Method Statement
for Wyre pier dredging

ORKNEY ISLANDS COUNCIL
Marine Services

Project Title: Dredging Operations at Wyre Harbour
Applicant: Orkney Islands Council – Marine Services
Location: Wyre Harbour, Orkney Islands

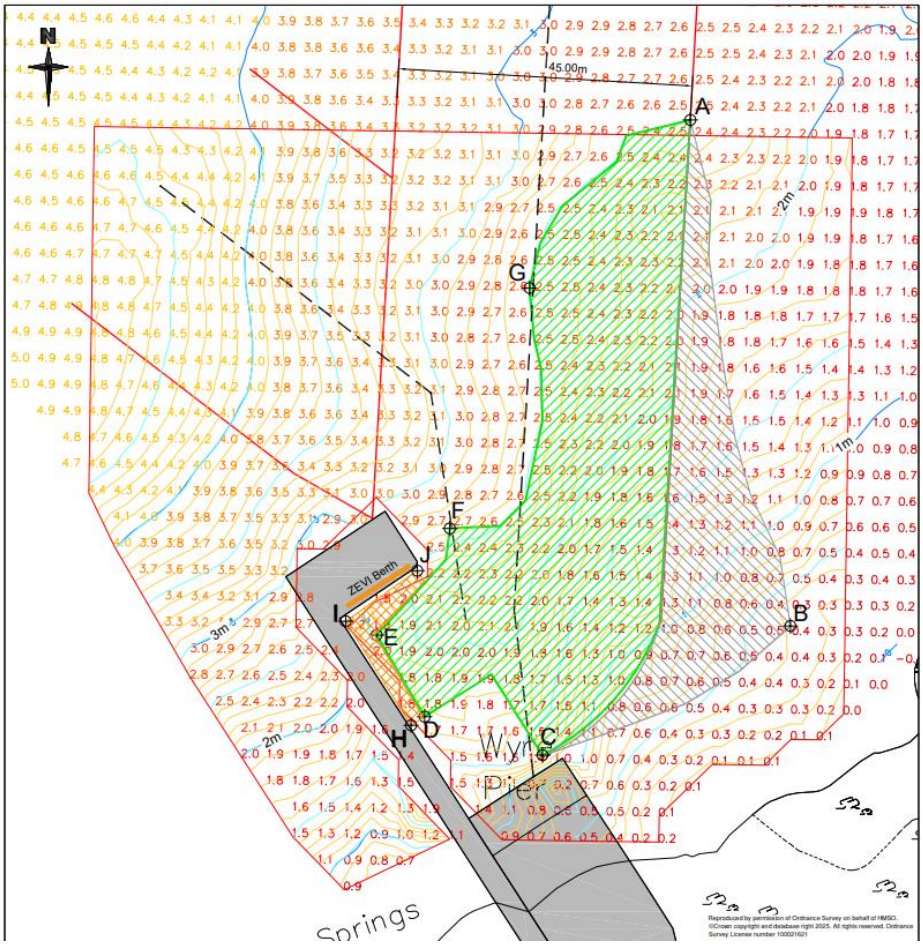
Date: April – December 2027 (predicted)

1. Introduction

This method statement outlines the proposed dredging operations for the removal of material adjacent to Wyre Pier, as well as the excavation of seabed rock in some areas. The dredging will be undertaken using a plough dredger. Where required, seabed rock excavation may be carried out using a long-reach excavator fitted with a hydraulic pick or ripper attachment.

2. Scope of Work

- **Activity**: Plough dredging to remove accumulated sediment from the berthing area.
- Estimated dredging volume: approximately 3,000 m^3 (including side slopes).
- **Equipment**: Low-impact plough dredger and possibly a long-reach excavator with a hydraulic pick/ripper. (contractor to confirm model).
- **Area of interest:** The dredging operations will be conducted in Wyre Harbour, as illustrated below, with the areas marked in green and orange hatching



3. Methodology

3.1 Pre-Dredging Preparations

3.1.1.Surveys:

- Review all available hydrographic, bathymetric and geotechnical information. A pre-dredging bathymetric survey shall be undertaken to confirm existing seabed levels, identify sediment accumulation and determine locations where rock excavation may be required.

3.1.2.Stakeholder Notification:

- Inform local fishermen, ferry operators and harbour users through Marine Services' notification system and issue a Notice to Mariners where required.

