

# Scapa Flow Visitor Centre extension

**Lyness**

**Orkney**

**KW16 3NT**

## Written Scheme of Investigation for an Archaeological Watching Brief

**Project No: A245**

**ORCA**

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**Client:** Orkney Islands Council



This document has been prepared in accordance with ORCA standard operating procedures and Cifa standards	
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# 1 Introduction

This document was commissioned by Orkney Islands Council and forms the Written Scheme of Investigation (WSI) for an archaeological watching brief to be carried out at the late HMS Proserpine fleet base, Lyness, on the island of Hoy (hereafter referred to as 'the Site') on groundworks for extension of the Scapa Flow Visitor Centre & Museum, in particular on the site of a former cooling tower structure (**Figures 1 & 2**).

The Site comprises the area of a large earth bund situated next to one of the museum's building between National Grid reference (NGR) ND 30976 94681 on land lying approximately 5 m above Ordnance Datum (mAOD). The bund was built in the 1980s and is not part of a Listed Building.

The Site is bounded to the east by an artificial pond, and to the south by the Scapa Flow Exhibition Centre, a former pump house and oil storage tank from the WW2 (Canmore ID 9487).

The solid geology is siltstone, mudstone and sandstone of the Upper Stromness Flagstone Formation with an overlying drift geology of sedimentary superficial till deposits (<http://mapapps.bgs.ac.uk/geologyofbritain3d/index.html>).

## 1.1 Project Background

The information within this report is based on specifications and plans supplied by Ross McEwan, Orkney Islands Council.

## 1.2 Status of Document

The document forms the Written Scheme of Investigation for archaeological monitoring on the Site as required by Julie Gibson, Planning Archaeologist, Orkney Islands Council.

This document sets out the methodologies which will be followed during the on-site works and during the post-excavation analysis and reporting stages. These will follow the Standards and Code of Practice laid down by the Chartered Institute for Archaeologists (CIfA).

This report has been prepared as part of permitted works (utilities). The Site lies within the Lyness HMS Proserpine WW2 fleet base, which consists of 11 listed buildings.

# 2 Schedule of Proposed Works

## 2.1 Access

The client is responsible for arranging access to the work areas and any necessary inductions (such as Health and Safety) for the archaeologists and visitors. Any relevant permissions should also be dealt with by the client and be in place before work can commence.

The client and the Orkney Islands Council's Planning Archaeologist will be closely liaised with at all times to allow monitoring of the progress and effectiveness of the work. A mobile phone will be present on site at all times. Any significant developments, especially those likely to cause delay or special requirements (e.g. discovery of human remains, artefacts requiring conservation etc.) will be communicated immediately both to the client and Julie Gibson, Orkney Islands Council's Planning Archaeologist.

## **2.2 Schedule**

It is anticipated that the excavations requiring an archaeologist in attendance will commence in late September / early October 2019.

Prior notice of fieldwork starting dates, with contact names, telephone numbers and arrangements for access will be supplied to the appropriate Planning Archaeologist to allow monitoring as necessary and reporting on the progress and effectiveness of the work and to ensure that professional standards are met.

A minimum of one week's notice prior to the commencement of ground-breaking works is required for mobilisation.

The length of time spent on site is dependent on the archaeology present and the contractors programme of works. A day rate has been supplied to allow for a call-off style attendance on a day basis when required to monitor the works.

## **2.3 Outline of Proposed Works**

The work to be monitored comprises the ground works during construction of the museum building extension, including removal of the bund and the former ground surface below. The original ground level of the bund needs to be examined by an archaeologist for any structures, including recording the base a former cooling tower.

# **3 Archaeological Background**

The following provides a brief summary of archaeological records within the development area and those located immediately outside.

## **3.1 Prehistoric Period**

Orkney is in possession of an exceptionally rich prehistoric archaeological landscape with numerous sites dating from the Mesolithic through to the Iron Age present across the islands.

No known sites of a prehistoric date have been previously identified within the Site boundaries.

## **3.2 The Norse and Medieval Period**

No known sites of Norse or medieval date have been previously identified within the Site boundaries.

## **3.3 The Post Medieval and Modern Period**

Within half a kilometre proximity of the Site there are 20 sites from the Post-medieval and Modern Period. The earliest site is a farmstead from presumably the 19<sup>th</sup> century, and is shown on an 1882 map of Orkney (Orkney 1882, Sheet CXIX). From the Modern Period, 19 sites are associated with the Royal Navy base and the 1914-18 and 1939-1945 World Wars.

Within the Site boundary there are three listed buildings, a Romney hut (Listed building reference LB48357), former pump house and oil storage tank (LB50533). Also within the Site there are six sites listed in the National Record of the Historical Environment (three of these are also listed buildings). These are air raid shelters in the north of the Romney hut, air raid shelters to the west of the visitor centre and oil tanks within the former pump house (Canmore IDs 140882, 314651, 314652, 98128, 9489 & 9487).

The area immediately outside the development site contains one listed building and four sites listed in the National Record of the Historical Environment. The listed building is an air raid shelter to the north of the Site (LB52319). To the east there is another air raid shelter and foundry/workshop (Canmore IDs 314649, 314656). To the south east of the Site there is the arctic Convoys memorial, and a farmstead to the west (Canmore IDs 312294 & 182496).

