-topped lantern. Set on mass concrete block battered pier. The lighthouse is an important component of early twentieth-century built heritage of South County Wexford.
15704830	1906-1940	713541E, 612240N	End-of-terrace two-bay, two-storey, house; extant 1940, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704831	1906-1940	713547E, 612236N	Mid-terrace two-bay, two-storey, house; extant 1940, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704832	1906-1940	713552E, 612235N	End-of-terrace two-bay, two-storey, house; extant 1940, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704833	1885-1895	713390E, 612282N	Detached six-bay two-storey coastguard station, built 1892, on an L-shaped plan including three-bay two-storey advanced end bay. Occupied, 1911. Closed, ----. Now disused. Hipped slate roof on an L-shaped plan with clay ridge tiles, rendered red brick Running bond chimney stacks having corbelled stepped capping supporting yellow terracotta pots.
15704834	1885-1895	713288E, 612345N	Tusker Dwellings, end-of-terrace three-bay two-storey lighthouse keeper's house, built 1890, on a T-shaped plan centred on single-bay single-storey gabled projecting porch to ground floor.
15704835	1906-1911	713366E, 612223N	Detached single-bay (single-bay deep) single-storey gable-fronted lifeboat house or "life-saving station", extant 1911, on a rectangular plan. Now disused. Pitched (gable-fronted) slate roof with clay ridge tiles, timber bargeboards to gables on timber purlins, and no rainwater goods surviving on timber boarded box eaves.
15704836	1906-1940	713388E, 612187N	Detached three-bay two-storey house with dormer attic, extant 1940, on an L-shaped plan centred on single-bay single-storey flat-roofed advanced porch to ground floor abutting single-bay full-height gabled

Registration No.	Date	ITM	Description
			projecting end bay. Set in landscaped grounds with rendered piers to perimeter having gabled capping supporting timber gate.
15704837	1930-1925	713768E, 612039N	End-of-terrace two-bay two-storey house with half-dormer attic, built 1923, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704838	1930-1925	713763E, 612041N	Mid-terrace two-bay two-storey house with half-dormer attic, built 1923, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704839	1930-1925	713757E, 612043N	End-of-terrace two-bay two-storey house with half-dormer attic, built 1923, on a square plan. Refenestrated, ----. One of a terrace of three. Road fronted.
15704840	1906-1911	713544E, 612058N	Workers House (engine driver's); detached three- or five-bay single-storey engine drivers' dormitory house with half-dormer attic, occupied 1911, on a rectangular plan centred on single-bay single-storey advanced porch. Sold, 1984, to accommodate alternative use. Closed, 2004. For sale, 2009. Now disused. The dormitory house represents an important component of the early twentieth-century built heritage of south County Wexford with the architectural value of the composition, one forming the centrepiece of a new village erected in tandem with the redevelopment of Rosslare Harbour (1904-6) by the Fishguard and Rosslare Railways and Harbours (FRRH) Company.

Table 2: NIAH entries associated with the development of Rosslare Harbour.

3.4 Shipwreck Inventory

Given Wexford's long history of maritime activity, the foundering of vessels along this stretch of coastline has been frequent occurrence. Efforts to increase maritime safety within Wexford Harbour and its surrounding coastal waters have been on-going since the early 1800s, and in 1811 the Ballast Board brought forward a proposal to construct a Light House at Tusker Rock; a dangerous (low-lying) rock positioned six nautical miles off Carnsore Point.

The Historic Shipwreck Inventory, maintained by the DHLGH, attests to the number of shipwrecks located along the Wexford coast, providing a list of recorded instances of wrecking since 1750. The details provided describe the type of vessel, the journey it foundered on, and information on the ultimate plight of the vessel and its crew, where possible. In describing the wrecking event, the records will locate the incident in relation to the nearest headland or other topographic marker where known. This is not however a record of where the wreckage lies, since the historic records generally only deal with the vessel before it sunk. Such finer details emerge from other sources, such as fishermen's records of snag points and diver records of sites located underwater. These are included in the Inventory wherever possible but it is true to say that most entries lack this final level of data. While the Inventory provides a record of wrecking incidents since 1750, it does not claim to be a

comprehensive record for earlier events, and therefore the medieval and prehistoric periods are not represented in this archive.

A total of one-hundred and three (103) wrecks are listed in the inventory for the south Wexford coast, dating from the 1840s to the 1920s (see Appendix 1). A total of twenty-eight (28) entries are listed for 'South Bay' (also known as Rosslare Bay), as highlighted within the appendix. One (1) wreck is listed for Rosslare Harbour (W10425); as indicated within Figures 2-5. Other Topographic reference points from the list include: Rosslare, Rosslare Point, Ballgeary Point, South Wexford Coast, and off Wexford Coast. Shipwrecks listed for these locations have also been included in the appendix.

3.5 Topographic Archive

The National Museum of Ireland Topographical Files is the national archive of all known antiquities recorded by the National Museum. These files relate primarily to artefacts but also include references to monuments and also contain a unique archive of records of previous archaeological excavations. The Museum's files present an accurate catalogue of objects reported to that institution from 1928. There is a computerised database of finds from the 1980s onwards. They are categorised by their location into county and further into townland, town, city, street or river where they come from. There are rarely any grid co-ordinates to precisely locate find-spots. However, where find-spots of artefacts are established they can prove an important indication of the archaeological potential of the related or surrounding area.

No finds are listed for the National Museum's topographic files, for the area under assessment, however, the potential for sub-surface and in-water archaeological material remains.

3.6 Excavations Bulletin

The *excavations bulletin* provides a published and online summary of accounts of archaeological excavations undertaken throughout Ireland.[4] Summaries may also be submitted for inter-tidal survey, underwater assessments, and the archaeological monitoring of marine dredging works (Appendix 2). The majority of the entries relate to development-led archaeological work. There are four (4) entries that relate to terrestrial excavations located between Wexford and Rosslare Harbour. Three (3) entries relate to intertidal/underwater assessment, undertaken by ADCO, and include: [5]

- 21D0020, UAIA for of a newly designated near-shore sediment dispersal site carried out as part the beach re-nourishment project for Rosslare Strand, South Bay, Rosslare, Co. Wexford. This survey did not encounter any material, deposits, or features of archaeological of historical interest.

[4] Isabel Bennett (ed.) Excavations Bulletin: summary accounts of archaeological excavations in Ireland, Wordwell./ www.excavations.ie

[5] Rex Bangerter, 'UAIA, Sediment Dispersal Site, Rosslare Beach Re-nourishment Project, South Bay, Rosslare, Co. Wexford', Licence Numbers 21D0020, 21R0028, ADCO report issued April 2021; Rex Bangerter, 'Drone Survey and Intertidal Inspection, Bord Iascaigh Mhara (BIM) Aquaculture Sites, River Slaney Estuary and Wexford Harbour', 19D0034, 19R0085, ADCO report issued 22nd August 2019; and Rex Bangerter, 'Underwater Archaeological Assessment, Be Re-nourishment Area, South Bay, Rosslare, Co. Wexford, Licence Number 08D0064, 08R0197, ADCO report issued October 2008.

- 19D0034, UAIA of the River Slaney Estuary and Wexford Harbour. This work identified two (2) previously undocumented fishtrap (weir) sites; now listed as RMP sites WX043-017and WX043-018.
- 08D064, UAIA of a proposed beach re-nourishment area, Rosslare Strand, South Bay, Rosslare, Co. Wexford. This survey did not encounter any material, deposits, or features of archaeological of historical interest.

Maintenance dredging projects carried out by Iarnród Éireann, along the approach channel into Rosslare, were also archaeologically monitored by ADCO in 2016 and 2021; licence numbers 16E0580 and 21E0066.[6] The dredging extended around the pier head and into the harbour basin. No archaeologically significant material was observed, apart from a 6-inch rifle-loaded Palliser round that would have been shot from a muzzle-loaded gun. Such shells were carried on Iron-clad vessels of the Royal Navy during the late nineteenth century. The shell was not retained and was disposed of by the bomb squad.

3.7 Conclusion

It is evident that significant maritime activity has taken place within the study area, activity that is reflected in the number of shipwreck events listed in shipwreck inventory for the coastline of South County Wexford. There is no specific reference to archaeological material, deposits, or features being recovered from the seabed surrounding the assessment area. However, it should be noted that the systematic recording of maritime data is a relatively recent phenomenon. Moreover, it is clear that there is a long history of maritime activity across the wider coastal area, and that the potential for nearshore seabed deposits to retain archaeological material remains high.

4.0 SURVEY METHODOLOGY

Visual inspection was employed to assess the archaeological potential of the foreshore, intertidal, and subtidal areas of the Small Boat Harbour and the nearshore area extending *c.* 500m to the east and *c.* 280m to the west (ITM 712242E, 612452N - ITM 713119E, 612646N); as indicated in Figures 2-5. In addition, three (3) marine geophysical targets were also subject to underwater inspection; ADCO 4, AT05, and AT06.

The in-water survey of the Small Boat Harbour was undertaken on a Low Tide cycle, to maximise coverage, and was completed as a waded/snorkel exercise. Targeted metal-detection was also carried out for the harbour area.

The nearshore visual assessment was undertaken at high tide, undertaken as diver-towed survey; travelling east-west along a series of *c.* 20m wide search corridors. A differential DGPS receiver was used to position-fix any dive observations and insure accurate positioning of any SMBs that were deployed.

[6] Niall Brady, 'Rosslare Europort Maintenance Dredging 2016, Rosslare Harbour, Archaeological Monitoring Report', Excavation licence Number 16E0580, ADCO Report issued January 2017; and Rex Bangerter, 'Rosslare Europort Maintenance Dredging 2021, Rosslare Harbour, Archaeological Monitoring Report', Excavation licence Number 21E0020, ADCO Report issued March 2021.

Each of the marine geophysical targets was located and positively identified/assessed. In addition, a 20m circular search was also completed at each target location.

A detailed description of the intertidal/seabed topography/bottom composition was made. A finds retrieval strategy dealing with conservation, cataloguing, and locational recording was in place to deal with the potential recovery of any artefacts encountered during the underwater survey.
An average water depth of 6m was noted for the nearshore area and a maximum depth of 8m recorded at Target AT05. Visibility was good, ranging between 3m-5m. Dive operations were carried out to HSA/HSE standard using surface supplied equipment, supported with suitable boat cover and mobile/ VHF communications to the Port Operations at Rosslare Europort, in accordance with the Safety in Industry (Diving Operations) Regulations 1981, SI 422 and HSA, Safety, Health and Welfare at Work (Diving) Regulations 2018-2019 (Plate 7). The on-site work was carried out under licence from the DHLGH on the 9th May 2025.

4.1 Terminology

When referring to the degree of compaction observed for the seabed deposits under inspection, the terms loose, medium, and hard are relative and do not relate to the measured properties of these deposits. All dimensions in this report are provided in either millimetres or meters according to scale. When referring to sediment grain size, the Wentworth scale has been adopted, as detailed in Table 3.

Size (mm)	Grade
>256	Boulder
>64	Cobble
>4	Pebble
>2	Granule (gravel)
>1	Very coarse sand
>1/2	Coarse sand
>1/4	Medium sand
>1/8	Fine sand
>1/16	Very fine sand
>1/32	Coarse silt
>1/64	Medium silt
>1/128	Fine silt
>1/256	Very fine silt
<1/256	Clay

Table 3: Sediment grain size categories as applied to the seabed deposits discussed in this report.