3.2 Dredging Operations

3.2.1. Equipment mobilization

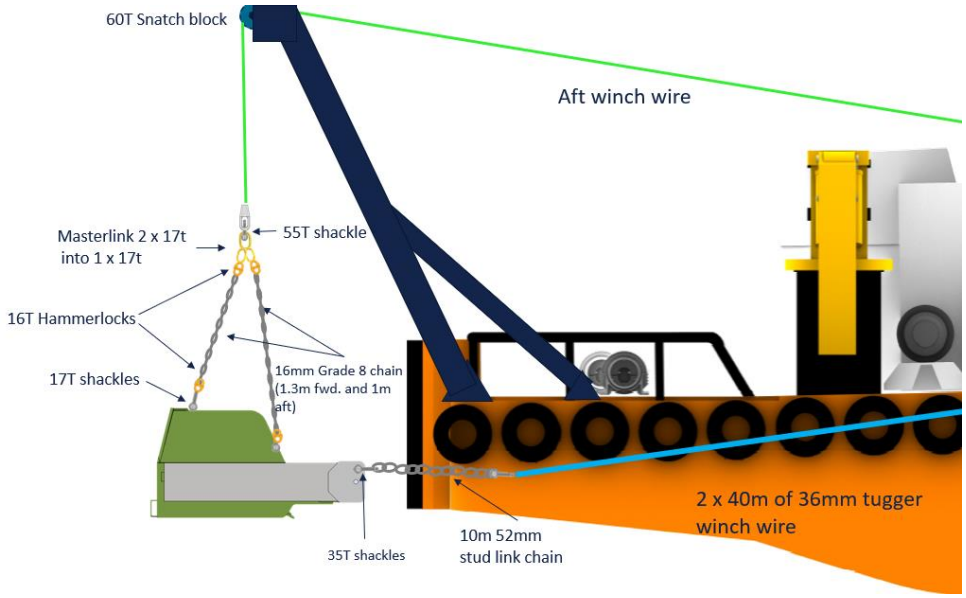
Prior to mobilisation, all plant, equipment and vessels shall undergo inspection to verify suitability and serviceability.

The Contractor shall ensure that:

- All certification is current and valid.
- Lifting equipment has been inspected and certified.
- Crew competency records are available.
- Emergency equipment is present and operational.
- Pollution prevention equipment is available onboard.

A pre-start briefing and toolbox talk shall be undertaken before commencement of activities.

3.2.2. Plough Dredge Set-Up & Installation



Upon arrival on site, the dredging vessel shall be positioned within the work area.

The plough dredge shall be deployed using certified lifting equipment and connected to the towing arrangement in accordance with the manufacturer's recommendations.

The Contractor shall undertake inspection of:

- Tow wires.
- Shackles.
- Lifting points.

- Winches.
- Hydraulic systems.
- Communication systems.

Functional checks shall be completed before lowering the plough to the seabed.

The plough shall be adjusted to achieve the required working depth and alignment before dredging commences.

3.2.3. Vessel and equipment mobilization

The vessel shall transit to the designated dredging area and establish the planned dredging route.

Prior to commencement, weather conditions, tide levels and sea state shall be reviewed to ensure conditions remain within safe operational limits.

All communication systems between the vessel master, crew and Harbour Authority shall be tested and confirmed operational.

An exclusion zone shall be maintained around the dredging operation where practicable.

3.2.4. Plough dredging operations

The plough shall be lowered to the seabed at the designated starting point.

The vessel shall proceed along predetermined dredging tracks at a controlled speed to allow the plough to loosen and redistribute accumulated sediment.

Material shall be relocated within the dredging area in accordance with the approved dredging design and licensing requirements.

The Contractor shall monitor:

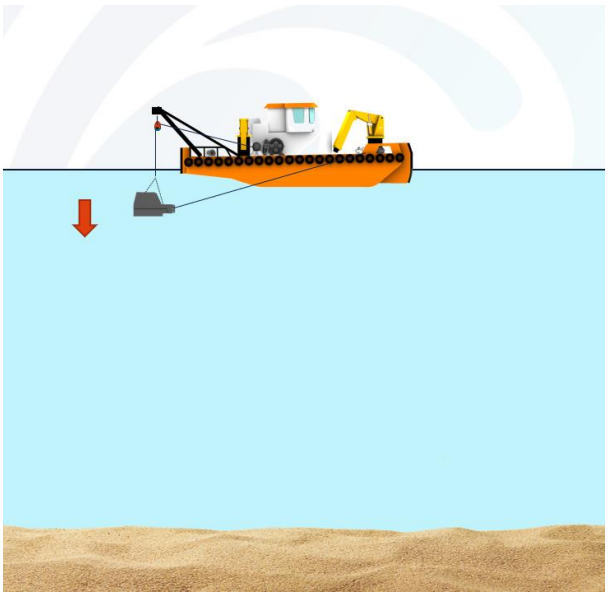
- Vessel position.
- Dredging depth.
- Tidal conditions.
- Progress against target levels.