The cooling tower associated with the pump house has been identified in two archive images (**Plates 1 & 2**). These appear to show that the tower had a timber lined steel or timber frame, with a brick and presumably a concrete foundation. The tower is shown in A recent survey of wartime structures and Lyness, but not listed as a site (Lindsay & Dobney 2014: 57). The location of the tower in the archive images appears to correlate with the location shown in the site master plan (**Figure 2**). Therefore, will the south western part of the bund will cover the remains of the tower and is of archaeological interest.

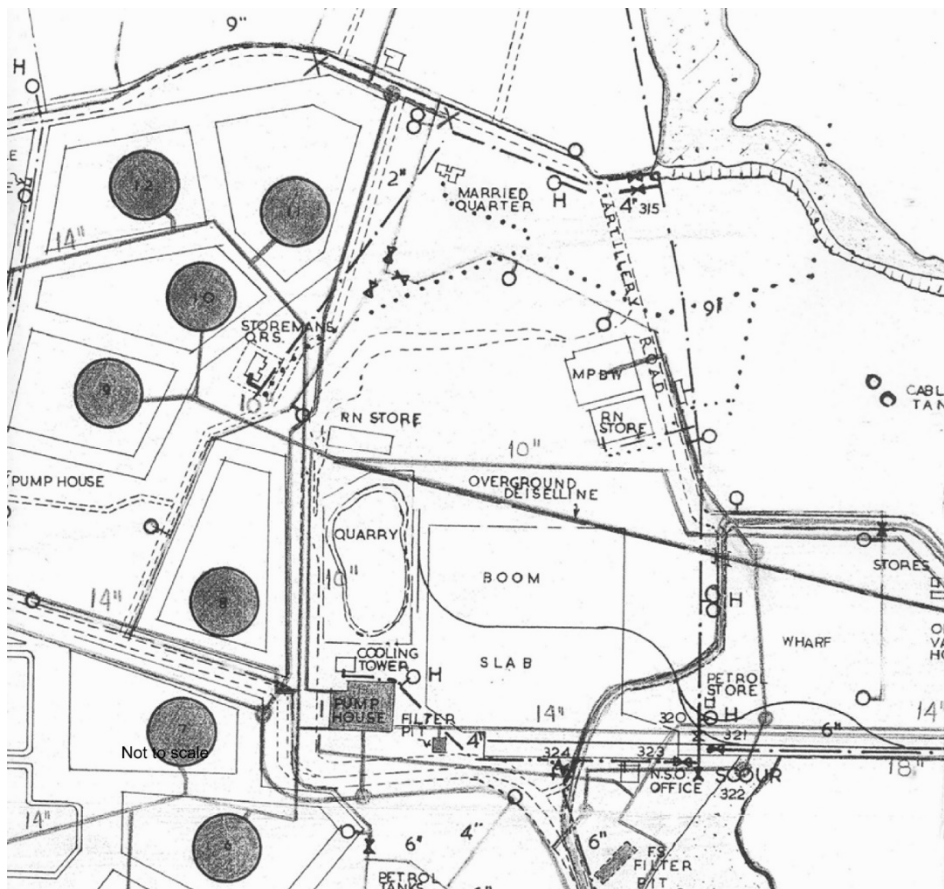


**Plate 1** - Cooling tower and surrounding buildings, showing its close proximity to the Pump House to the right (Lindsay & Dobney 2014. Image: The National Archives, ref. ADM116/5790)



**Plate 2** - Royal Oak survivors marching up the Canteen road with the tower visible in the background (The National Archives, ref. ADM116/5790)

The cooling tower is depicted in a drainage plan of the Lyness Base dated 1970, with a drain running to the east (see Plate 3).



**Plate 3** – Lyness drainage map from 1970 (With the permission of Orkney SMR).

### 3.4 Previous Investigations

No previous archaeological investigation have been undertaken on the site.

A geotechnical trial hole investigation was conducted in January 2015 (AR Structural Design Ltd. 2017a & b). The survey objectives were as follows:

- To try and find the edge of the quarry – most likely on slit trenches ‘A’ and ‘B’
- To obtain soil samples from the bund and the underlying ground
- Establish depths to rock
- Establish the presence of ground water
- Detect any possible contaminant
- To consider the stability of the trenches dug
- To provide a written and photographic record

Six test holes (Hole A-F) were excavated. Part of the foundation of the cooling tower was found in Hole E.

It is noted that no visual contamination was evident within the test pits (AR Structural Design Ltd. 2017b).

## 4 Objectives of the Watching Brief

### 4.1 General Considerations

The purpose of an archaeological watching brief as defined by ClfA (2014a) is to

*record the archaeological resource during development within a specified area using appropriate methods and practices. These will satisfy the stated aims of the project, and comply with the Code of Conduct, Code of approved practice for the regulation of contractual arrangements in field archaeology, and other relevant by-laws of the Institute for Archaeologists.*

A watching brief is further defined as:

*a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is the possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.*

*This definition and Standard do not include chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains in situ.*

In all cases, a watching brief will be intended:

*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 to a satisfactory and proper standard.*

*A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.*

*The objective of a watching brief will be intended to establish and make available information about the archaeological resource existing on a site.*

The Standard also notes that a watching brief may be the appropriate archaeological response outside the planning process (e.g. ecclesiastical development, coastal erosion, agriculture, forestry, and countryside management, works by public utilities and statutory undertakers).

