

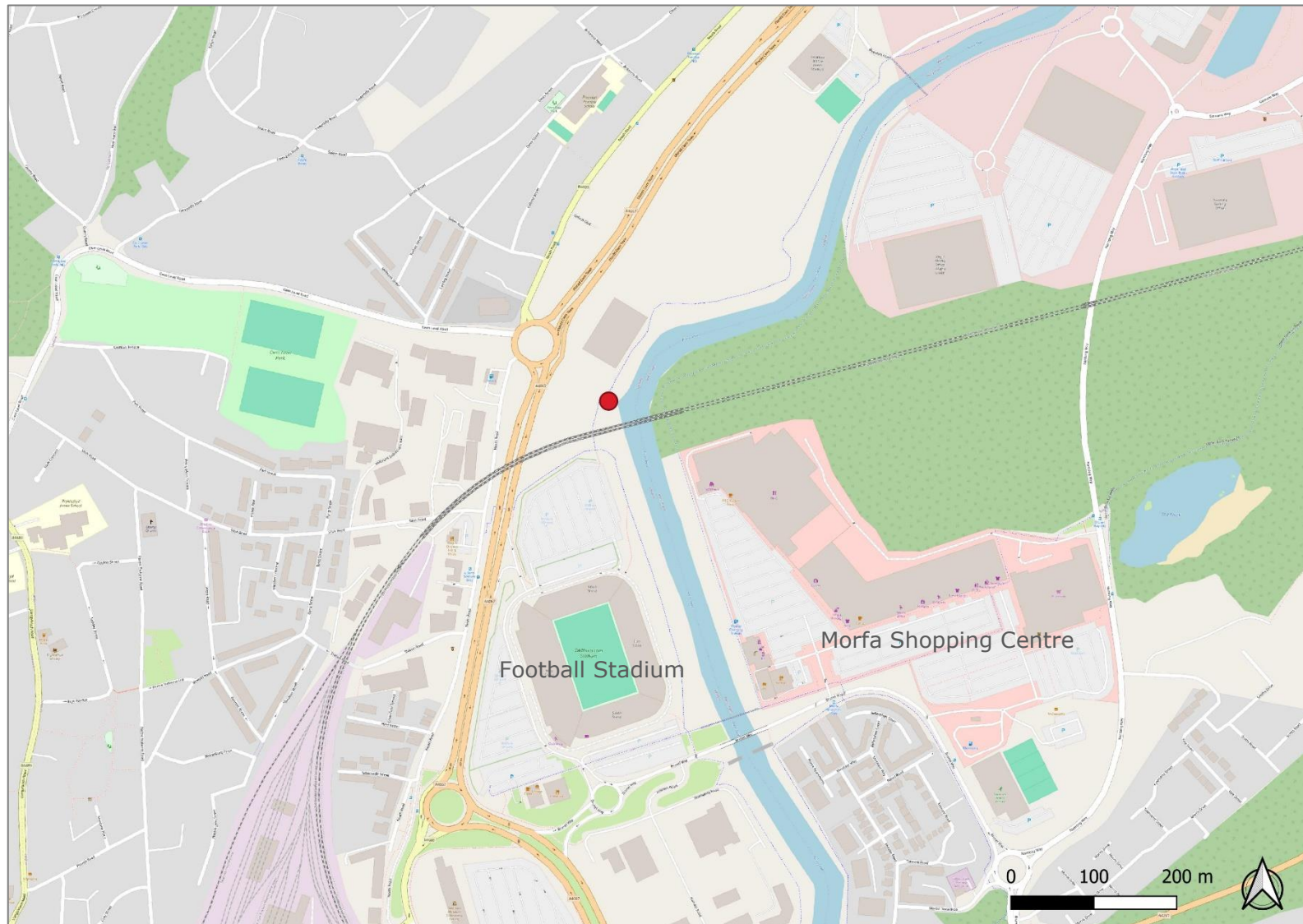
**MORFA CULVERT, SWANSEA:**  
**WRITTEN SCHEME OF INVESTIGATION**  
**FOR ARCHAEOLOGICAL MONITORING AND RECORDING**  
**MARINE LICENCE: CML2403**