5.0 ARCHAEOLOGICAL ASSESSMENT

5.1 Topography

Small Boat Harbour (Figures 6-7)

Rock-armour spurs delineate the entrance to the Small Boat Harbour, with rock-armour and stone-filled gabions delineating much of the harbour's eastern extent (Plates 8-10). The west side of the inner harbour area is defined by a revetment composed of imported rubble, which in turn supports an access track leading towards a boat-slip and floating pontoon (Plates 11-12). Moving northwards, the harbour area is delineated by a grass-covered cliff, below which extends a compact deposit of coarse sand, with an overlying deposit of sub-rounded and sub-angular cobbles (<250mm) (Plate 13). Numerous sub-angular boulders (<450mm) are also present.

The harbour has been subject to considerable siltation, deep deposits of silt (1.5m+ depth) now extending across the inner harbour area (Plates 14-15). As a result, the harbour is largely inaccessible to boat traffic during periods of low tide. In contrast, a compact silty-sand (<300mm penetration depth) is located across the sub-tidal seabed on approach to the harbour entrance. A shallow sub-tidal channel (*c.* 500m depth) is located towards the centre, travelling towards the outer boat slip and floating pontoon (Plate 16-17).

A water depth of 200mmm at Low Water was recorded for much of the harbour area, increasing to 500mm towards the harbour entrance, and 1m for the channel.

Nearshore Area

The seabed is composed of compact (fine) sand with a light dusting of overlying silt; a hand-penetration depth of 20mm-30mm being observed for this area. The seabed is gently rippled, comprising low-lying, ill-defined, ripples that are orientated approximately north-northeast to south-southeast. Occasional pebbles (<50mm) and small cobbles (<150mm) were noted, along with occasional shell inclusions: Razor Shell (*Ensis silqua*), Common Whelk (*Buccinum undatum*), Great Scallop (*Pecten maximus*), and the Common Cockle (*Cerastoderma edule*). Occasional patches of sub-rounded to sub-angular cobbles (<70mm) and small boulders (<450mm), interspersed with pebbles and fine gravel, were also present. These areas were also observed to provide suitable anchor-points for seaweed growth. Some fallen rock-armour pieces were observed along the base of the reclaimed section of foreshore, extending between the Small Boat Harbour and Rosslare Harbour (Plates 18-19).

The upper foreshore, to the west of the Small Boat Harbour, is delineated by a low-lying, grass-covered, cliff-face that rises at a *c.* 45^0- 50^0 angle (Plates 20-21). Exposed sections of shelving bedrock are frequently present along the base of the cliff structure, and occasional deposits of water-eroded glacial till (boulder clay) were also observed (Plates 22). The foreshore extending from the cliff to the HWM is composed of sub-rounded to sub-angular cobbles (150mm average size) and boulders (<500mm), overlying a deposit of sub-rounded pebbles (<300mm depth). Along the HWM, frequent

fingers of bedrock can be seen extending towards the LWM. The intertidal foreshore is primarily composed of large cobbles and small to medium sized boulders, with occasional pebble deposits, <100mm in depth (Plate 23). Moving below the LWM, foreshore composition changes to a compact deposit of sub-angular cobbles and small boulders of fairly uniform size and shape (Plate 24). This deposit extends in-water for a distance of *c.* 15m, after which a compact silty-sand is present.

5.2 Visual Survey and Assessment

Small Boat Harbour

The harbour was artificially created as part of reclamation works, undertaken in the 1990s, to provide a location for local fishermen to safely moor their vessels. Today the harbour has a somewhat dilapidate feel with multiple concrete slipways that have fallen into disrepair. The degree of siltation is significant, making most of the slips and jetties redundant. In the most part, vessels are left to sit on the mud-flats during low tide, with larger vessels being moored alongside a concrete slip and floating pontoon (located on the west side of harbour area). These represent the only viable structures for vessel deployment during mid/high water periods.

A systematic walkover and snorkel survey of the area was undertaken. Aside from numerous mooring ropes and buoys, attached to mooring weights buried at depth, the seabed remained largely sterile of any man-made items/debris and no archaeological material, deposits, or features were encountered as part of the assessment.

Nearshore Area

A systematic visual survey of the sub-tidal seabed was conducted across this area. The seabed was observed to be sterile of any man-made debris and no archaeological material, deposits, or structures were encountered as part of the underwater assessment. In addition, the seabed was largely free from marine vegetation.

Intertidal inspection (Low Water) of the foreshore was also undertaken to the west of the Small Boat Harbour. No archaeological material, deposits, or features were encountered as part of this endeavour.

5.3 Marine Geophysical Targets

Three (3) targets were identified for underwater inspection as part of the UAIA, tabulated below (Table 4) and as detailed in Figure 2. Two (2) targets represent anomalies identified from a multibeam survey of the OREH project area (undertaken by Hydromatser), and one (1) was identified from ADCO's interpretation of the gathered side-scan sonar data. No target was encountered at ADCO 4, the image presumably the result of interference, or perhaps the image being from a mobile target. AT05 comprised a cage from a mussel boat (or similar), discarded and/or reused as a mooring, and AT06 comprised a large piece of trawler-deck machinery, also reused as a mooring.

Target	ITM/ Lat/Long	Interpretation	Inspection
ADCO 4	712114E, 612539N 52^0 15.187, 06^0 21.474	• Side scan sonar data trace showing possible line of c. 14 stakes, *c.* 1m long and c. 1m separations, extending *c.* 14m in length close inshore in vicinity of and west of Ballygeary Harbour. • Survey Line SF173607, also recorded, faintly, on lines SF173245 and SF172947. The image also shows interference lines from other device deployments.	• No target present, image presumably the result of interference or perhaps mobile object. • Seabed comprises compact silty-sand with hand-penetration depth of 10mm, flat and featureless with gentle rippling and occasional crushed shell inclusions. • Inspection area extended 40m around target, then progressing towards the shore, completing a further three (3) circular searches.
HM T05	712084E, 612956N 52^0 15.413, 06^0 21.492	• Rectangular-shaped feature measuring 6m long by 2.5m wide in water depth of -3.5m CD. Possible container or barge element. Interpreted by Hydromaster as possible wreck. • Located 340m west of PDB	• Modern, cage from mussel boat or similar; discarded and/or reused as mooring. • Partially buried rectangular metal object, lying on its side; measuring 2.25m length, 1.5m width, and 300mm in exposed depth. Edges formed of angle iron, with two (2) bracing/reinforcing straps, located 1m and 1.6m along object. Side walls formed of re-bar (18mm diameter) panels, which are heavily corroded in places. Modern chain attached to one end of target, running into seabed. Small metallic object located 800mm from other end of target, measuring 1.25m length, 450mm width, 300mm thickness.
HM T06	712214E, 612848N 52^0 15.353, 06^0 21.380	• V-shaped target feature measuring 3.6m long by 2m wide, in water depth of -3.9m CD. Possible bow section of vessel. Interpreted by Hydromaster as possible wreck	• Modern machinery from trawler; reused as mooring. • Comprises an 'H-beam', orientated roughly east-west, measuring 4.1m length. A steel pin protrudes (upwards) from either end of the beam; measuring 600mm length, 50mm diameter). Modern link chain and D-shackle present fastened to east end of beam. Length of old mooring (20mm diameter) fastened to west end. Immediately to the south, a large circular metal object (solid disc) is present (attached to e H-beam beneath the seabed). The object measures 1.5m in diameter, with a 30mm diameter pin located at centre; pin protrudes 350mm. A square plate/washer is located beneath the pin, measuring 20mm x 200mm.

Table 4: Marine Geophysical Targets subject to underwater inspection.

5.4 Metal-detection Survey

Metal-detection was carried out, within the confines of the Small Boat Harbour, using a Garrett AT Pro metal detector. However, the presence of deep silt deposits across the inner harbour area negated meaningful survey. As such, only surface modern finds comprising discarded rubbish were encountered (foil wrappers, aluminum cans, etc.); any metallic items of age/weight being likely to be found at depth beneath the overlying silt.

The intertidal foreshore along the southwestern extent of the harbour was successfully completed. Here a consistent target ratio of 2-3 hits per/m² was recorded. The majority represented fishing related items, lying amongst the gravels and seaweed, comprising lost fishing weights and small miscellaneous items related to small boat repairs (mechanical and electrical fittings, etc.).

No items of archaeological or historical significant were observed. However, given the relatively good holding-content present, the possibility remains that items of interest may remain buried at depth.

5.5 Conclusion

The survey was comprehensive and extended beyond the proposed dredging footprint. No archaeologically or historically significant materials, deposits, or features were observed as part of the assessment. Subtidal areas were found to be remarkably clean, being free from any visible surface modern debris. However, the upper foreshore retained a considerable amount of debris associated with small scale fishing activity.

A good archaeological holding content was observed for the seabed areas under assessment and, as such, the possibility of buried (*in-situ*) archaeological material still remains. However, given the degree of siltation observed within the Small Boat Harbour, any such martial would be buried at depth. In addition, it is understood that the dredging of the harbour would endeavour to restore original depths across its extent. Therefore, the potential to expose features of interest is largely limited to the interface between the original foreshore and its subsequent overburden.

6.0 PROPOSED IMPACTS[7]

No impact to any known archaeological material, deposits, or features will arise from the proposed reclamation. Moreover, it is understood that no dredging of the existing Small Boat Harbour will be required to facilitate the reclamation process. However, in the event that such activity becomes necessary, archaeological monitoring of any foreshore/seabed disturbances would be required; to mitigate for potential impact/s to any buried sub-surface features, deposits, and/or martial of archaeological interest that may remain buried at depth.

6.1 Impact Categories

Impact/effect categories will typically have regard to those set out in the EPA 'Guidelines for Information to be Contained in EIAR' 2022, 'Guidelines on the information to be contained in Environmental Impact Statements', 2002; 'Advice notes on Current Practice (in preparation of Environmental Impact Statements), 2003 and Revised Draft 2015, EPA; and Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes, 2006, National Roads Authority. It also takes into account the recently published 'Archaeology and Flood Relief Schemes:

[7] This section does not purport to relate to precise engineering details but is rather an attempt to understand the nature of the impact on the potential archaeological environment, based on the supplied data.

Guidelines', NMS 2023. Impacts/effects are generally categorised as either being a direct impact, an indirect impact or as having no predicted impact.

Impacts are generally categorised as either being a direct impact, an indirect impact or as having no predicted impact:

Direct impact occurs when an item of archaeological or architectural heritage is located within the centreline of the proposed route alignment and entails the removal of part, or all, of the monument or feature.

Indirect impact may be caused where a feature or site of archaeological or architectural interest is located in close proximity of the proposed development.

No predicted impact occurs when the proposed route option does not adversely or positively affect an archaeological or architectural heritage site.

These impact categories are further assessed in terms of their quality i.e. positive, negative, neutral (or direct and indirect).

Negative Impact is a change that will detract from or permanently remove an archaeological or architectural monument from the landscape.

Neutral Impact is a change that does not affect the archaeological or architectural heritage.

Positive Impact is a change that improves or enhances the setting of an archaeological or architectural monument.

A significance rating for these impacts is then given i.e. slight, moderate, significant or profound.

Profound applies where mitigation would be unlikely to remove adverse effects. This is reserved for adverse, negative effects only. These effects arise where an archaeological or architectural site is completely and irreversibly destroyed by a proposed development.

Significant is an impact that, by its magnitude, duration or intensity alters an important aspect of the environment. An impact like this would be where the part of a site would be permanently impacted upon leading to a loss of character, integrity and data about the archaeological or architectural feature/site.

Moderate is a moderate direct impact that arises where a change to the site is proposed which, though noticeable, is not such that the archaeological integrity of the site is compromised and which is reversible. This arises where an archaeological or architectural feature can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.