#### **4.2 Archaeological Methodology**

1. Properly arranged, a watching brief will cause minimal disruption to site works and will take place within agreed constraints. Watching briefs are not recommended in circumstances where important or complex archaeological remains are liable to be discovered, resulting in a risk of conflict between the need to record archaeological finds and the need to allow building works to proceed.
2. Initial location of areas to be monitored in the watching brief will be monitored by ORCA staff.
3. Where a machine is used, a flat bladed bucket will be required to excavate non-archaeological deposits.
4. In areas of archaeological interest the excavation and removal of deposits will proceed according to the reasonable advice and guidance given by the attending archaeologist.
5. Archaeologists will be allowed reasonable access in relevant areas of groundworks, so that deposits can be examined and recorded.
6. Where archaeological deposits are identified by the archaeologist, provision will be made for time to be made available for unrestricted archaeological access to areas of groundworks.
7. In addition to the excavation of man-made deposits, some assessment of any exposed 'naturally deposited' levels will be necessary, especially if these are organically preserved and laid down within archaeological timescales; for example alluvial deposits.



8. If deep cut features are found, such as pits and wells, they may need to be excavated to a greater depth than anticipated in the construction works, provided this is consistent with site safety.
9. Any finds of human remains will be left *in situ*, covered and protected and the client, the Regional Archaeologist and the police informed immediately (it is a legal requirement to inform the local police). Guidance, as outlined in Historic Environment Scotland's **Operational Policy Paper 5: The Treatment of Human Remains in Archaeology** (2016), will be followed. If removal is essential it can only take place under the appropriate Faculty jurisdiction, licence, environmental health regulations, coroner's permission, and if appropriate, in compliance with the **Disused Burial Grounds (Amendment) Act 1981** or other local Act. Prior written notice will also be given to the local planning authority. It will be necessary to ensure that adequate security is provided.
10. Where archaeological remains are to be preserved *in situ* they will be adequately protected from deterioration. Normally this involves covering or wrapping the deposits and features in a geo-textile such as Terram and sealing this with a layer of sand or other suitable soft materials.
11. An Archaeological Project Officer will monitor the work and record any archaeological remains revealed in the appropriate manner (plans, sections, field notes and/or pro-forma 'context sheets') Recording will be carried out to the format and standards detailed in the ORCA Fieldwork Manual (2013). Observations will be transformed onto the Ordnance Survey National Grid Projection and heights measured in metres above Ordnance Datum, by direct measurement from verified Ordnance Survey control points. Masonry will be photographed in colour digital media.
12. If significant archaeological deposits survive in any area of the proposed groundworks, the contractors will allow the archaeologist(s) to record deposits as required. The work will be recorded using the standard excavation recording systems, such as pro forma record sheets, notebooks, scale drawings and photography (comprising digital photographs, plus slide and monochrome film if significant archaeological deposits are encountered) and related to the national Ordnance Survey grid.
13. Monitoring will comply with relevant national planning policy set out in **Scottish Planning Policy (SPP) 2014**, with the companion **Planning Advice Note (PAN 2/2011): Planning and Archaeology, The Ancient Monuments and Archaeological Areas Act 1979** and the **Scottish Historic Environment Policy 2011**.
14. Any significant developments, especially those likely to cause delay or special requirements (e.g. discovery of human remains, artefacts requiring conservation etc.) will be communicated immediately to the client, the County Archaeologist, and Historic Environment Scotland.

### 4.3 Site Specific Objectives and Research Questions

This statement sets out the methods used and approaches taken in dealing with the archaeological resource of the site.

The limited nature of the proposed works and the watching brief upon them makes it unreasonable to establish any specific archaeological research objectives. The archaeological brief is essentially limited to establishing where, if at all, archaeological deposits may survive (presence/absence), recording where necessary, and to ensuring that the proposed groundworks do not involve the destruction of any archaeological deposits of national significance. Nevertheless, in addition, a few research questions can be outlined:

- What was the nature and level (mAOD) of the natural topography?
- What is the character, nature and depth of the earliest deposits identified?
- Are there any archaeological features present which can be related to the Lyness cooling tower within the vicinity of the Site, including the old quarry? What is the form, character and material make up of this structure?
- What is the character and nature of the latest deposits identified?
- Are there any previously unrecorded archaeological features present which can be related to the Lyness HMS Proserpine fleet base and WW2?

## 5 Archaeological monitoring

- An archaeologist is required to accurately locate, photograph and record the exposed cooling tower base.
- An archaeologist is not required to monitor main bund removal, apart from the lowest level just above the original ground surface.
- An archaeologist is required to inspect the original ground surface and record any features present that may relate to the cooling tower and other wartime structures, to put them in their wider context.
- An archaeologist is required to monitor any test excavations around the cooling tower foundations in order to assess the depth and character of the structure.
- The requirement for an archaeologist to monitor all excavations below the original ground surface below the bund area will be assessed on site in consultation with Julie Gibson, Planning Archaeologist.

## 6 Planning and Legislative Framework

### 6.1 National Planning Policy

The importance of the historic environment is recognised at International, National, Regional and Local levels. This section summarises the larger compendium of legislation and regulations relevant to the current scheme of archaeological monitoring.