**1 INTRODUCTION**

- 1.1 This written scheme of investigation (WSI) has been prepared by Dyfed Archaeological Services, a contracting arm of Heneb: The Trust for Welsh Archaeology, in response to a request from Kaymac Marine & Civil Engineering Ltd to provide a scheme of archaeological mitigation associated with proposed remediation works on a water culvert at Morfa, Swansea (centred on NGR SS 66144 95790, Figures 1 & 2).
- 1.2 The site is located 200m north of Swansea City Football stadium in Landore, Swansea (figure 2). In the north-east corner of the site are the scheduled remains of New Quay (GM482), a quay of wood and stone construction built in the late 18<sup>th</sup> century by the Welsh engineer William Edwards for prominent local industrialist John Morris. The quay replaced an earlier 17<sup>th</sup> century quay, which probably consisted of an earthen bank (NPRN 301230). The southern extent of the scheduled area bisects the northeastern corner of the proposed work site (Figure 3).
- 1.3 A Marine Licence application was submitted (licence number CML2403) and the Royal Commission on Ancient and Historical monuments in Wales RCAHMW, in their capacity as archaeological advisors to the Licensing Authority, recommended that archaeological monitoring and recording should be undertaken during any works which have the potential to expose or disturb archaeological remains.
- 1.4 The planned remediation works covered by this WSI comprise the installation of a temporary dam upstream of the repair site, the installation of a temporary access route to the culvert, and the concrete repair of the damaged section, which will be undertaken south of the culvert orientation. No works will be undertaken within the boundary of the Scheduled Monument GM482, which will be segregated from the works by heras fencing installed at least 5m south of the scheduled monument footprint (Figure 3).
- 1.5 The following WSI outlines the methodology through which Dyfed Archaeological Services will undertake the archaeological monitoring of groundworks at the site, which have the potential to expose, damage or destroy archaeological remains.
- 1.6 The WSI is prepared in accordance with the Chartered Institute for Archaeologists' Standard for archaeological monitoring and recording (CIfA, 2023), its Universal guidance for archaeological monitoring and recording (2023).
- 1.7 Dyfed Archaeological Services has considerable experience of this type of project and always operates to best professional practice. Dyfed Archaeological Services has its own Health and Safety Policy, and all works are covered by appropriate Employer's Liability and Public Liability Insurances. Copies of all are available on request.
- 1.8 Heneb: The Trust for Welsh Archaeology is a CIfA Registered Organisation.



**Figure 1:** Location of site (red). Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 20/01/2024



**Figure 2:** Location of site (red). Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 20/01/2024



## **2 AIMS AND OBJECTIVES OF THE PROJECT**

2.1 This document provides a scheme of works for:

- **The implementation of archaeological monitoring and recording during remediation works to a section of damaged culvert at Morfa, Swansea, which have the potential to expose, damage or destroy archaeological remains. Appropriate investigation and recording of any such remains will be undertaken if revealed. A report shall be prepared on the results of the monitoring and recording, and an archive created.**

2.2 The following tasks will be completed:

- Provision of a written scheme of investigation to outline the methodology for the archaeological monitoring and recording which the appointed archaeological contractor will undertake (this document);
- Archaeological attendance during groundworks to appropriately investigate and record any archaeological deposits affected by the groundworks, in order to identify the presence/absence of any archaeological deposits and to establish the character, extent and date range for those archaeological deposits;
- Production of a report on and an archive of the results of the archaeological monitoring and recording.

## **3 ARCHAEOLOGICAL MONITORING AND RECORDING METHODOLOGY**

3.1 The definition of archaeological monitoring and recording, taken from the Chartered Institute for Archaeologists Standards and Guidance (CIfA S&G: AWB 2023) is:

*a formal programme of observation, investigation and recording conducted during works carried out for non-archaeological reasons, where there is a possibility that archaeological deposits may be disturbed or destroyed. This will be within a specified area or site on land, in an inter-tidal zone or under water.*

3.2 The purpose of the archaeological monitoring, as identified in previous Standards and Guidance by CIfA is:

*to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works;*

*to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment.*

3.3 The groundworks requiring archaeological monitoring include the installation of a temporary haul road and during de-watering procedures (over-pumping).

3.4 It is essential coordination between the site contractor's and archaeologist is established at the outset to avoid any potential disturbance to archaeology without an archaeologist being present, or unnecessary visits to the site when works are being carried out that do not require the presence of an archaeologist.