Slight is an impact that causes changes in the character of the environment that are not significant or profound and do not directly impact or affect an archaeological or architectural feature or monument.

Imperceptible is an impact capable of measurement but without noticeable consequences.

In addition, the duration of Impacts is assessed and has been sub-divided into the following categories:

- **Temporary Impact**, where an Impact lasts for one year or less
- **Short-term Impacts**, where an Impact lasts one to seven years
- **Medium-term Impact**, where an Impact lasts seven to fifteen years
- **Long-term Impact**, where an Impact lasts fifteen to sixty years.
- **Permanent Impact**, where an Impact lasts over sixty years.

Potential impacts associated with the proposed works and corresponding impact classifications have been tabulated in Table 5 (see overleaf). There are no impacts (primary or secondary) to any of any of the features discussed as part of the archaeological assessment.

Item	Proposed works	Potential Impacts	Classification of Impact
Small Boat Harbour; Intertidal/Seabed Deposits	• Reclamation of the Small Boat Harbour • Dredging (if required during reclamation process)	• No impact/s anticipated. • The potential for buried (sub-surface) features, deposits, or material to be located within original foreshore/seabed deposits remains.	• No direct impacts to known feature, deposit, or material of archaeological significance. • Potential for permanent, significant, impact/s to buried features, deposits, or material through dredging process (if required).

Table 5: Nature and classification of impacts arising from the proposed reclamation of the Small Boat Harbour.

7.0 RECOMMENDATIONS

7.1 Pre-reclamation Measures

No further ameliorative measures are recommended in advance of the proposed reclamation of the Small Boat Harbour taking place.

7.2 Reclamation Phase Measures

Dredging is not anticipated as part of the reclamation of the Small Boat Harbour. However, in the event that such activity does become necessary, Archaeological Monitoring is recommended during the removal of any intertidal/foreshore/seabed deposits that may be required as part of such activity. This wok should be completed by a suitable qualified maritime archaeologist, working under licence from the DHLGH. The archaeological work should be carried out in accordance with the terms of Section 5 of the National Monuments Act (2004 Amendment).

RETAINING AN ARCHAEOLOGIST/S. An archaeologist should be retained for the duration of the relevant works. This above work is to be conducted by a suitably qualified and experienced maritime archaeologist, with the proviso to resolve fully any archaeological material observed at that point.

THE TIME SCALE for the construction phase should be made available to the archaeologist, with information on where and when ground disturbances and/or dredging will take place.

SUFFICIENT NOTICE. It is essential for the developer to give sufficient notice to the archaeologist/s in advance of the construction works commencing. This will allow for prompt arrival on site to monitor the ground disturbances. As often happens, intervals may occur during the construction phase. In this case, it is also necessary to inform the archaeologist/s as to when ground disturbance works will recommence.

DISCOVERY OF ARCHAEOLOGICAL MATERIAL. In the event of archaeological features or material being uncovered during the construction phase, it is crucial that any machine work cease in the immediate area to allow the archaeologist/s to inspect any such material.

ARCHAEOLOGICAL MATERIAL. Once the presence of archaeologically significant material is established, full archaeological recording of such material is recommended. If it is not possible for the construction works to avoid the material, full excavation would be recommended. The extent and duration of excavation would be a matter for discussion between the client and the statutory authorities.

ARCHAEOLOGICAL TEAM. It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complimented in the event of a full excavation.

SECURE SITE OFFICES and facilities should be provided on or near those sites where excavation is required.

FENCING of any such areas would be necessary once discovered and during excavation.

ADEQUATE FUNDS to cover excavation, post-excavation analysis, and any testing or conservation work required should be made available.

MACHINERY TRAFFIC during construction must be restricted as to avoid any of the selected sites and their environs.

SPOIL should not be dumped on any of the selected sites or their environs.

PLEASE NOTE: All of the above recommendations are based on the information supplied for the reclamation of the Small Boat Harbour at Ballygerry, Rosslare Europort, Co. Wexford. Should any alteration occur, further assessment maybe required.

PLEASE NOTE: Recommendations are subject to the approval of The Department of the Department of Housing, Local Government, and Heritage; formerly the Department of Culture, Heritage and the Gaeltacht.

8.0 ACKNOWLEDGEMENTS

Thanks are extended to Michael O'Sullivan, Assistant Project Manager, at Iarnród Éireann, and Joey O'Connor, Principal Marine Environmental Scientist at Venterra. Thanks are also extended to Glen Carr, General Manger, Rosslare Port Authority, for his assistance during the project. The Survey Team comprised Rex Bangerter (Archaeological Director/ Diver), Matthew Conway (Archaeologist), Dan Lenehan (Archaeologist/metal detectorist), Samuel McAllister (Archaeological Assistant), Brian MacAllister (Diving Supervisor), and Liam O'Shea (Coxwain). The report was written by Bangerter.

Appendix 1: Shipwrecks listed in the DHLGH Shipwreck Inventory for the South Coast of County Wexford.

Location	Name	Date	Ship Type	Cargo	Information
Off the east coast of Wexford	*Active*	01/1922	--------	Wheat	En route from Liverpool to Wexford. All on board survived.
Off Wexford	*Adventure*	12/11/1812	--------	--------	En route from Limerick to Liverpool. Captured and sunk by French schooner Brestois a privateer
Off Rosslare Fort	*Angharad*	1891	Schooner	--------	Wexford vessel became a total wreck
Rosse lake (perhaps Rosslare)	*Ann*	26/11/1820	--------	--------	En route from Liverpool to Cork
Rosse Lake, near Wexford	*Ann*	26/11/1820	--------	--------	En route from Liverpool to Cork when she went ashore. The cargo was expected to be saved.
Ballygeary	*L'Aventeen*	Pre 1852	--------	General cargo	--------
Off wexford coast	*Ayrshire Lass*	9/05/1867	--------	--------	Four people survived
Wexford coast	*Betsey/Betsy*	24/09-10/1805	Sloop	Ballast	Sloop of Dartmouth
South Bay	*Betsey and Mary Ann/Betsey & Mary*	1/01/1822	--------	--------	En route from Cork to Glasgow driven ashore in a heavy gale
South Bay	*Blue Bone*	Unknown	--------	--------	This may still be a hazard to fishing
Off Rosslare	*Bonefide*	08?/1905	--------	Copper	En route from Fiji to Liverpool. All aboard survived.
Rosslare	*Bonita*	6/8/1900	11 year old Yawl (yacht)	Ballast	Weighed 12 tons, of Cork en route from Kingstown to Cork stranded in NNW force 8 wind. She was a total loss.
Ballygeary	*Boston packet*	14/11/1880	53-ton 38-year old Wexford schooner	Coal	En route from Cardiff to Ballygeary became stranded in a NNE force 9 gale and was totally wrecked.
South bay	*Brittania*	Pre 1852	UK schooner	Coal	Sailing coastwise when became lost
Off the Wexford coast	*Britton Haliburton*	09/1839	--------	--------	Valued at £4500.00
South Bay	*Brothers*	Pre 1852	UK sloop	Grain	Coastal journey when she became a partial loss.
South Bay	*Brothers*	Between 1846 and 1851	--------	--------	--------
Off Rosslare	*Civil Servant*	03/1868	UK brig	Coal	14 people survived
South of Rosslare, around 3 miles north of Rosslare	*Clara and Jessie*	10/12/1890	46 year old wooden schooner weighing 67 tons	--------	All those on board survived. She sailed from Wexford bound for Milford when she was wrecked.

Location	Name	Date	Ship Type	Cargo	Information
coastguard station					
South Bay	*Clonmel*	Pre 1852	UK steamer	General cargo	Sailing coastwise when ran aground but got off later.
South Bay	*Commerce*	26/01/1843	Schooner		Lost two cables while lying at anchor
Coast of Wexford	*Coquette*	15-16/12/1820	--------	--------	The ship was en route from Liverpool to Africa. She was totally wrecked and only two of the crew were saved.
Beach at Rosslare Harbour	*Crest*	9/3/1936	Three-masted auxiliary schooner	Salt	Formerly called the Vigilant en route from Wexford to Dublin. The crew survived and at low tide the wreck was accessible.
Rosslare	*Cymric*	01/1924	--------	Bricks	--------
Ballygeary	*Denbighshire Lass*	6/3/1908	--------	--------	--------
Off the Wexford coast	*Demara*	1816	--------	--------	--------
Near Rosslare 52 14 21N 006 17 42W Wreck no 010400606	*Earl*	1930	--------	--------	35m depth of water
Rosslare harbour	*Edward*	11/1915	--------	Oats	--------
Near Rosslare	*Eiderslic/ Elerslie*	1859	--------	--------	--------
Hill of Sea	*Elerslie*	21/01/1858	Emigrants	--------	En route from Liverpool to Barbados
Coast of Wexford	*Elizabeth*	23/12/1816	--------	--------	Dartmouth based ship en route from London to Cork when driven ashore and feared lost
Rosslare	*Ellen Kerr*	1/9/1883	--------	--------	From Wexford. All on board survived.
Wexford coast?	*Fairie*	After 11/12/1883	48-year old schooner	Beans	From Whitehaven weighed 59 tons. En route from Wexford to Glasgow when went missing with all four aboard in gale.
Off the Wexford coast	*Felix Pensamiento*	09/1839	Brig	--------	On passage from St. Ubes to Sligo
South Bay	*Frenchman*	Early 1900s	--------	--------	This vessel is still a hazard to fishing.
Rosslare Harbour	*Friendship*	11/1915	--------	--------	This vessel was re-floated later
Near Rosslare	*Gannet*	23/1/1906	--------	--------	Four people survived
Near Rosslare	*Goelta*	1/12/1929	2473-ton vessel	--------	From Swansea, caught in fog and ran ashore. Was re-floated and brought to Dublin for repairs.
Hill O'Sea	*Harvest Home*	4/10/1909	--------	--------	The vessel was later re-floated
South Bay	*Harvest Home*	C1922	--------	--------	The vessel was later re-floated

Location	Name	Date	Ship Type	Cargo	Information
Rosslare Harbour	*Harvest King*	11/1915	--------	--------	This vessel was later re-floated
Near Rosslare	*Helen*	01/1879	--------	--------	En route from Liverpool. 13 people survived.
Rosslare	*Isabella Davidson*	19/01/1861	--------	Ballast	Inverness based ship en route from Falmouth to Troon when driven ashore.
Off Wexford coast	*Jager*	01/1845	--------	--------	Valued at £30000 was en passage from Liverpool to Calcutta
Wexford coast	*Jay*	4/12/1798	--------	--------	American ship en route to Liverpool when stranded. Part of cargo is expected to be saved.
Rosslare	*John Bull*	11/1915	--------	Coal	--------
South Bay	*John and Esther*	Between 1846 and 1851	UK brig	Malt	Total loss
South Bay	*John and Samuel*	Between 1846 and 1851	Sloop	Potatoes	A partial loss
South Bay	*John P. Esther*	Pre 1852	Valued at £6000	Malt	Sailing coastwise when lost
South Bay	*John P. Samuel*	Pre 1852	--------	Potatoes	Sailing coastwise when lost
Off Rosslare Fort	*Keepsake*	20/10/1894	10-year old wooden yacht/yawl	--------	Broke moorings at Rosslare in gale. Drifted out to sea. No one aboard.
On the Wexford coast	*Kingston*	02/1838	Brig	--------	On passage from Plymouth to Liverpool
South Bay	*Levantine*	27/02/1848	190-ton vessel	--------	En route from Liverpool to Gibraltar when she went ashore
Rosslare	*Loddon*	27/01/1941	Steam trawler	--------	Of Lowestoft, struck a rock near the Saltees. The crew drove her ashore at Rosslare. It is hoped to repair the vessel
Near Rosslare lighthouse	*Love Lane*	14/02/1903	9-year old unregistered wooden lugger weighed 10 tons.	Ballast	Of Wexford, she was working out of Wexford, fishing, with six crewmen when stranded and was a total loss in a WNW force 2 wind.
Hill O'Sea	*Lucinda Jane*	20/02/1888	--------	Malt	En route to Dublin
Off Rosslare Harbour	*Margaret Edna*	1948	--------	--------	Wexford, 650m east of Rosslare Harbour, off the Carrigs.
South Bay	*Magnolia*	12/11/1852	--------	--------	--------
South Bay	*Maria*	Pre 1852	UK schooner	Coal	Coastal journey when became partial loss
South Bay	*Mary*	Between 1846 and 1851	UK cutter	Grain	Total loss
Rosslare	*Mary Bangor*	1869	--------	--------	--------
Rosslare Fort	*Marys*	16/01/1892	--------	Timber	En route from Totnes to Runcorn when she became a