This Written Scheme of Investigation for an archaeological watching brief has been undertaken within the context of relevant policy and legislation as outlined in **Scottish Planning Policy (SPP) 2014** and the **Historic Environment Scotland (HES) Policy Statement 2016**.

SPP 2014 sets out Scottish Ministers' vision and strategic policies for the historic environment. The planning system should promote the care and protection of designated and non-designated historic environment assets, related settings and the cultural landscape. It

recognises that archaeological sites and monuments are an important, finite and non-renewable resource that should be protected and preserved in situ when possible. Change should be sensitively managed in order to best avoid or minimise adverse impacts on the fabric and setting of heritage assets.

HES Policy Statement 2016 provides guidance, detailing how HES fulfils its regulatory and advisory roles and how it expects others to interpret and implement SPP 2014. Key principles include that “there should be a presumption in favour of preservation of individual historic assets and also the pattern of the wider historic environment; no historic asset should be lost or radically changed without adequate consideration of its significance and of all the means available to manage and conserve it”. The Annexes to the Policy list the criteria for determining whether historic assets (such as monuments, battlefields, buildings) are of national importance.

In addition, **Planning and Archaeology (Planning Advice Note (PAN) 2/2011)** advises that in determining a planning application the desirability of preserving a monument (whether scheduled or not) is a material consideration with the objective being to assure the protection and enhancement of monuments by preservation *in situ*, in an appropriate setting. When preservation *in situ* is not possible, recording and/or excavation followed by analysis and publication of the results may be an acceptable alternative. The **Orkney Local Development Plan 2017** includes policies to protect Orkney’s rich cultural heritage and archaeological history (Policy 8: Historic Environment & Cultural Heritage).

Detailed non-statutory guidance on the setting of historic assets is provided by HES’s **Managing Change in the Historic Environment** guidance series (Setting: 2016), to be found at their website and to which planning authorities are directed in HES Policy Statement 2016.

Some monuments are deemed to be of national importance and are therefore given legal protection through **The Ancient Monuments and Archaeological Areas Act 1979 (Scheduled Ancient Monuments)**, and the **Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (Listed Buildings)** and modifications thereto in the **Historic Environment (Amendment) (Scotland) Act 2011**.

## 6.2 Designated Sites and Monuments

The **Scheduled Ancient Monuments and Archaeological Areas Act 1979** concerns sites that warrant statutory protection due to being of national importance “by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it”.

A monument is defined within the Act as:

*any building, structure or work above or below the surface of the land, any cave or excavation; any site comprising the remains of any such building, structure or work or any cave or excavation; and any site comprising or comprising the remains of any vehicle, vessel or aircraft or other movable structure or part thereof (Section 61 (7))*

with the additional definition of “*any thing, or group of things, that evidences previous human activity*” derived from section 14 of the **Historic Environment (Amendment) (Scotland) Act 2011**. This 2011 Act also adds the requirement for Scottish Ministers to compile Inventories of Gardens and Designed Landscapes and of Battlefields that appear to be of national importance.

Under the Ancient Monuments and Archaeological Areas Act 1979 , the Scottish Ministers are required to compile and maintain a schedule of monuments considered to be of national importance. The **Historic Environment (Amendment) (Scotland) Act 2011** modified this legislation.

The consent of the Scottish Ministers is required before any works are carried out which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up a Scheduled Monument.

In addition, impacts of proposed development works upon the setting of a Scheduled Monument form an important consideration in the granting or refusal of planning consent to conduct development works.

The site does not lie within any area designated as a Scheduled Ancient Monument.

### **6.3 Archaeology and Planning in Orkney**

The **Orkney Local Development Plan** was adopted by Orkney Islands Council in 2017 and provides the framework for planning decisions made throughout Orkney. It states:

*The Government expects local authorities and others to maintain and strengthen their commitment to stewardship of the historic environment and to reflect this planning guidance in their policies and their allocation of resources. Planning authorities should adopt suitable policies in their development plans and give effect to them through their development management decisions. The context or setting within which specific historic features sit, and the patterns of past use, are part of our historic environment. The historical, artistic, literary, linguistic, and scenic associations of places and landscapes are some of the less tangible elements of the historic environment. These elements make a fundamental contribution to our sense of place and cultural identity.*

*. . . The approach to the historic environment as set out in the SHEP should be taken into account within the LDP. As well as addressing the value of cultural heritage assets, links with wider landscapes and natural heritage should be considered. Landscape and biodiversity policy objectives have the potential to impact upon archaeological heritage, and vice versa. The LDP could highlight this relationship and include within its policy elements which would be mutually beneficial.*

### **6.4 Conservation Areas**

*“Councils have the power to designate as Conservation Areas, areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. It is the responsibility of the council to ensure that any new development should be sympathetic to the special architectural and aesthetic qualities of the area, particularly in terms of scale, design, materials and space between buildings. Councils have a statutory obligation to compile a list containing particulars of any area which has been designated as a conservation area which is available for public inspection.” (Orkney Council Website)*

The Site is not located within a Conservation Area as designated by Orkney Islands Council.

## 6.5 Recovered Materials

A systematic recording and cataloguing procedure will be implemented for any surface finds, including a Location Schedule.

Any artefacts retrieved during the investigation will be subject to the standard disposal procedures operated under the Treasure Trove and *Bona Vacantia* laws and reported to the Scottish Treasure Trove Unit or the Queens and Lord Treasurer's Remembrancer as appropriate, for disposal to an appropriate museum (see <https://treasuretrovescotlandorg.files.wordpress.com/2017/01/tt-code-jan-2016.pdf>).