- 3.5 The archaeologist will monitor the groundworks and aim to identify any archaeological remains that may be present. They will have the authority to halt groundworks in areas where archaeological remains are identified until they have been further investigated and recorded.
- 3.6 Adequate time must be made available to the visiting archaeologist to ensure that appropriate recording can be undertaken of any archaeological features or deposits exposed during ground works.
- 3.7 Features containing deposits of environmental significance may be sampled if they are to be exposed or damaged through groundworks. The samples will be retained in stable conditions until analysis can be arranged.
- 3.8 All deposits will be recorded by archaeological context record sheet, scale drawing, photography and site notebooks. All individual deposits will be numbered using the open-ended numbering system in accordance with a recognised system, such as Dyfed Archaeological Services Recording Manual. Significant deposits will be recorded by scale drawing (no less than 1:20); drawn plans will be related to Ordnance Datum and, where possible, known boundaries. A digital photographic record will be maintained as a minimum using a high-resolution camera with appropriate scales, with photographic information recorded for all photographs taken.
- 3.9 All archaeologically significant artefacts, ecofacts and samples will be retained and, where possible, related to the contexts from which they derived. Sensitive materials will be stored in appropriately stable conditions. Finds will be temporarily stored by Dyfed Archaeological Services in stable conditions. All finds, except those deemed to be Treasure, will remain the property of the landowner, but it is assumed that permission will have been given by the landowner for these to be stored as part of the archive in a suitable repository (ownership will still be with the landowner).
- 3.10 Under the 1996 Treasure Act (revised 2023), "treasure" can be summarised as:
- Any object other than a coin containing at least 10% gold or silver and at least 300 years old;
  - Any prehistoric assemblage of base metal;
  - Coins found together which contain 10% gold or silver (but no single coins) and groups of at least 10 coins of other metals, provided they are at least 300 years old;
  - Any object found associated with treasure except unworked natural objects;
  - Any object of significant historical or cultural significance; and
  - Any object which would have been Treasure Trove before the 1996 Act but not covered above.
- 3.11 In the event that unforeseen archaeological discoveries are made during the development, or that archaeological remains of high significance are exposed, Dyfed Archaeological Services shall have the power to halt any ground works and shall inform the site agent/project manager and Heneb-Development Management. Dyfed Archaeological Services will prepare a written statement with plan detailing the archaeological evidence. Following assessment of the archaeological remains by all parties, if required, a contingency scheme for salvage excavation of affected archaeological features may need to be implemented. This event would need to be covered by contingency financial arrangements within the project budgets.

- 3.12 In the event of the discovery of human remains, all remains will be left in situ. If removal is necessary, it will only take place following the granting of all permissions in writing by the relevant authorities (a burial licence granted from the Ministry of Justice).

#### **4 POST-FIELDWORK REPORTING AND ARCHIVING**

- 4.1 An archive will be prepared if it meets the requirements of the Heneb- Dyfed Region archive retention policy (2018). If it does, then data recovered during the Historic building recording and archaeological monitoring and recording will be collated into a site archive.
- 4.2 The site archives will be structured in accordance with the specifications in *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth. The *National Standards for Wales for Collecting and Depositing Archaeological Archives* produced by the Federation of Museums and Art Galleries of Wales will also be adhered to. Digital archives will be collated using the Royal Commission on the Ancient and Historical Monuments of Wales systems (2015) and deposited with the RCAHMW. The Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) (2022) shall be followed.
- 4.3 A Data Management Plan (DMP) (Appendix I) for this project has been produced in accordance with the Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (CIfA 2014, updated 2020).
- 4.4 A report will be produced covering the results of the building recording and archaeological monitoring and recording. The results of the fieldwork will be assessed in local, regional and wider contexts.
- 4.5 The report will include a brief research element to place the site into its wider context within the area.
- 4.6 The project archive, including all significant artefacts and ecofacts (excepting those which may be deemed to be Treasure) will be deposited with an appropriate body following agreement with the landowner (if retained and containing more than just digital information).
- 4.7 Heneb- Dyfed Region will arrange for the deposition of finds, and ascertain the costs of storage and deposition, with an approved body before the project commences and inform the curator of the arrangement which has been made.
- 4.8 A summary of the project results, excluding any confidential information, may be prepared for wider dissemination (e.g. Archaeology in Wales and special interest and period-specific journals) within six months of the fieldwork element of the project.
- 4.9 The report will be prepared to follow the Chartered Institute for Archaeologists' Standard for archaeological monitoring and recording (CIfA, 2023) and its Universal guidance for archaeological monitoring and recording (2023).
- 4.10 Digital copies of the report will be provided to the client and the regional Historic Environment Record (held and maintained by Heneb-Glamorgan-Gwent Region).
- 4.11 Appropriate specialists to be used by Dyfed Archaeological Services include:
- Animal Bones – Worcester Archaeology