Location	Name	Date	Ship Type	Cargo	Information
					total loss. Three people survived.
Off the Fort	*Mayflower*	1784?	--------	Coal	Of 4 crew one life was saved
South Bay	*Miss Williams*	C1922	--------	Coal	En route from Wales she was later re-floated
Near Rosslare Fort	*Muckaloo*	Unknown	--------	--------	The wreckage still causes a hazard and are now known as 'the Muckaloo Stones'.
Wexford coast	*Murichu?*	1878	--------	--------	Ex-fishery patrol boat involved in the 1916 rising sank on its way to be broken up.
Wexford coast	*Nancy of Newry*	26/02/1768	--------	--------	Of Newry en route from Galway to Bristol when lost
South Bay	*Newfriendship/ New friendship*	Pre 1852	UK sloop	Grain	Sailing coastwise became total loss
South Bay, Rosslare	*Orinoco*	11-12/11/1876	--------	--------	En route from St John's Brunswick to Liverpool with a cargo of timber. 34 people survived but three were lost.
South Bay	*Orangeman*	Early 1900's	--------	--------	Became a total wreck and remains a hazard to fishing
Wexford coast	*Orissa*	2/1838	Schooner	--------	On passage from Glasgow to Bristol
Near Rosslare Point	*Pilot*	31/01/1888	67-ton wooden schooner	Coal	53 years old, of Wexford, en route from porthcawl to wexford. Totally wrecked in a NW force 6 gale. No loss of life.
South Bay	*Ponsonby*	Pre 1852	UK Schooner	Cattle	Partial loss
Near Rosslare	*Puffin*	8/3/1906	--------	--------	6 people survived. Edward Wickham, cox of the Rosslare lifeboat was awarded a silver medal.
Kilrane/South Bay	*Seaview*	1/11/1915	86-ton schooner	Oats	Built in 1861
South Bay	*Shubenacaddie /Subernacadie*	25/11/1835	UK brig	Timber	En route from Canada. The crew survived.
South Bay	*Star*	Pre 1852	UK schooner	Coal	Sailing coastwise when became a partial loss.
Near Rosslare	*Stella*	7/1/1859	--------	Marble	En route from Leghorn to Dublin when lost
Rosslare	*Statendrick*	02/1884	--------	Coal, iron	Enroute from Liverpool to Rio Grande. All on board survived
Off Rosslare Harbour	Success (Part off	01/08/1982	Trawler	--------	Fishing trawler cut in two after a collision. Surveyed by the GSI and INFOMAR in 2003 and 2012. One part of the wreck lies in 11m of water and measures 12m long, 5m wide and has a maximum height of 2m above the seabed. The other part of the wreck lies approximately 480m east.
Off Rosslare Harbour	Success	01/08/1982	Trawler	--------	Trawler surveyed by the GSI and INFOMAR in 2003 and 2012. Wreck lies in 11m of

Location	Name	Date	Ship Type	Cargo	Information
					water and measures 12m long, 5m wide and has a maximum height of 2m above the seabed.
South Bay	*Swallow*	Pre 1852	UK sloop	Grain	On coastal journey when became a partial loss.
Rosslare	*Tempest*	7/12/1908	Unregistered fishing ketch	ballast	Of Wexford, built of wood, 41 years old and 6 tons. Fishing out of Wexford with 2 crew she became stranded and was a total loss.
---------	*Theodore*	15/7/1875	208-ton wooden brig	Timber	33 years old stranded in ENE force 10 gales becoming a total loss.
Off the Wexford coast	*Theseus*	10/1840	--------	--------	Valued at £8000 en passage from St John's to the Clyde when lost
South Bay	*Thistle*	31/1/1839	British schooner	Ballast	Total loss
Near Rosslare	*Thomas Farrel*	1829	199-ton vessel	--------	Of Wexford
South Bay	*Thomas Farrel/Thomas Farell*	Pre 1852	--------	Timber	Partial loss
Fort of Rosslare	*Torrance*	1/2/1855	--------	Coal	Sheltered in bay but anchor cables broke. She went ashore and was wrecked.
Rosslare/South Bay, under Hill of Sea, Ballygeary	*Versailles*	18-19/01/1861	620-ton vessel	General cargo	en route from Liverpol to Shanghai, driven ashore. She was towed off and cargo unloaded. The tug Erin placed a valuable steam pump belonging to the Liverpool towing company but it was lost.
Ballygeary Pier	*Victoria*	11/02/1906	--------	--------	This vessel was at anchor when she hit the pillars of a viaduct and sank.
South Bay	*Wave*	8/11/1906	--------	--------	The vessel was later salvaged.
Rosslare	*William and Mary*	18/01/1803	Smack	Slates	En route from Port Gain when wrecked
Off Wexford Coast	*William of Weymouth*	1818	--------	--------	Some of the bodies are buried at St. Vogue's graveyard, Carne
Rosslare	*Yarra Yarra*	7/03/1904	--------	Coal	En route from Newport to Wexford. Five people survived and the vessel was later saved.
South Bay	*Young Hudson*	8/11/1906	--------	--------	Lost
Hill O'Sea	Zion Hill	4/10/1909	--------	--------	--------
Off S Wexford coast	Unknown	10/01/1549	--------	Wine	On passage from Spain to Limerick. The ship was plundered by the inhabitants.
Off east coast	unknown	19?/11/1807	Two transport ships	--------	Lost in severe blizzards
South Bay	unknown	Between 1846 and	Portuguese brig	In ballast	Became a total loss

Location	Name	Date	Ship Type	Cargo	Information
		1851			
Rosslare	unknown	18/12/1855	Ship	--------	Came ashore near pilot station
Rosslare	unknown	18/12/1855	Ship	--------	Came ashore near pilot station
Near Rosslare	unknown	27/01/1906	Ketch	--------	--------
Near Rosslare	unknown	27/01/1906	Ketch	--------	--------
Near Rosslare	unknown	27/01/1906	Schooner	--------	--------
South Bay, Rosslare		26/07/1906	1-ton 6-year old unregistered wooden fishing lugger	In ballast	En route from Ballygeary to Rosslare capsized in a SSE wind but was recovered later.

Appendix 2: Excavations Bulletin entries relating to the coastline between Wexford Harbour and Rosslare Harbour.

Licence number: 21D0020, 21R0028

County: Wexford **Site name:** Rosslare Strand, South Bay

Sites and Monuments Record No.: N/A

Author: Rex Bangerter, ADCO

Site type: Intertidal foreshore, seabed

ITM: 711125E, 614630N

Description
Underwater Archaeological Impact Assessment (UAIA) took place of a newly designated near-shore sediment dispersal site carried out as part the beach re-nourishment project for Rosslare Strand, South Bay, Rosslare, Co. Wexford.

Pre-planning requirements for the initial phase of beach re-nourishment along Rosslare were first progressed in 2008. As part of this work, ADCO carried out an UAIA of the sediment dispersal site associated with that phase of the project. An updated archaeological assessment was required to facilitate the new dispersal site, positioned c. 760m to the north of the original site; located at ITM 711125E, 614630N (centrepoint). The proposed site measures 550m (north-south) x 370m. Maintenance dredging operations at Rosslare Harbour are to provide the required beach re-nourishment material.

The underwater assessment comprised the systematic non-disturbance inspection of the seabed across the extent of the proposed dispersal site. The assessment encompassed a seabed area measuring 580m (north-south) by 390m; extending the survey beyond the designated limits of the site. Metal-detection was also undertaken, across a sample area, measuring 100m (east-west) by 40m, to provide an example detection-ratio for the wider seabed under assessment.

No archaeologically significant material, deposits, or structures were encountered as part of the underwater assessment. The work was carried out under licence from the DHLGH on the 23 March 2021.

Licence number: 21E066

County: Wexford **Site name:** Rosslare Europort

Sites and Monuments Record No.: WX038-007:001-003

Author: Rex Bangerter, ADCO

Site type: Multi-period, Seabed

ITM: 713350E, 712068N

Description
Two seabed areas were subject to the maintenance dredging, comprising a 600m long section of the harbour approach channel and a 145m x 43m area of seabed positioned along the inner side of Rosslare Pier. The TSHD *Sospan Dau*, operated by Bosklais, undertook the work, dredging a 3.233ha area of seabed to a maximum depth of -7.2 CD.

ADCO is familiar with both the dredging vessel and the nature of the seabed surrounding Rosslare Harbour; having undertaken monitoring of the previous maintenance dredging programme in 2016.

The dredging programme commenced on 1st February 2021 and was to be conducted over a 25-day period. However, dredge volumes were achieved well in advance of the anticipated timeframe and dredging operations were concluded by the 18th February 2021; encompassing 14-days of active dredging.

Archaeological monitoring was undertaken on a 24hr basis, a single archaeologist monitoring each 12-hr cycle. This work was carried out under licence numbers 21E0066, 21R0021, and 21D0016. No material of archaeological or historic significance was observed as part of the monitoring.

Licence number: 19D0034, 19R0085

County: Wexford **Site name:** River Slaney Estuary/ Wexford Harbour

Sites and Monuments Record No.: WX038-007:001-003

Author: Rex Bangerter, ADCO

Site type: Intertidal foreshore, seabed; multiple features

ITM: 710515E, 621210N

Description
ADCO carried out a desktop-study and drone survey of a series of aquaculture sites at nineteen (19) locations within the River Slaney Estuary/Wexford Harbour. The purpose of the survey was to identify any anomalies of archaeological potential present within the intertidal footprint of the proposed sites and to undertake any subsequent field inspection that may be required.

Desktop assessment highlighted the dynamic nature of Wexford Harbour and the presence of nineteenth-century improvements to the harbour's infrastructure, attempts to maintain safe navigation, and a series of structures associated with reclamation of the north and south sloblands. The desktop survey was complemented by comprehensive drone survey, carried out on a Spring Low Water Tide Cycle between 1 and 10 May 2019. The survey captured aerial imagery across seventeen (17) of the nineteen (19) aquaculture sites; covering a total area of c. 9.6km² (960ha) to provide 87% coverage of the combined area of the aquaculture sites. Eight of the sites (T03/071A, T03/072B, T03/074B, T03/077A, T03079A, T03/085A, T03/090A and T0391A) retained sub-tidal zones and were not suitable for this method of data acquisition.