Written consent will be sought prior to excavations if any material is to be removed from Scotland by application to the Treasure Trove Secretariat in Edinburgh. (See <https://treasuretrovescotland.co.uk/information-for-archaeologists/>). As environmental samples and both human and animal bones are not considered as *bona vacantia* permission does not need to be sought before removing such material.

Finds will be treated in the field in accordance with the United Kingdom Institute for Conservation (Archaeology Section)'s First Aid for Finds.

Recovered materials, including artefacts and any samples taken, will be treated during excavation and post excavation in accordance with standards and guidance issued by ClfA (2014b).

## 7 Archive and Reporting

Archive preparation and deposition will be undertaken with reference to the appropriate ClfA standards and guidance, repository guidelines and standards, and, where necessary, the Museums and Galleries Commission (MGC) and the United Kingdom Institute for Conservation (UKIC) standards and guidelines. Arrangements will be made with an appropriate organisation (RCAHMS) for the deposition of the project archive in advance of any work on site. A written and illustrated Data Structure Report will be prepared within 12 weeks of completion of fieldwork. This will include:

- a. A summary of all archaeological mitigation measures employed and conclusion on their effectiveness.
- b. A summary of any previously unknown archaeological features found within the site boundary.
- c. Recommendations for any additional work to complete the study, analysis and/or publication of the findings.

A hard copy of the report will be sent to the client, with further copies going to the Local Authority's Planning Archaeologist and RCAHMS within 6 months of the completion of the fieldwork along with the archive of the site. A digital version will also be provided. It is an obligation of the client to fund any analysis and publication.

Findings will be submitted to the national record via the OASIS system, which will also generate a short report for Discovery and Excavation Scotland.

## 8 Costs

Costs for the watching brief are outlined below:

### Core costs:

Preliminaries (Method statement, risk assessment, management)	<b>£322.00</b>
Reporting and Post excavation (report, illustrations, archiving)	<b>£445.00</b>

### Site monitoring:

Date rate for ORCA Archaeological Project Officer (travel, staff time)	<b>£324.45</b> (per day)
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All costs are Ex VAT.

## 9 Project Team

Pete Higgins (Pete.Higgins@uhi.ac.uk; 01856 569223), Senior Project Manager for ORCA, will manage the project.

The field team has yet to be determined. C.V's will be produced if required. ORCA have access to all the necessary personnel and technical resources required for the satisfactory completion of the project.

## 10 Preliminary Risk Assessment

The Site Supervisor will be responsible during the progress of the site work for monitoring whether (and what) *additional* updates, modifications or Specific Risk Assessments may be required.

Site: Lyness Watching Brief		Type: Watching Brief			
Persons Affected		No	Classification	No	
Employees		1	Experienced		1
Other workers			Inexperienced		
Public			Disabled		
Known and Suspected Hazards on site					
Mobile Plant	✓	Access equipment		Ionising radiation	
Moving Machine Parts		Hazardous Substances		Lasers	
Moving objects		Contamination	✓	Ultraviolet radiation	
Falls from height	✓	Aircraft		Temperature	✓
Falls on level	✓	Micro organisms	✓	Weather	✓
Manual Handling		Vermin/Weil's Disease	✓	Noise	✓
Services (Buried/ overhead)	✓	Ticks, Lymes disease	✓	Environment	
Electrical		Bites and stings	✓	Vibration	
Fumes/Gas	✓	Welfare	✓	Hot/cold objects	
LPG etc		Lone working	✓	Physical attack etc	
Fire/Explosion		Confined spaces		Human Remains	
Chainsaw		Vehicles	✓	Hand Tools	✓
UXO		Livestock		On/Near Water (inc tides)	✓
Control Measures Required					
<ul style="list-style-type: none"> <li>Compliance with H&amp;S at Work Act 1974, Construction (Design and Management) Regulations 2015 and ORCA H+S Policy</li> <li>Compliance with ORCA Generic or Site Specific Risk Assessment(s) for the Hazards marked above</li> <li>Mobile phones will be kept charged and switched on at all times when on site in case of an emergency.</li> <li>There will be a suitably stocked first aid kit on site and in each OIC vehicle at all times.</li> <li>Staff will not work alone in the site, and work with a machine excavator driver or other staff from the main contractor.</li> </ul>					

- Staff will suitably experienced of working with machine excavators. Communication with the machine driver will be undertaken prior to any encroachment within the machine boom arm area.
- Suitable footwear and clothing will be worn (e.g. steel toe capped boots, waterproofs).
- Team members will be made aware of the dangers of ticks / lyme's disease, and Leptospirosis (Weil's disease).
- Handwashing facilities will be available on site. All team members will be asked to wash hands before eating or drinking. Gloves will be provided (work and latex).
- Toilet facilities are available at Lyness Museum and Ferry Terminal.
- The working area will be kept in a safe and tidy manner. Trip hazards will be minimised and tools stacked and stored neatly.
- Excavations in excess of 1.2m in depth will not be entered.
- Locating buried services will be undertaken by the main contractor.
- Staff will avoid the pond to the north of the bund.
- Should suspicious smells or gas be evident, the area will be evacuated and the lead contractor will be informed.

