##### GENERAL INFORMATION

**CONTRACT NAME: Hawes Pier Repairs**

**LOCATION OF WORKS: Hawes Pier, Newhalls Road, South Queensferry**

**CLIENT: The City of Edinburgh Council**

**START DATE: Monday 5th April 2021**

**CONTRACT DURATION: 36 days Site Operations.**

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| **METHOD STATEMENT** |
| **REVISIONS** |
| **Rev No.** | **Date** | Issue Status / Revision Record | **Prepared By** | **Checked by** |
| 0 | 8th February 2021 | Original document | S. Laurie | J. Frew |
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| DISTRIBUTION |
| Designation | Name |
| Aberdeen Marine - Engineering Manager | Scott Laurie |
| Aberdeen Marine - Operations Manager | John Frew |
| Aberdeen Marine - Diving Supervisor | Richard Stuart |
| City of Edinburgh Council - Project Manager | Sean Fahy |
| **Client Review** |
|  | * **Work may proceed**
* **Revise and resubmit. Work may proceed subject to changes noted.**
* **Review not required. Work may proceed.**
* **Revise and resubmit. Work must not proceed.**
 |
| Name |  |
| Sign |  |
| Date |  |

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| METHOD STATEMENT BRIEFING |
| Communication of the method statement to the personnel who will be doing the work is essential to the safe and successful completion of the operation. The briefing sheet is used to record the sections of the method statement that have been discussed. All attendees and the supervisor presenting it sign the briefing sheet. It then forms part of the site records in the Site Safety Manual.**All Engineers and Supervisors connected to the operation are included on the distribution list for a full method statement.** |
| **[Tick sections of the method statement that have been communicated to the workforce**]. |
| * Description of Works
* Diving Operational Requirements
* General Procedures
* Plant and Equipment
* Labour
* Materials
* Responsibilities
* Method of Checking the Work
* Safety
* Emergency Procedures
* Fire
 | * Casualty Evacuation
* Loss of Power, etc.
* Loss of Visibility
* Poor Weather Conditions
* Emergency Contact Numbers
* Refuelling Procedure
* Work at Height Procedure
* Environmental Emergency Procedure
* Subcontractors
* Specific Methodology
 |
| By On |
| List of attendees |
| Any changes to personnel or conditions must be brought to the attention of the supervisor. |
| **Print Name** | **Signature** | **Company** | **Date** | **Briefed By** |
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**1.0 Description of overall works**

**Outline Method Statement**

**General Statement**

Carry out a range of concrete repairs to the east and west sides of Hawes Pier.

Many of the repairs are possible in dry conditions using crane / man riding basket access.

The main area of repair is on the east side (Repair D30), which is 11m long and consists of significant undercutting of the main deck of the pier – presently segregated due to concern of collapse.

All works will be segregated from public access by fixed barriers. Site Welfare/Office accommodation will be place towards the top of the East side of the Pier for the duration of the works.

**SCOPE OF WORK**

* **Site Set Up:** Mobilise to site, set-up working area, carry out inductions.
* **Preparation:** Establish chainage datums at 5m intervals on pier deck to providea clear reference for location of the defects.
* **Repairs: D18, D30 and D34 -** All diving repairs on the East side of the Pier which will require shutters and pouring of concrete using a placement boom.
* **Repairs: D7, D9, D12, D14 and D25 -** All dry repairs on the East and West sides of the Pier which will require a range of temporary shutters or pointing.
* **Repairs: D1 to D30 (excluding the above repairs) -** All dry repairs on the East and West sides of the Pier which will require a range of small shutters or pointing. (Most of these repairs are smaller areas).
* **APPLICATION**

The method statement applies to all personnel working on or supervising these operations.

All operations will comply with Aberdeen Marine and Client Safety Management Procedures, Aberdeen Marine Diving Manual, CDM regulations, local rules, Inshore ACoPS L104 and any other applicable regulations.

* 1. **THE PURPOSE OF THIS METHOD STATEMENT.**
	2. To allow the personnel involved in the execution of the works, an understanding of how the works should be undertaken. Also defines who is responsible for the part or section of the works and what plant and materials are to be utilised, the quality and standards to be achieved and specific safety aspects to be aware of.
	3. To ensure that each stage of the works are planned correctly. Allowing the works to be completed as programmed with efficient utilisation of the plant labour and materials. Minimising the impact on the environment and to the highest possible safety standards.