Multiple passes may be required to achieve the required dredging profile.

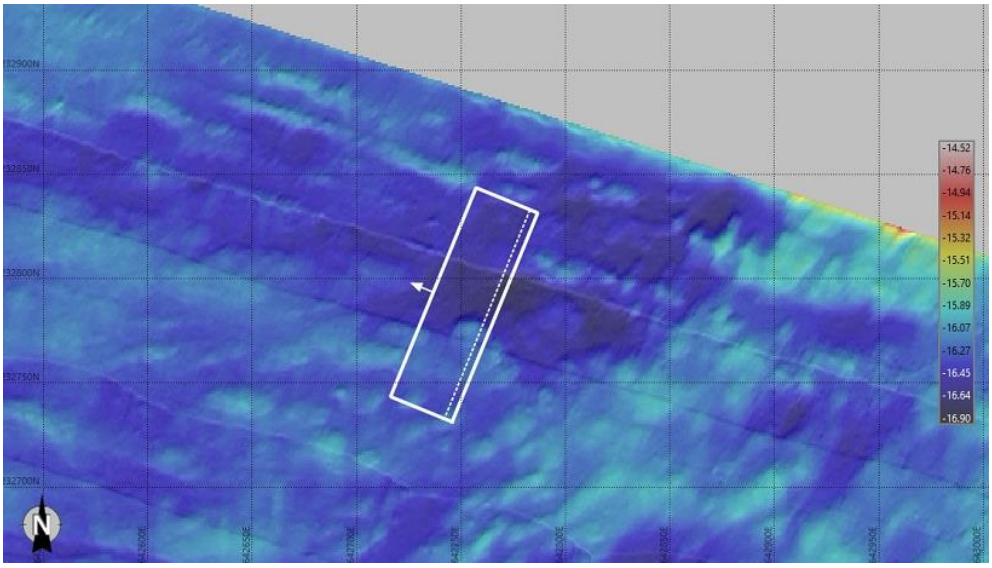
The dredging route may be modified where necessary to address localised areas of accumulation identified during the works.

Should debris, obstructions or unexpected seabed conditions be encountered, operations shall immediately stop until an assessment has been completed and an appropriate control measure implemented.

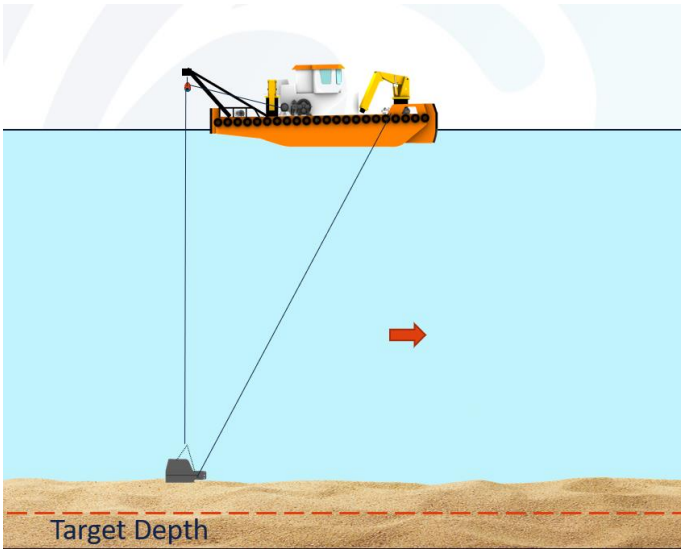
Works shall be suspended during adverse weather, poor visibility or any condition that could affect safety.



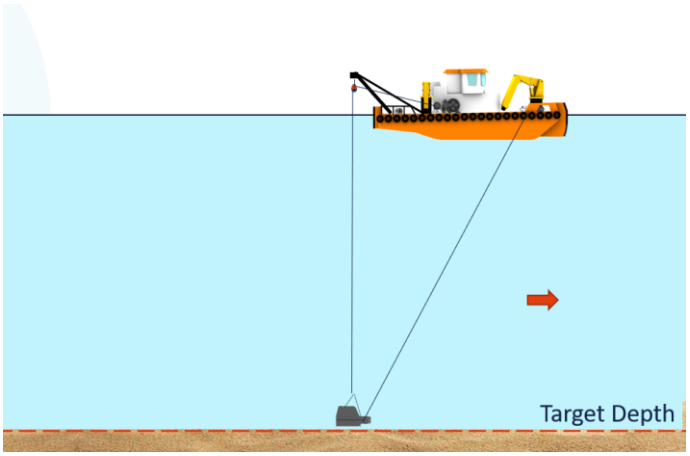
Schematic section view before commencing dredging.