**Assessment of Remaining risk (Low, Medium, High) (see notes)**

	L	M	H		L	M	H		L	M	H
Mobile Plant		•		Access equipment				Ionising radiation			
Machine Parts				Hazardous Substances				Ultraviolet			
Moving objects				Contamination	•			Lasers			
Falls from height	•			Aircraft				Temperature	•		
Falls on level		•		Micro organisms	•			Weather	•		
Manual Handling	•			Vermin/Weil's Disease	•			Noise			
Services (Buried/overhead)	•			Ticks, Lymes disease	•			(Open/harsh) Environment			
Electrical				Bites and stings	•			Vibration			
Fumes/Gas	•			Welfare	•			Hot/cold objects			
LPG etc				Lone working	•			Physical attack			
livestock				Confined spaces				Human Remains			
Fire/Explosion				Vehicles	•			Hand Tools	•		
Chainsaw				Livestock				On/Near Water	•		
UXO											

**Emergency action/additional assessment required for remaining medium/high risk**

<b>Competent Person(s) appointed to take action:</b> Paul Sharman	<b>Report seen by (initials)</b>	Dan Lee, ORCA
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Pete Higgins (ORCA SPM)	PM	Archaeologists (Site Technicians)
	PO(s) RA	
	Client	
	Contractor	
	Other	

### Notes

The risk a hazard may produce is calculated by multiplying the likelihood of exposure to the hazard by the severity of injury or illness the hazard is likely to cause.

Likelihood (how many people exposed, for how often, and how long)

- 1 Very unlikely
- 2 Unlikely
- 3 Likely
- 4 Very likely
- 5 Almost certain

### Severity

- 1 First aid injury or illness
- 2 Minor injury or illness (less than 3 day)
- 3 3 day injury or illness (i.e. more than 3 days off work)
- 4 Major injury or illness (e.g. major bone broken)
- 5 Fatality or permanent disablement/illness

### Risk

- 1-8 Low**
- 9-11 Medium**
- 12-25 High**

**N.B. risk is not a calculation of the possible harm but of the likely harm.**

## **11 Health and Safety Method Statement**

This health and safety method statement is intended for a watching brief being conducted at Lyness, Orkney.

The field work is due to start in Sept/Oct 2019.

All ORCA staff will adhere to the Health and Safety regulations and procedures laid down in the most up to date version of the ORCA Health & Safety Policy. Copies of this document will be made available for inspection on site to clients, visitors, staff and contractors.

### **The Construction (Design and Management) Regulations 2015**

Archaeology as a stand-alone activity/ profession is not part of the construction industry and is, therefore, currently formally exempt from the CDM Regulations 2015. However, where archaeological work is undertaken as part of a construction project, whether defined as notifiable or not under the regulations, it is considered reasonable to expect that work to conform to CDM 2015. ORCA cannot act as the CDM coordinator or Principal Contractor for any construction project, but may be considered a Designer under the regulations.

### **Construction Skills Certification Scheme**

The profession of Archaeologist has been largely covered by the CSCS, Construction Related Organisation CRO White Card for Archaeological Technician (Code 5363). This will no longer be valid from 30 September 2017. After this date it will be replaced by the Academically Qualified Person AQP White Card for Archaeologist and for Archaeologist Technician.

### **Hours of work**

ORCA contract staff will generally work Monday to Friday from 09.00 until 17.00 on site, with suitable breaks conforming to all legal requirements. Where requested and funded by the client any overtime worked will also conform to legal requirements with regard to duration and breaks.

ORCA will not be able to undertake outdoor fieldwork during hours of darkness unless provided with adequate lighting, i.e. of suitable lux necessary for archaeological work (e.g. minimum 2 tungsten halogen lamps (500W minimum) per square meter, with 110-volt transformer, adequate cabling, and power supply).

Mobile phones, personal CD players, I-pods and similar will not be used by ORCA staff in archaeological trenches or areas of work.

Smoking and naked flames are/is not permitted in the trenches or areas of work. Alcohol is not permitted on site.

### **Training**

ORCA provides Safety Training for its staff as follows:

- Induction Training for all staff (undertaken on joining ORCA and as appropriate on projects thereafter).
- Specialist H&S Training (to cover specialist areas and to update professional knowledge)

All ORCA staff on site will be competent to carry out their archaeological work. Where less experienced staff are used these will at all times be under the supervision of the Site Supervisor or other experienced member of staff for training.