- Conservation - Phil Parkes (Cardiff University)
- Environmental / Pollen analysis – Worcester Archaeology or AOC Archaeology
- Fish bones – Jennifer Browning (University of Leicester Archaeological Services)
- Geophysics – Luke Jenkins (Dyfed Archaeological Services)
- Human Remains – Kate Hemer (UCL University)
- Industrial Archaeology –Jennifer Protheroe-Jones, Principal Curator – Industry, National Waterfront Museum, Swansea
- Metallurgical analysis - Dr Tim Young (Geoarch)
- Post-medieval / medieval pottery – Dee Brennan (local independent specialist)
- Prehistoric Pottery – Dr Alex Gibson (formerly of University of Bradford / now independent pottery specialist)
- Prehistoric Flint – Dr Andrew David (formerly of English Heritage, now independent lithics specialist)
- Radiocarbon dating - Beta Analytic
- Roman Glass – Ken Murphy (Dyfed Archaeological Services)
- Roman Pottery – Peter Webster (Freelance)

## **5. STAFF**

- 5.1 The project will be managed by Fran Murphy MCIfA, Head of Dyfed Archaeological Services.
- 5.2 The on-site works will be undertaken by appropriately experienced archaeologists, from Dyfed Archaeological Services.

## **6. QUALITY ASSURANCE**

- 6.1 Dyfed Archaeological Services has considerable experience of undertaking all categories of archaeological fieldwork and always operates to best professional practice, adhering to CIfA guidelines where appropriate. The Trust is a Registered Organisation with CIfA and all staff abide by their code of conduct and adhere to their relevant standards and guidance.
- 6.2 Dyfed Archaeological Services operates robust internal monitoring procedures that ensure that the standard of each project is maintained from commencement to completion.

## **7. MONITORING**

- 7.1 The fieldwork may need to be monitored by Heneb – Development Management in their capacity as archaeological advisors to the planning authority, who should be provided access to the site at any time during the building recording and archaeological monitoring and recording. The Head of Dyfed Archaeological Services may also monitor the on-site works intermittently.

## **8. HEALTH AND SAFETY**

- 8.1 Dyfed Archaeological Services will carry out a health and safety risk assessment to ensure that all potential risks are minimised.
- 8.2 All relevant health and safety regulations must be followed, including compliance with Welsh Government guidelines on working practices and guidance issued by CIfA.
- 8.3 All site inductions, H&S procedures, H&S constraints and site rules of the client or any on-site contractor will be made known to Dyfed Archaeological Services staff at the start of the works.
- 8.4 Safety helmets, high visibility vests and boots are to be used by all site personnel as necessary.
- 8.5 Working with machinery: Dyfed Archaeological Services staff must ensure that their presence on site is communicated to all relevant site staff, especially the machine operator. The archaeologist observing the machine will establish a safe working procedure with the machine operator at the start of work. This will also include discussing the methodology for safe working, ensuring that no machining is done without an archaeologist being present.
- 8.6 The site staff will go through the risk assessment prior to the works commencing and all site staff must sign the document to confirm that they have read, understood and will comply with the document.

## **9 ARBITRATION**

- 9.1 Any dispute or disagreement arising out of a contract in relation to this work shall be referred for a decision to the Chartered Institute of Archaeologist's arbitration scheme.

## APPENDIX I:

### DATA MANAGEMENT PLAN

This Data Management Plan (DMP) is produced in accordance with the *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists 2014, updated 2020). The table below is based on the Work Digital / Think Archive guidance for digital archives prepared by DigVentures, on behalf of Archaeological Archives Forum and in partnership with the Chartered Institute for Archaeologists. The project was funded by Historic England (Project No. 7796).