The drone imagery was processed to create geo-referenced photomosaics at a resolution of 3cm/per pixel; allowing objects as small as c. 200mm in diameter to be successfully viewed/identified. This data was subject to detailed desktop review to identify any anomalies present. A total of seventy-five (75) anomalies were identified (referenced DA001-DA075), with fourteen (14) deemed to retain archaeological potential. Subsequent intertidal field inspection and assessment was carried out on 20 June 2019.

The intertidal inspection identified two archaeologically significant features, both being intertidal fishtraps, known locally as Ebb Weirs. The first fishtrap/weir (Feature F01) corresponds with drone anomalies DA054/DA055. The second fishtrap/weir (Feature F02) is a site that was not visible within the drone survey imagery. F02 is located a short distance east-north-east of anomaly DA057. A detailed survey of the fishtrap sites was subsequently carried out on 17 and 18 July 2019. Fishtraps F01 and F02 are located within Aquaculture Site T03/093B, positioned on the south side of Wexford Harbour, adjacent to the townlands of Rosslare Intake (to the west) and Burrrow (to the east) respectively. An exclusion zone around these fishtrap features has been implemented.

Four additional features of interest were observed as part of the archaeological assessment, Features F03-F06.

Features F03 and F04 represent boat wrecks located upon the upper foreshore, at a point 150m to the south of Aquaculture Site T03/093B (Burrow Td.) These wrecks, lying in close proximity to each other, comprise the remains of two double-ended Rosslare Cots. The boat wrecks are both of similar design and retain elements of a boat-building tradition specific to Wexford Harbour and Rosslare.

Features F05 and F06 form the remains of historic breakwater/embankment structures constructed in the nineteenth century, as depicted on the OS Historic Mapping of Wexford Harbour. These features represent the residue of historic attempts to mitigate for the dynamic nature of the harbour and maintain an open navigation

channel. Aquaculture Sites T03/099A and T03/093A abut Feature F05, while Aquaculture Sites T03/080B and T03/092A abut Feature F06.

Three sites listed in the Record of Monuments and places (RMP) are located in proximity to Aquaculture Site T03/074A (22m-38m to south-south-west), WX038-007:001 (Martello Tower), WX038-007:002 (Watchtower), and WX038-007:003 (Bastioned Fort). These sites represent nineteenth-century structures built to protect the mouth of the harbour, at a time when Rosslare Point extended some 2.9km further to the north of its current extent. An RNLI lifeboat station also occupied this spit of land until 1925, after which the land forming the point become unstable due to severe and prolonged south-easterly storms. The lifeboat station and neighbouring RMP sites now lie submerged, immediately adjacent to (east) of a sandbank that is positioned across the northern half of harbour mouth.

Licence number: 16E0580

County: Wexford **Site name:** Rosslare Europort

Sites and Monuments Record No.: WX038-007:001-003

Author: Niall Brady, ADCO

Site type: Multi-period, seabed

ITM: 713350E, 712068N

Description
Archaeological monitoring of maintenance dredging took place aboard the TSHD *Sospan Dau*, commencing 23/11/2016. The work was focussed on reducing the build-up of sands off the head of Rosslare Pier, the entrance to Rosslare Europort, and the shipping berths. Monitoring was constant. A single object was recovered, namely a Palliser shell, which was removed from site by the Bomb Squad. Dredge depth was achieved with no further discoveries being made.

Licence number: 11E0348

County: Wexford **Site name:** BURROW, ROSSLARE

Sites and Monuments Record No.: WX043-002

Author: Cóilín Ó Drisceoil, Kilkenny Archaeology Ltd.

Site type: Church and graveyard

ITM: 709321E, 617053N

Description
Monitoring took place of the renovation and extension of a single-storey house at Burrow, Rosslare. The development is located within the area of a church site. The monitoring was preceded by a desktop study, a building survey and test excavations, which were undertaken in 2006 (*Excavations 2006*, no. 2129, 06E099) as part of pre-planning assessment of the proposed development area. The remnants of the south wall of the church and human remains were identified in the 2006 assessment. The rest of the church is no longer extant. Monitoring took two forms. The first was of the demolition of the later walls of the cottage to leave the south wall of the church standing. The second part was to monitor services and groundworks, including engineering trial holes, a biocycle tank and general ground-levelling. The foundation of the building was designed so as to rest above and not disturb the archaeological levels, which included the human burials. No skeletal remains or grave-cuts were identified, and the only find of archaeological interest was a sandstone transom from a medieval window.

Licence number: 080064, 08R0197

County: Wexford **Site name:** Rosslare, South Bay

Sites and Monuments Record No.: N/a

Author: Rex Bangerter, ADCO

Site type: Intertidal foreshore, seabed

ITM: 711418E, 613505N

Description
An underwater assessment of a 550m by 380m area of seabed was undertaken, prior to a proposed beach renourishment programme within South Bay, Rosslare, Co. Wexford. The renourishment material will be dredged from a large sandbar located outside the breakwater at Rosslare Europort. This material will be spread across a

designated, near-shore, dump zone within South Bay, located between 311181 113420 to 311589 113768, and 311828 113465 to 311414 113123. The material will provide beach renourishment sediment for Rosslare Strand and help to mitigate against the impact Rosslare Euorport has had on the sediment transport regime in the area. Systematic visual inspection of the designated dump zone area was undertaken. In addition, a metal-detection survey was undertaken across a 400m by 40m seabed area to provide a sample of the frequency of hits to be expected from this part of the seabed; due to the size of the survey area it was not possible to undertake a metal-detection survey of the area in its entirety. No archaeologically significant material, deposits, or structures were revealed within the survey area. The work was carried out on 25 and 26 August 2008.

Licence number: 06E0099

County: Wexford **Site name:** Burrow, Rosslare

Sites and Monuments Record No.: WX043–002

Author: Cóilín Ó Drisceoil, Kilkenny Archaeology Ltd.

Site type: Human burials

ITM: 709257E, 617092N

Description
An assessment of a proposal to renovate and extend a single-storey cottage at Burrow, Rosslare, was undertaken. The proposed development is located within the area of constraint for a church site. No trace of the church or graveyard was visible. Documentary sources relating to the site are scarce and those that do exist are somewhat contradictory. It is known, however, that there was a church, a graveyard and a holy well situated here from at least the late 17th century. The presence on the site of a 'holy well' dedicated to St Brioc may point to an earlier origin, but there is no other evidence available to support such a contention. The archaeological interventions included testing and a survey and assessment of the cottage to determine if any historic fabric was present within the dwelling.

Two small cuttings were opened within the proposed development area, in which nine inhumation burials were identified. The east–west orientation of the graves, with the head to the west, indicates clearly that the cemetery is of a Christian origin and may be associated with the Burrow church site. The distribution and density of the burials, and the evidence for intercutting of graves, is indicative of a rather extensive and long-lived cemetery. The removal of modern renders uncovered fragments of the south wall of the church, though no features of note were recorded. A mitigation strategy to allow for the preservation in situ of all of the archaeology was drawn up and approved by the Department of the Environment, Heritage and Local Government. It is expected that further archaeological monitoring will take place at the site in 2007.

Licence number: 04E1214

County: Wexford **Site name:** BALLYGERRY

Sites and Monuments Record No.: N/A

Author: Mary Henry, Mary Henry Archaeological Services Ltd.

Site type: Testing

ITM: 712270E, 612085N

Description
Topsoil-stripping for a proposed wastewater treatment plant and access road was monitored in advance of building works for the plant. There were no known monuments on the site of the proposed plant. Cartographic and documentary sources revealed very little regarding the past influence of human settlement and activity upon the landscape. The only monument within relatively close proximity of the site is Ballygerry Castle (built in the mid-17th century), which is located 250m to the south-east.

Archaeological features were identified at the interface of the disturbed ploughsoil and the natural. This is not surprising considering the extensive evidence for cultivation. This was also compounded by the presence of a railway line, which extends along the northern boundary of the site and would have resulted in massive land movement during construction. Features uncovered included a very extensive array of criss-crossing furrows, two destroyed field boundaries and the remains of potato clamps.

A number of archaeological features were uncovered in an isolated part of the site and the area nearest to the railway line. The features included pits, charcoal spreads and linear features. Several sherds of pottery were also discovered at the interface between the ploughsoil and natural deposits. The area was preserved in situ until it was excavated under a different licence (No. 1789 below, 04E1402).

Licence number: 04E1402

County: Wexford **Site name:** BALLYGERRY

Sites and Monuments Record No.: N/A

Author: Mary Henry, Mary Henry Archaeological Services Ltd.

Site type: Various

ITM: 712270E, 612085N

Description

Topsoil-stripping for a proposed wastewater treatment plant and access road was monitored in advance of building works for the plant. Archaeological features were identified at the interface of the disturbed ploughsoil and the natural (see No. 1788 above). These isolated features were excavated. Some of the features had been disturbed by very extensive ploughing and a railway line.

An area measuring 20m by 8m was stripped of topsoil and investigated. Within this area there were isolated archaeological features. They were sited on a slightly elevated subrectangular area. Topsoil comprised a dark-brown friable sandy silty clay with occasional small irregular pieces of stone. It had an average thickness of 0.25m and overlaid a very compact, high-silicate sandy clay with occasional small to medium stones. Potato roots were identified within this deposit, which was totally homogenous and very well mixed, due to extensive ploughing activity. Underlying the clay was a thin lens of dark-brown slightly silty sandy redeposited natural. Once the topsoil had been removed, it was very noticeable that this area had been subject to comprehensive agricultural activity. The features uncovered included a large linear ditch that was aligned north-south. It commenced at the railway line boundary and terminated at a junction with a secondary linear feature on a north-west/south-east alignment. This feature was immediately below the layer of redeposited natural that overlay this part of the site and cut into the natural clay. Its sides were straight and vertical, with a single fill of loamy, silty, slightly sandy clay. The secondary linear feature was also cut from the same horizon and was of similar construction and fill. It comprised straight sides and pronounced edges, clearly suggesting that it had been machine cut.

At the eastern base of the elevated area an ephemeral, slightly curvilinear feature extended from the railway boundary on a roughly north-south alignment. It measured 5.65m long and 1.2m and 0.48m deep. It was initially discovered through texture, as its fill was very slightly looser than the surrounding natural, and the fact that the eastern and western sides were more prominent than the surrounding soil. It had straight, almost vertical sides and had two fills; the upper fill was an orange/brown very sandy clay with a high silt content and occasional charcoal flecks and the lower fill (0.12m thick) was of dark-blue (black) very sandy silt bonding a layer of rounded small to medium stones. This fill suggested that this feature had being used for drainage purposes. A sherd of coil-made pot was located in close proximity to its eastern side.

A feature measuring 2.85m (east-west) by 0.71m and 0.16m deep was excavated close to the above curvilinear feature. Its fill comprised a mottled orange/brown sandy silty clay. It contained a high charcoal content, frequent small stone and burnt stone. There was evidence for intense burning at the base of the feature and the evidence suggested that it was burning in situ. Charcoal – a piece of oak – was removed for radiocarbon dating.