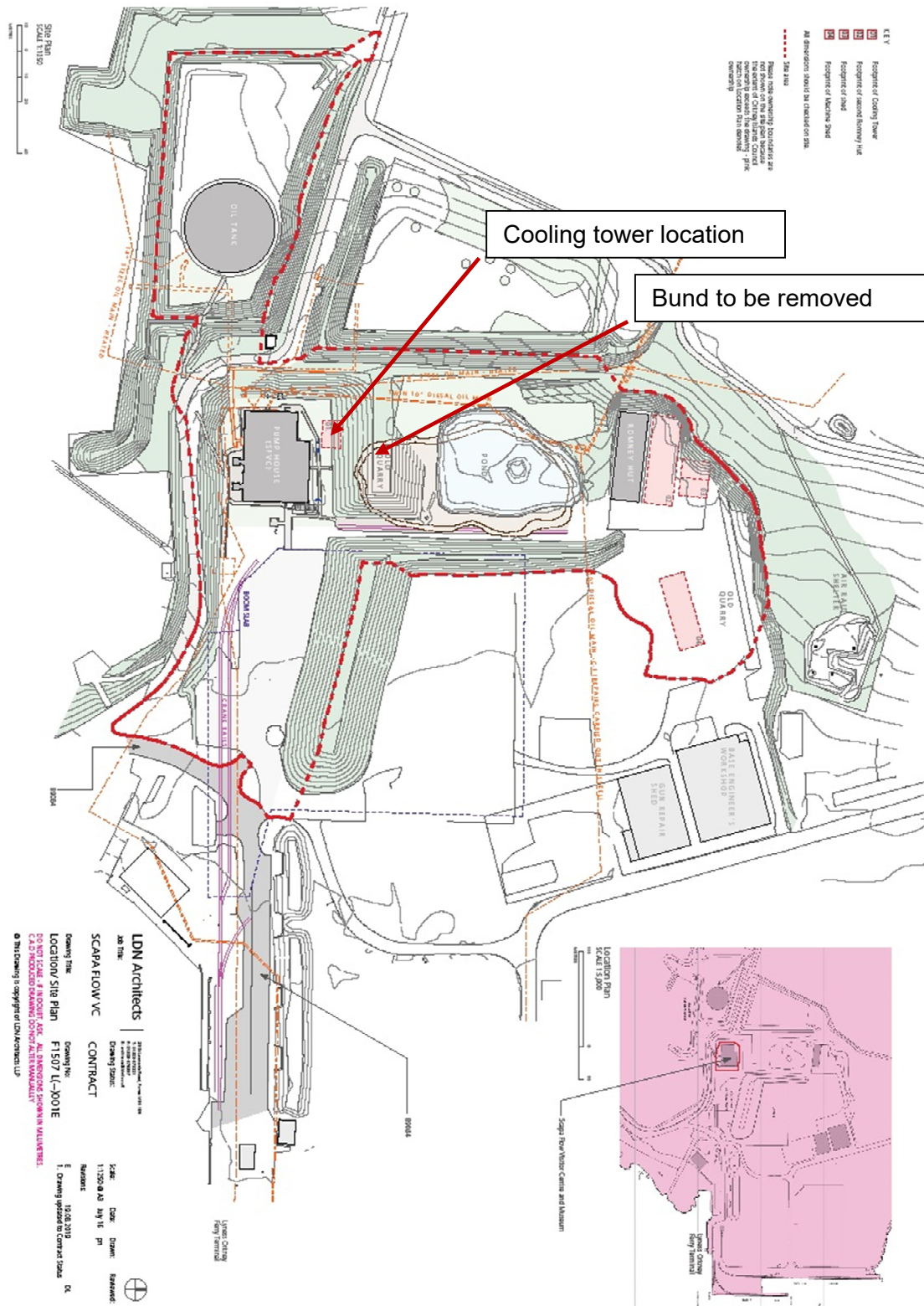
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## Figures

**Figure 1:**

Scapa Flow Visitor Centre Master plan





## Appendices



## Appendix 1 Watching Briefs

- A1.1 Where the Watching Brief Archaeologist has no control over the working methods on site (such as machine specification size and depth of excavation), the Archaeologist will only observe the works and record the nature of the works and any archaeology observed.
- A1.2 Where the Watching Brief Archaeologist specifies the working methods on site (such as machine specification size and depth of excavation), the Watching Brief will usually be treated as a Machine-Excavated Trench.
- A1.4 The Watching Brief Archaeologist has no power to extend the area unless instructed by the local authority archaeologist, unless it is to fully excavate human remains that would be truncated by the works.
- A1.5 A record will be kept of site attendances.
- A1.6 Finds and samples, in addition to the manner of their retrieval and treatment in the field will be assessed as necessary by appropriate specialists for their potential archaeological value and potential for analysis.
- A1.7 The Watching Brief Report will be in accordance with Historic Scotland's guidelines on Data Structure Reports. It will include scale plans, a written summary and interpretation of the results and the methodology of the fieldwork.
- A1.8 The Watching Brief may produce results of sufficient significance in themselves to merit further assessment, analysis and publication. Any requirements for such post-excavation work and possible publication are considered part of the client's obligations. They will be assessed and costed in conjunction with the local authority archaeologist, the client and, if appropriate, Historic Scotland.

## Appendix 2 Finds and Site Methodology

- A2.1 Artefacts will be recovered and recorded by stratigraphic unit and/or spit, quantified, identified and scanned for dating evidence. They will be bagged and packed by artefact class and stratigraphic unit and/or spit in a manner that accords with the United Kingdom Institute for Conservation (Archaeology Section)'s *First Aid for Finds*.
- A2.2 All archaeological finds are potentially Treasure Trove and will be reported to the Queen's and Lord Treasurer's Remembrancer.
- A2.3 Any valuable artefacts (such as precious metal) will be removed to a safe place. If it is not possible to remove the item on the day of discovery, appropriate security measures will be taken to prevent theft or damage.
- A2.4 All recording will be done to industry standard, such as those in the Museum of London Archaeology Service *Archaeological Field Manual*, 3<sup>rd</sup> edn 1994.
- A2.5 A sequential block of numbers will be allocated to the trench, with individual numbers from these assigned to each stratigraphic unit.
- A2.6 A written record (both factual and interpretative) and a 'Harris' matrix of the stratigraphic units will be compiled on *pro forma* sheets and in site notebooks.
- A2.7 Plans and sections will be drawn at an appropriate scale (usually 1:50, 1:20 and 1:10) according to the detail necessary to provide a full record, and logged on a register.
- A2.8 Sections and spot heights will be related to the level of the Ordnance Datum, unless it has been agreed with the local authority archaeologist that this is unnecessary. If required, the level can also be related to the client's site datum, if they provide the necessary information.