Schematic plan view of the vessel during the dredging operation



Vessel to slowly start moving forward (in the direction of arrow marked in above picture), crew to ensure tugger winch wire remain under the same tension.



Schematic section view after dredging completion.

3.2.5 Rock Excavation Operations

Where identified by survey data or encountered during dredging, areas of rock requiring removal shall be excavated using suitable marine plant.

Rock excavation may be undertaken using a long-reach excavator mounted on a pontoon, barge or other suitable marine platform.

Suitable excavation attachments may include:

- Hydraulic rock pick.
- Rock breaker.
- Ripper attachment.
- Excavation bucket.

Rock shall be excavated progressively to achieve the required design level while avoiding unnecessary over-excavation.

Excavated material shall be loaded into designated disposal area in accordance with licence requirements.

Excavation activities shall be continuously monitored to ensure the stability of equipment, safety of personnel and compliance with design tolerances.

3.3 Post-Dredging

Following completion of dredging and rock excavation activities:

- All equipment shall be removed from the dredging area.
- A post-dredging bathymetric survey shall be undertaken.
- Survey results shall be compared against the target dredge profile.
- Any identified high spots shall be addressed if required.
- Temporary markers and navigation aids shall be removed where appropriate.
- Vessels and plant shall be demobilised from site.
- Survey records and completion information shall be submitted to Orkney Islands Council Marine Services.

4. Task Hazards

The following hazards listed below have been identified during the preparation of this procedure. This list may not represent all hazards associated with this task.

Hazard	Control Measures
Marine operations	Competent crew, vessel inspections, weather monitoring
Lifting operations	Certified equipment, lifting plans, trained personnel
Falling into water	Mandatory lifejackets, rescue equipment, man-overboard procedures
Adverse weather	Continuous monitoring and suspension of works when necessary
Pollution incident	Spill kits, trained personnel, emergency procedures
Tensioned wires and winches	Exclusion zones and trained operators
Rock excavation	Suitable plant, competent operators and controlled excavation methodology
Vessel collision	Communication with Harbour Authority and navigation controls
Manual handling	Use of lifting aids and trained personnel

5. Contractor Responsibilities

- The Contractor shall:
- Provide competent and suitably qualified personnel.
- Ensure all vessels and equipment are maintained in a safe condition.
- Comply with all statutory requirements and licence conditions.
- Undertake daily toolbox talks and safety briefings.
- Maintain communication with Marine Services and Harbour Authority.
- Ensure all lifting operations are planned and supervised.
- Implement appropriate pollution prevention measures.
- Provide suitable first aid and emergency equipment.
- Maintain records of inspections, surveys and daily activities.
- Ensure that all personnel wear the required PPE.

6. Environmental Controls

The Contractor shall implement measures to minimise environmental impact throughout the works.

These measures shall include:

- Prevention of fuel and oil spills.
- Appropriate storage of fuels and lubricants.
- Availability of spill response equipment onboard vessels.
- Proper waste management and disposal arrangements.
- Minimisation of unnecessary seabed disturbance.
- Compliance with all marine licence conditions.

Any pollution incident shall be reported immediately to Marine Services and relevant authorities.

7. Emergency Arrangements

Emergency response procedures shall be available on board all vessels.

Emergency arrangements shall include:

- Man overboard response.

- Fire on board vessel.
- Pollution incident response.
- Medical emergency.
- Machinery failure.
- Collision or grounding.

All crew members shall be familiar with emergency procedures and emergency contact details.

Emergency drills shall be undertaken as required by the vessel operator.

All dredging and rock excavation activities shall be undertaken in accordance with the relevant marine licence conditions and statutory approvals.

Dredging and excavation works shall be suspended during adverse weather conditions, excessive wave action, poor visibility or any circumstances that may present an unacceptable safety risk.

Continuous communication shall be maintained between the vessel master, deck crew and Harbour Authority throughout the operation.

Refuelling operations shall be undertaken in a controlled manner with suitable spill containment measures in place.