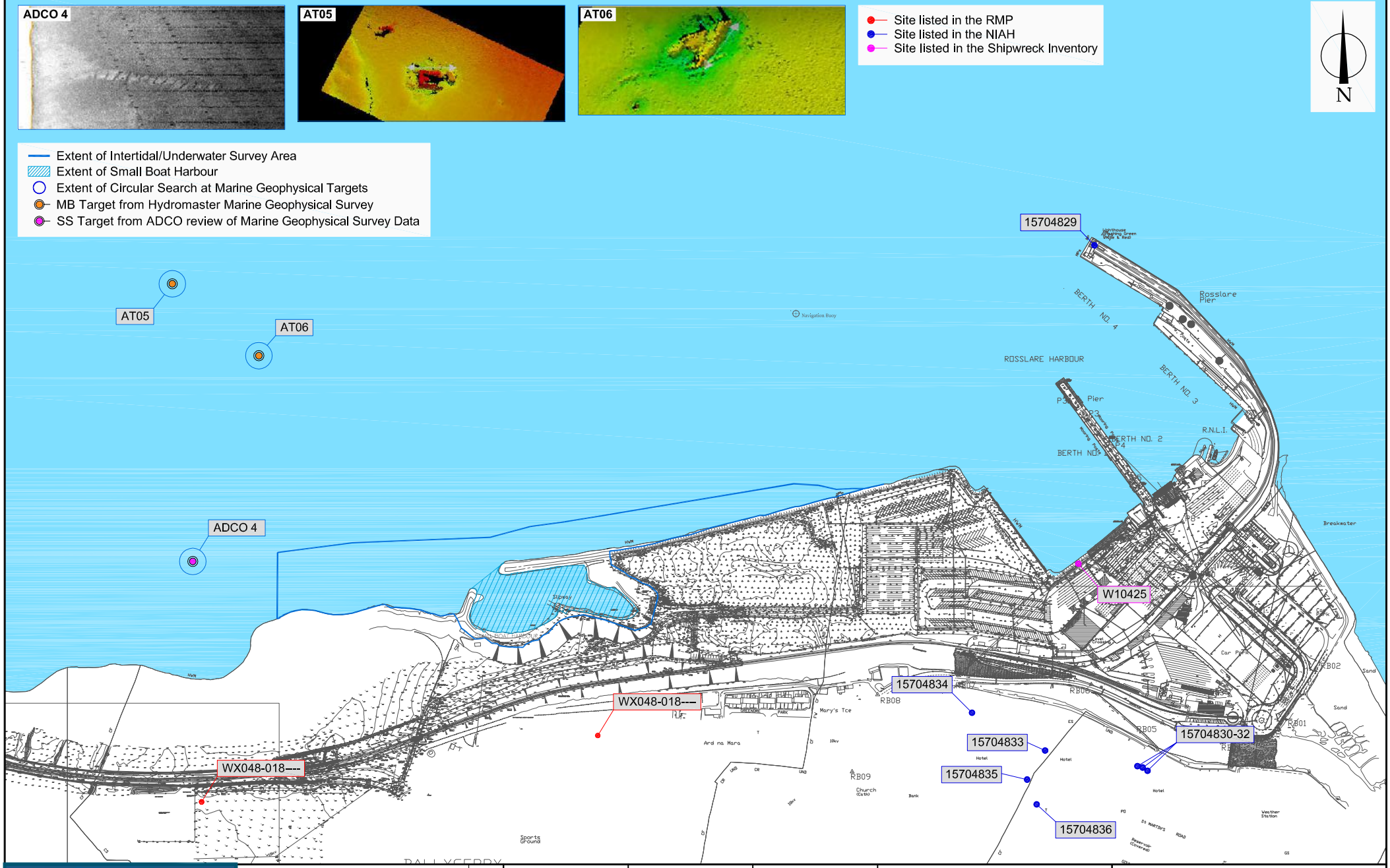
Other features excavated proved to be the residual remains of truncated furrows, potato drills and the remains of clamps.

Twenty-eight sherds of pottery were uncovered. None were within context; they were contained by the upper surface of the undisturbed ground. The pottery assemblage has proved very difficult to identify. Specialist analysis (four experts) has failed to conclusively identify it. While the sherds shared some similarities with the pottery tradition of souterrain ware, it was not possible to be categorical (S. Zajac, pers. comm.). The pottery appears to fall into the early medieval period. Other periods, such as the medieval and post-medieval period, have been ruled out as a date for this pottery.

ADCO

Notes	A4	Job/Exc No.	Compiled by	CAD reference	Client
Source: Main- OSi Discovery Series [1:50,000] Mapping. Inset- Extract from Admiralty Chart, Rosslare Harbour.		23D0111, 23R0512	R.Bangerter	RosslareEuroport	Iarnrod Eireann
		Date 19.11.25	**Scale** 1:35,000/ 1:20,000	**Drawing No.** Figure 1	**Project** Maintenance Dredging, Rosslare Europort

Title
Figure 1- OS Map (main) and Admiralty Chart (inset) with the location of the Small Boat Harbour Ballygerry Td., Rosslare Harbour, highlighted.



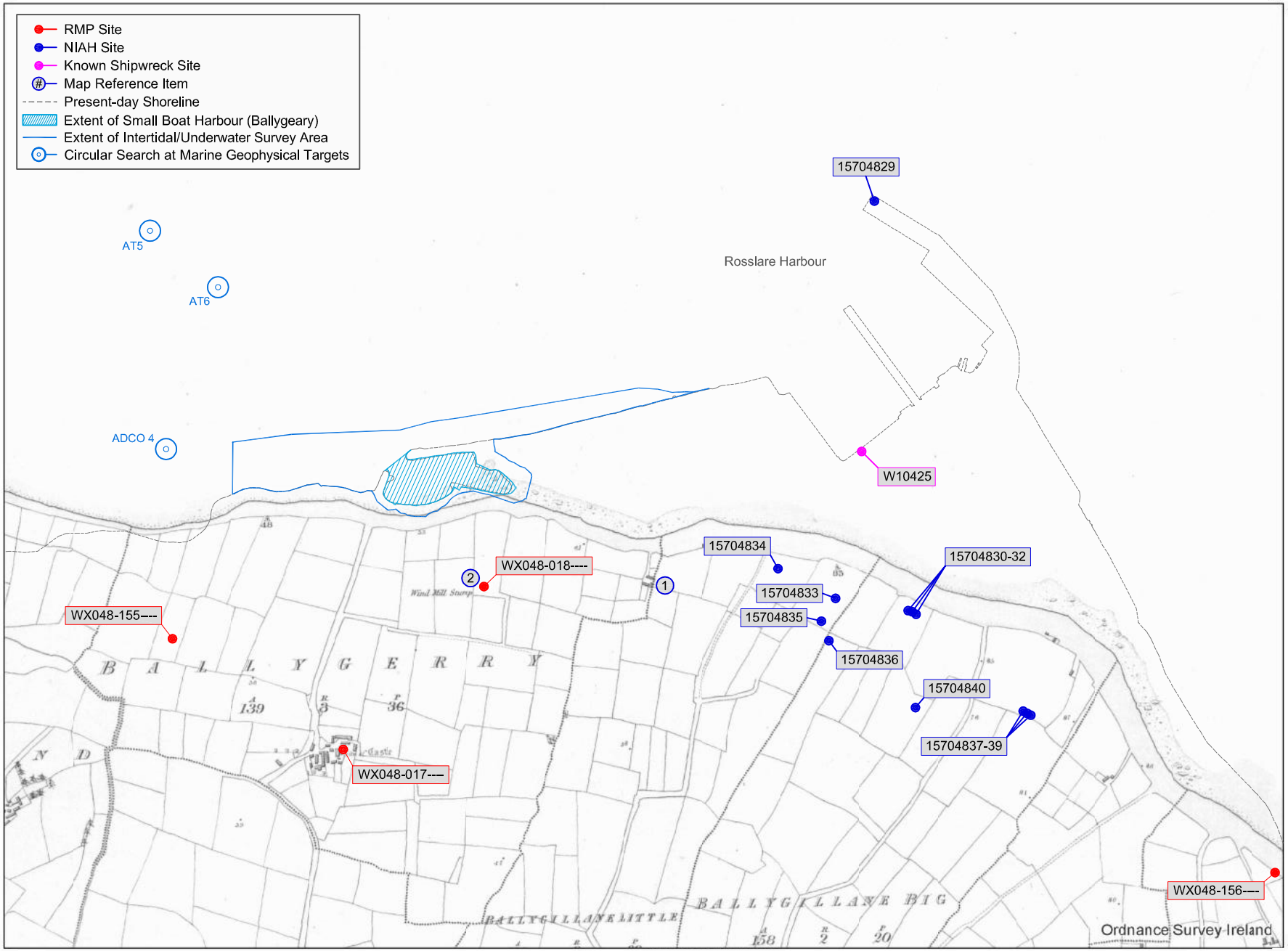
ADCO

Notes
Source: OS Background mapping with project extents superimposed [extents taken from NOD project drawing 30422-NOD-00-XX-DR-C-08191, Rev. P01].

A4

Job/Exc No. 23D0111, 23R0512	**Compiled by** R.Bangerter	**CAD reference** RosslareEuroport	**Client** Iarnrod Eireann
Date 20.11.25	**Scale** 1:7500	**Drawing No.** Figure 2	**Project** Maintenance Dredging, Rosslare Europort

Title
Figure 2- Extent of ADCO Survey Area, Small Boat Harbour and wider foreshore area, Ballygerry Td., Rosslare Harbour.



Tailte Éireann

CENTRE COORDINATES:
ITM 713028,612527

PUBLISHED: 24/10/2023
ORDER NO.: 50364471_1

MAP SERIES: 6inch BW ED01
MAP SHEETS: WX048

N

COMPILED AND PUBLISHED BY:
National Mapping Division of
Tailte Éireann,
Phoenix Park,
Dublin 8,
Ireland.
D08F6E4

www.tailte.ie

0m 100m 200m

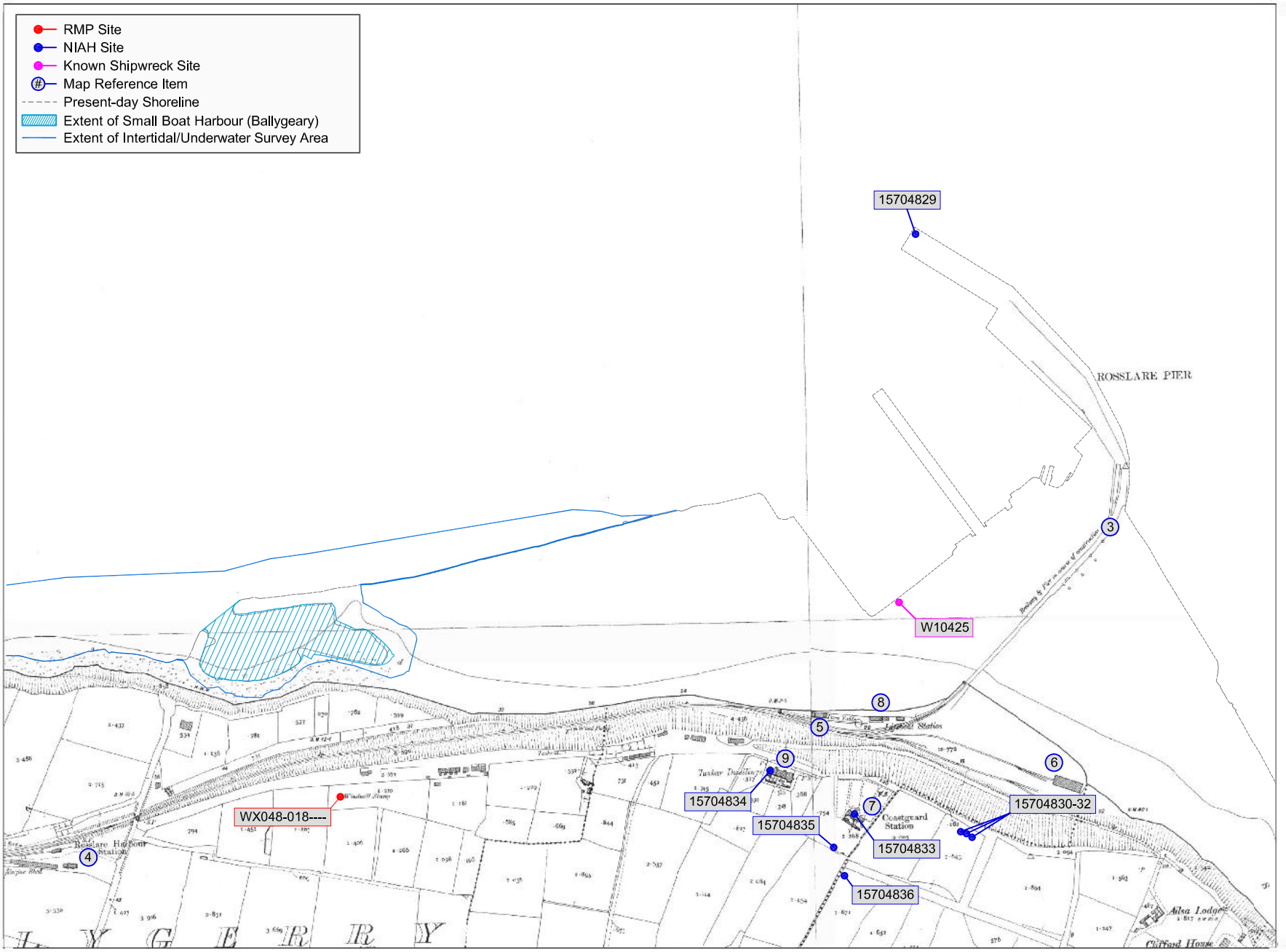
ADCO

Notes
Map Source: Historic Map Archive, Tailte Eireann (formerly OSi).