- A2.9 A full photographic record will be compiled, using colour slide, monochrome print and digital media, and registered on a standard form. The photographs will illustrate details, principal features, generalized contexts and working shots of the fieldwork.
- A2.10 All identified finds and artefacts will be recovered and recorded by stratigraphic unit and/or spit, quantified, identified and scanned for dating evidence. Some materials (such as modern pottery or post-mediaeval brick) may be discarded after recording as long as a representative sample is kept.
- A2.11 Finds will be bagged and packed by artefact class and stratigraphic unit and/or spit in a manner that accords with the United Kingdom Institute for Conservation (Archaeology Section)'s *First Aid for Finds*. All archaeological finds are potentially Treasure Trove and will be reported to the Queen's and Lord Treasurer's Remembrancer.
- A2.12 The works will initially be reported in a Data Structure Report, in accordance with the standards of ClfA and Historic Scotland's guidelines. Further post-excavation work and possible publication will be assessed and costed in conjunction with the local authority archaeologist, the client and, if appropriate, Historic Scotland.

### **Appendix 3 Project Briefs**

- A3.1 The requirements of the Project Brief will be fulfilled where reasonably practicable.
- A3.2 Any significant variations to the proposed Brief or Written Scheme of Investigation will be discussed and agreed with the local authority archaeologist in advance.
- A3.3 The fieldwork detailed in the Written Scheme of Investigation is designed to fulfil the project aims in a cost-effective way. Although all attempts have been made to allow for site-specific problems, there may occasionally be unforeseen circumstances not included in the Written Scheme of Investigation and the Costings. These may include
- Complex structures, waterlogged deposits or delicate objects that require specialist input or removal
  - Trench shoring or stepping requirements
  - Trench extensions or extra excavation requested by the local authority archaeologist
  - Delays due to ground contamination, unknown services, vandalism or extreme weather and ground conditions.

### **Appendix 4 Health and Safety**

- A4.1 The Health and Safety at Work etc Act 1974 and any amendment hereto, and regulations, made thereunder codes of practice and guidance issued will be complied with.
- A4.2 A site-specific Risk Assessment will be formulated prior to the work commencing.
- A4.3 A site-specific Health and Safety Plan will be formulated with the client and other site contractors.

### **Appendix 5 Insurances**

- A5.1 Orkney Islands Council (ORCA) holds Employers Liability Insurance, Public Liability Insurance and Professional Indemnity Insurance. Details can be provided on request.
- A5.2 Orkney Islands Council will not be liable to indemnify the client against any compensation for and with respect to
- Damage to crops on the area(s) of work, except where possession or access has not been given to Orkney Islands Council.

- Use or occupation of land by the project, provided by the client for the project, or for the purposes of completion of the project, including consequent loss of crops; or interference, temporary or permanent, with any right of way, light, air or other right of access or servitude or right of passage, which are the unavoidable result of the Project in accordance with the agreement
- Any other damage which is the unavoidable result of the Project in accordance with the agreement
- Injuries or damage to persons or properties resulting from any act, neglect or breach of statutory duty done or committed by the client, the client's agents or servants, or their contractors not being employed by Orkney Islands Council, or for or in respect of any claims, demands, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto.

## **Appendix 6 Copyright and Confidentiality**

- A6.1 Orkney Islands Council retains full copyright of any commissioned reports, tender documents or other project documents under the Copyright, Designs and Patents Act 1988 with all rights reserved. However, it will provide an exclusive license to the client in all matters directly relating to the project as described in the Written Scheme of Investigation.
- A6.2 Orkney Islands Council will assign copyright to the client on written request, but retains the right to be identified as the author of all project documentation and reports produced by ORCA, as defined in the Copyright, Designs and Patents Act 1988.
- A6.3 Orkney Islands Council will advise the client of any materials supplied in the course of the project that are not ORCA's copyright.
- A6.4 Orkney Islands Council will respect all requirements for confidentiality about the client's proposals, as long as they are clearly stated. Orkney Islands Council will respect the confidentiality of any conclusions about the likely implications of the client's proposals for the historic environment. It is expected that the client respects Orkney Islands Council's ethical obligations not to suppress significant archaeological information produced by the project for an unreasonable period of time.

## **Appendix 7 Standards**

- A7.1 Orkney Islands Council conforms to standards of professional conduct as outlined by the Institute of Archaeologists and Historic Scotland.
- A7.2 All Project Directors and Officers will be appropriately competent.
- A7.3 Where appropriate and practicable Orkney Islands Council will liaise with local archaeological bodies in order that information about particular sites can be received and disseminated, subject to client confidentiality.

## **Appendix 8 Law**

- A8.1 The parties agree that the Agreement concluded between them and constituted in these terms and conditions shall be construed in accordance with Scottish Law and the parties submit to the exclusive jurisdiction of the Scottish courts.