#### Section 1: Project Administration

|  |
|--|
| Project Ref. No and name   |
| FS24-007   |
| PRN (if known)   |
| TBC  |
| Project Type   |
| Archaeological monitoring and recording  |
| Client   |
| Kaymac Marine & Civil Engineering Ltd  |
| Project Manager / Data Contact   |
| Fran Murphy MCIfA  |
| Principal Archaeologist on site  |
| TBC  |
| Date DMP created   |
| 20.01.2025   |
| Date DMP last updated  |
| 20.01.2025   |
| Related data management policies   |
| Written Scheme of Investigation<br>Chartered Institute for Archaeologists (CIfA) <i>Standards &amp; Guidance</i><br>Dyfed Archaeological Services, 2018, archive retention policy<br>Brown 2011, Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation<br>NPAAW, 2017, The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017<br>RCAHMW, 2015, RCAHMW guidelines for Digital Archives, Version 1<br>WAT, 2022, Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) |

## Section 2: Data Collection

| Data Type (Delete as appropriate)  |
|--|
| <b>Documents</b><br>Written Scheme of Investigation, Risk Assessment – Word doc & PDFs<br>Context sheets, site registers, site notes - paper copies, scanned and saved as PDFs.<br>Site plans – permatrace, scanned and saved as PDFs.<br>Final report – Word doc & PDF<br>Illustrations – Adobe Illustrator/Affinity Designer files, PDFs<br>Specialist assessments (Finds, Environmental etc) – Word doc, PDF, Excel Spreadsheet |
| <b>Images</b><br>Site photographs – Jpeg & Tiff (for archive)<br>Other collected data (scans, archive material, social media images etc) – Jpegs   |
| <b>Survey</b><br>In house surveys - .dxf files, GIS files (see below)<br>External surveys – Dependent on external contractor, eg .dxf, .dwg, .rvw etc  |
| <b>GIS</b><br>Mapinfo files, Esri Shapefiles.  |

| Data acquisition  |
|---|
| All data will be collected as per the methodologies and guidance stated in the WSI (Fieldwork / Methodology). |

## Section 3: Documentation and metadata

| Documentation and metadata accompanying the data   |
|--|
| All data recovered will be archived in accordance with the guidance stated in the WSI (Post Fieldwork Reporting & Archiving) |

## Section 4: Ethics and legal compliance

| Management of any ethical, copyright and Intellectual Property Rights (IPR) issues   |
|--|
| All personal data collected during the course of the project will be handled in accordance with Heneb-Dyfed Region's <i>Personal Data Protection Policy</i> (2018, revised 2020) and current <i>Code of Practice</i> .<br>Licence agreements will be established, and Copyright permissions will be sought as appropriate (eg reproduced mapping extracts, archive material, specialist reports) prior to the submission of the data and/or inclusion in the publication of the project results. |

## Section 5: Data Security: Storage and Backup

| Data storage, accessibility, and safety during research   |
|---|
| All site-produced data will be stored digitally at the first available opportunity. All digital information is stored on the Dyfed Archaeological Services server, accessible by members of the staff. This will be checked regularly by the Project Manager. All digital data on the server is backed-up at regular intervals. The server contains ample capacity for all anticipated site data, and appropriate protocols are in place to manage any potential digital malfunction or cyber attack. |

## Section 6: Selection and Preservation

| Data retention, sharing, and preservation  |
|--|
| Data will be retained as per Dyfed Archaeological Services <i>Archive Retention Policy</i> (2018). |

Long-term preservation plan for the dataset

The digital archive relating to the project will be deposited with the NMR, held and maintained by the RCAHMW, Aberystwyth and will be created in accordance with their practices.  
The final report will be submitted to the regional Historic Environment Record in PDF format, along with any additional information they require.  
If a different digital repository to the NMR is used, their own procedures will be established at the outset of a project and followed.  
If a project includes artefacts to be deposited at a museum, arrangements will be made prior to the commencement of the project, and a copy of the digital archive will be sent with the artefacts.  
Archiving costs are included within the project budget.

Section 7: Data Sharing

Sharing and accessibility

The dissemination of data is detailed in the WSI (Post-Fieldwork Report and Archiving).

Section 8: Responsibilities

Responsibilities

Data collection, storage and manipulation will be carried out by the site team. The Project Manager will be responsible for the implementation of the data management plan.