A4

Job/Exc No.	Compiled by	CAD reference	Client
23D0111, 23R0512	R.Bangerter	RosslareEuroport	Iarnrod Eireann
Date	**Scale**	**Drawing No.**	**Project**
19.11.25	1:10,000	Figure 3	Maintenance Dredging, Rosslare Europort

Title
Figure 3- OS First Edition (1839) map with ADCO Survey Area, nearby Cultural Heritage Assets, Map Reference Items, and present-day shoreline superimposed.



Tailte Éireann

CENTRE COORDINATES:
ITM 713107,612722

PUBLISHED: 24/10/2023

ORDER NO.: 50364463_2

MAP SERIES:	MAP SHEETS:
25 Inch Raster	$1_WX048-08+04
25 Inch Raster	WX048-03
25 Inch Raster	WX048-07
25 Inch Raster	WX048-08+04

N

COMPILED AND PUBLISHED BY:
National Mapping Division of
Tailte Éireann,
Phoenix Park,
Dublin 8,
Ireland.
D08F6E4

www.tailte.ie

The representation on this map of a road, track or footpath is not evidence of the existence of a right of way.

Topographic maps produced by the National Mapping Division of Tailte Éireann never show legal property boundaries, nor do they show ownership of physical features.

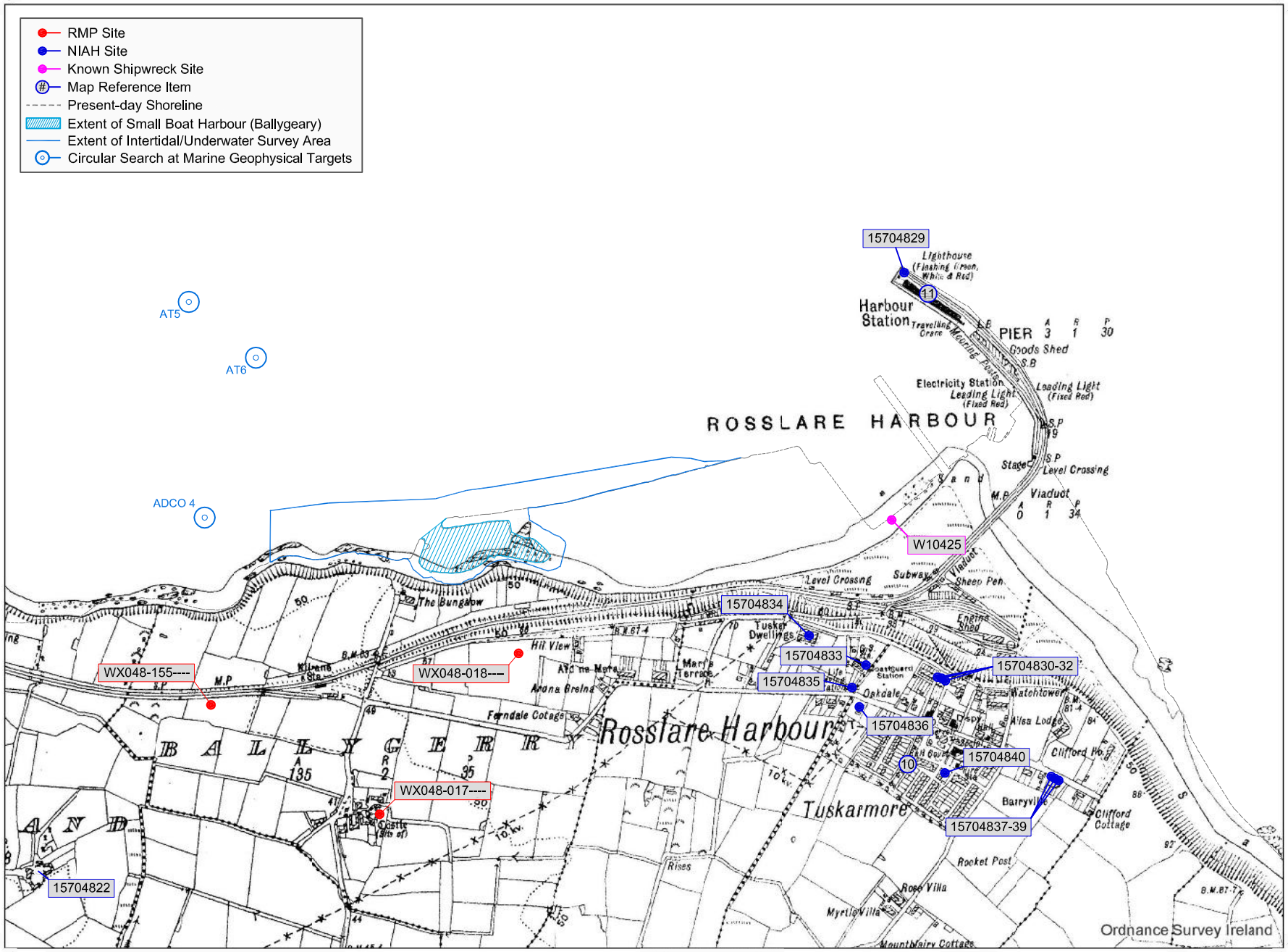
ADCO

Notes
Map Source: Historic Map Archive, Tailte Eireann (formerly OSi).

A4

Job/Exc No.	Compiled by	CAD reference	Client
23D0111, 23R0512	R.Bangerter	RosslareEuroport	Iarnrod Eireann
Date	**Scale**	**Drawing No.**	**Project**
20.11.25	1:7000	Figure 4	Maintenance Dredging, Rosslare Europort

Figure 4- Extract from OS 25-inch Edition (*c.*1900) map with ADCO Survey Area, nearby Cultural Heritage Assets, Map Reference Items, and present-day shoreline superimposed.



Tailte Éireann

CENTRE COORDINATES:
ITM 712967,612629

PUBLISHED: 24/10/2023
ORDER NO.: 50364463_1

MAP SERIES: 6 Inch Raster
MAP SHEETS: WX048

N

COMPILED AND PUBLISHED BY:
National Mapping Division of
Tailte Éireann,
Phoenix Park,
Dublin 8,
Ireland.
D08F6E4

www.tailte.ie

0m 100m 200m

ADCO

Notes
Map Source: Historic Map Archive, Tailte Eireann (formerly OSi).

A4

Job/Exc No. 23D0111, 23R0512	**Compiled by** R.Bangerter	**CAD reference** RosslareEuroport	**Client** Iarnrod Eireann
Date 20.11.25	**Scale** 1:10,000	**Drawing No.** Figure 5	**Project** Maintenance Dredging 2023, Rosslare Europort

Figure 5- OS Third Edition (1936) map with ADCO Survey Area, nearby Cultural Heritage Assets, Map Reference Items, and present-day shoreline superimposed.

Notes Source: Aerial photomosaic captured using ADCO Drone [2.42cm/px resolution]; superimposed upon Google Satellite imagery [captured September 2025].	A4	**Job/Exc No.** 23D0111, 23R0512	**Compiled by** R.Bangerter	**CAD reference** RosslareEuroport	**Client** Iarnrod Eireann	**Title** Figure 6- Ariel Photomosaic showing the Small Boat Harbour, superimposed upon Satellite Imagery of the area.
		Date 20.11.25	**Scale** 1:3000	**Drawing No.** Figure 6	**Project** Maintenance Dredging, Rosslare Europort	

ADCO

Notes

(#) → Selected Plate location/direction

Source: Aerial photomosaic captured using ADCO Drone [2.42cm/px resolution].

A4

Job/Exc No. 23D0111, 23R0512	**Compiled by** R.Bangerter	**CAD reference** RosslareEuroport	**Client** Iarnrod Eireann	**Title** Figure 7- Ariel Photomosaic showing the Small Boat Harbour with selected Plate locations included.
Date 20.11.25	**Scale** 1:1000	**Drawing No.** Figure 7	**Project** Maintenance Dredging, Rosslare Europort	

Plate 1: West-northwest view of the Small Boat Harbour (Ballygeray), Ballygerry Td., South Bay, Rosslare. Source: ADCO Drone.

Plate 2: North-northeast view of Rosslare Harbour, following construction of the pier and associated rail line. Source: Robert French 1841-1917; image no. 1865, NLI Lawrence Collection.

Plate 3: East-facing view of Rosslare Harbour, sometime in the 1980s, at start of reclamation of works along adjacent shoreline. Source: Rosslare Harbour, Old Photos, facebook page.

Plate 4: South-facing view of pier head with Ro-Ro ferry in dock at Rosslare Europort.

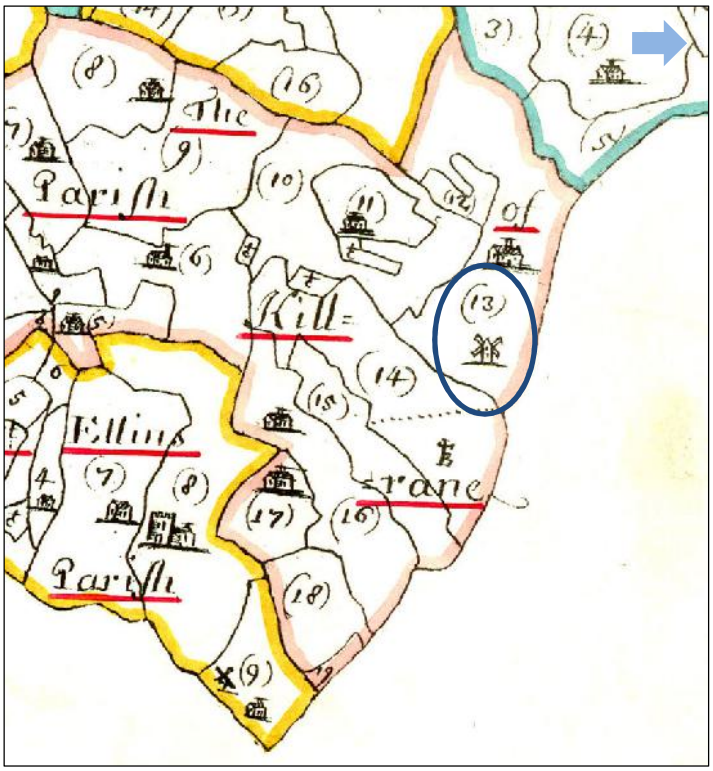


Plate 5: Extract from Down survey of Ireland Map, Barony of Forth (Kilrane Parish), with location of windmill highlighted.

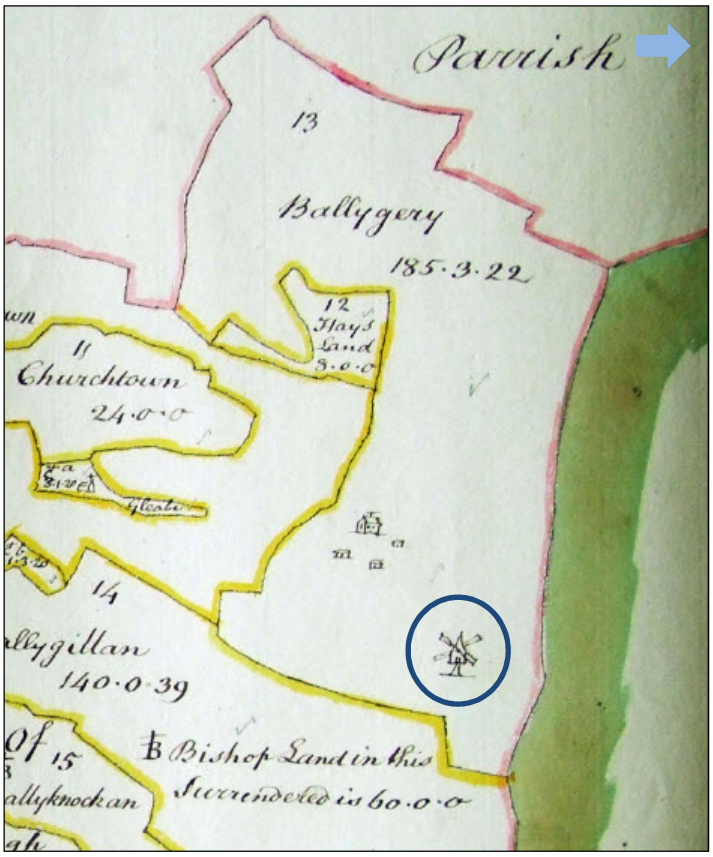


Plate 6: Extract from Down survey of Ireland Map, Parish of Kilrane (Forth Barony), with location of windmill highlighted.

Plate 7: Working shot of diver returning to surface following nearshore underwater survey.

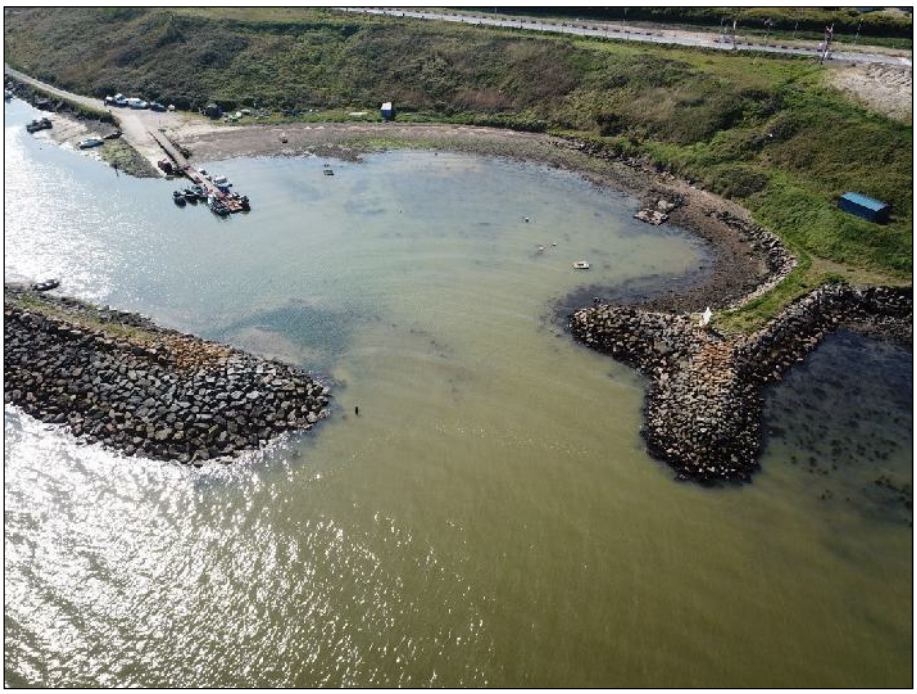


Plate 8: Aerial view of entrance to the Small Boat Harbour. Source: ADCO Drone.

Plate 9: West-fcaing view of rock-armour revetment forming east side of the northern half (outer part) of the harbour area (1m scale).

Plate 10: Northwest-facing view of stone filled gabions used to delineate the east side of the inner harbour area (1m scale).

Plate 11: East-southeast view of rubble used to from southwest side of inner harbour area (1m scale).

Plate 12: West-northwest view of concrete slip and pontoon structure (1m scale).

Plate 13: East-southeast view of intertidal foreshore on west side of outer part of harbour area (1m scale).

Plate 14: Example shot deep deposit of silt that has built up within the inner harbour area; top of 1m scale protruding from seabed.

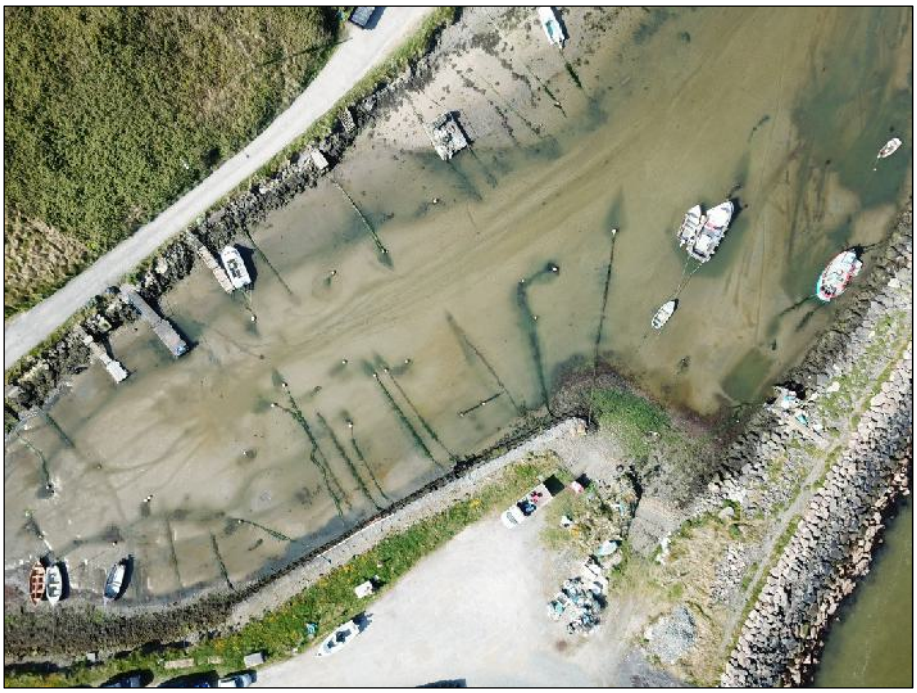


Plate 15: Aerial view of showing deep silt deposits covering the inner harbour area. Source: ADCO Drone.

Plate 16: Southeast-facing of harbour, taken from point close to the sub-tidal channel.

Plate 17: West-facing of entrance to harbour, scale delineating east side of sub-tidal channel (1m scale).

Plate 18: East-facing view along rock-armour revetment forming edge of reclaimed foreshore extending between the Small Boat Harbour and Rosslare Europort (1m scale).

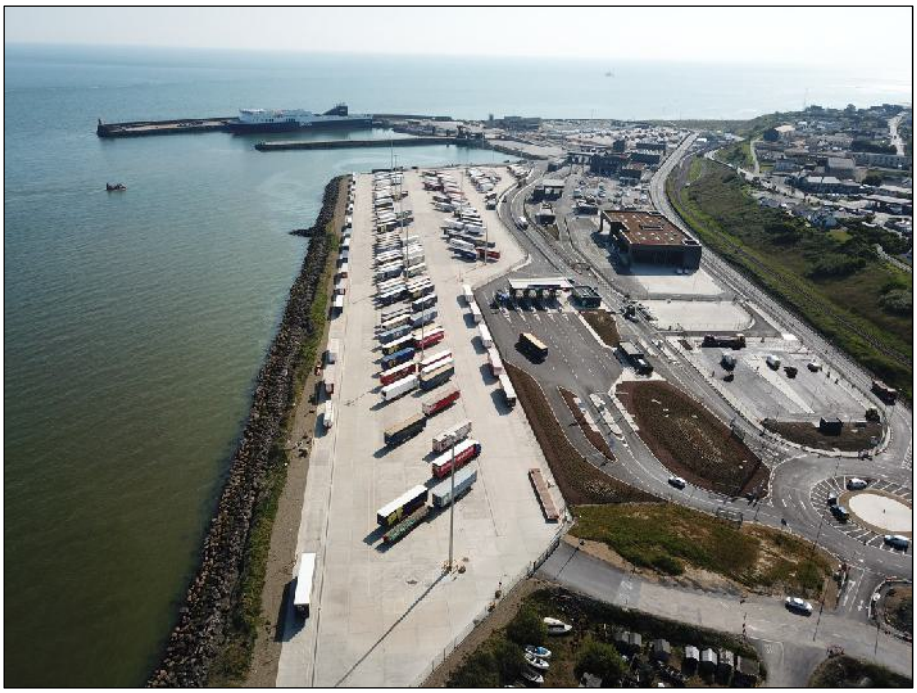


Plate 19: Aerial view of rock-armour revetment forming edge of reclaimed foreshore extending between the Small Boat Harbour and Rosslare Europort. Source: ADCO Drone.

Plate 20: West-northwest view of upper foreshore to west of the Small Boat Harbour (1m scale).

Plate 21: Aerial view of intertidal foreshore to west of the Small Boat Harbour. Source: ADCO Drone.

Plate 22: Example shot of exposed section of glacial till along base of low-lying cliff to west of the Small Boat Harbour (1m scale).

Plate 23: West-northwest view of intertidal foreshore to west of the Small Boat Harbour (1m scale).

Plate 24: Example shot of seabed composition below the LWM.

ADCO

Professional Diving Solutions
Leading Maritime Archaeology

Providing effective underwater and land-based archaeological solutions since 1999.

Conducting intelligent diving and underwater/marine inspections and NDT for the civils and scientific sectors.

Specialised in marine geophysical data interpretation.

Precision survey using latest equipment, including 3D Laser-scanning services.

ADCO works closely with clients from project inception, through EIAR, to full construction stages, delivering the highest quality effectively.

ADCO Ltd.
Church Terrace, Bray
Co.Wicklow, A98 P3V2
Ireland

www.adco-ie.com
info@adco-ie.com
+353 (0) 1 908 1541

Achilles
Supply-Line
SILVER PLUS

SAFETY MANAGEMENT
SAFECERT
CONSTRUCTION SECTOR
CERTIFIED SYSTEM

Celebrating 25 years at the forefront of Underwater Archaeology in Ireland