**2.0 DIVING AND MARINE OPERATIONAL REQUIREMENTS, SPECIFIC TO START DATE**

Maximum Depth: 7m

Expected operational depth: 0 - 7m

Expected visibility: Poor (River Forth has high silt content)

Seabed: Mud / Shingle / Boulders / Bedrock

Any further information given will be evaluated and will be further written into our Risk Assessment.

* 1. **GENERAL PROCEDURES.**
		1. **Planning**

All site operations will be carried out from the pier deck or from MV Highlander moored alongside the pier.

* 1. **GENERAL DIVING OPERATIONS**

**PLANNING**

All Diving operations will be in accordance with Inshore ACoPS L104.

All Dives will be carried out utilising USN Navy Tables

The Divers will operate using Surface Demand equipment with the main supply of air from an LP compressor and separate air receiver (pig) bottles.

HP150 size storage cylinders will be online as an emergency back up to the main cylinders.

All HP bottles will be filled from a dedicated off-site HP compressor.

All Divers will also carry an emergency air supply in their A/R vests connected to their Diving Helmets.

The divers will be in constant radio communication with the Supervisor, with the provision of a dedicated separate communications box in the dive station.

One named Diving Supervisor will run the Diving team.

All plant and equipment will carry a daily check sheet, maintenance programme and photocopies of relevant certification. The original certificates will be held with the Site Supervisor.

**SITE RESPONSIBILITIES**

Diving Supervisor will be responsible for all their interests on site. He is responsible for ensuring that the work is carried out in a safe and organised manner to the satisfaction of the client and to the specification of the contract. He will also be responsible for the up keep and distribution of paperwork such as method statements, risk assessments and certification to the client and to the Site Safety Manual.

Supervisor will liaise with Project Manager & Client on a daily basis, to provide updates re-progress.

**DIVING RESPONSIBILITIES**

The Lead Diver will be a responsible and experienced person whose duty would be to assist the Supervisor acting as a number 2 and reporting directly to him.

Divers will be responsible for carrying out the in water and above water tasks with the assistance of the Lead Diver and Diving Supervisor.

Each team member is his own safety officer, responsible for maintaining a safe working environment.

Project Manager is responsible for updating Client as required and attending site progress meetings. 7 days notice is required from client.

* 1. **ACCESS/EGRESS TO WORKS**

Operations will be carried out from the pier deck and from MV Highlander which will be moored alongside the pier.

* + 1. **ACCESS/EGRESS TO THE WATER**

All personnel will operate from the pier deck and will use ladders / slipway to access the works or from fixed ladders on MV Highlander.

**3.3** **ENVIRONMENTAL DAMAGE PREVENTION**

One of the largest environmental risks when operating machinery near water is oil contamination. All machinery taken on to the site will therefore be inspected prior to use for leaks, and drip trays / absorbent mats will be used whilst in operation.

Spill kits will be available within the area of operations.

All general rubbish and debris generated by the site to be removed and disposed of in accordance with the Clients waste management procedures.

**3.4 PERMITS / MEETINGS / PASSES**

1. Dive Permits – Forth Ports
2. Works Licence – Forth Ports
3. Marine Licence – Marine Scotland
4. Method Statement briefing
5. Risk Assessment briefing
6. Toolbox Talks

**4 pLANT AND EQUIPMENT**

**4.1** **General plant list:**

4.1.1 Surface Demand Diving Spread

4.1.2 MV Highlander – Small Multicat Vessel

4.1.3 GGR Unic – Spider Crane

4.1.4 Camfaud Pumps – Concrete Placement Boom

**5 LABOUR**

1. Project Manager
2. Diving Supervisor
3. Lead Diver
4. Divers (3)
5. Skipper
6. Plant Operator (Spider Crane)

 Note: All Divers will have valid HSE medical certificates and be trained in First Aid.

6 MATERIALS

 C40 Ready Mixed Concrete – c/w Underwater Additive (Conplast UW)

 Patch repairs – Prompt Cementitious Mortar (c/w Tempo retarder)

1. **METHOD OF CHECKING THE WORK**

The Project Manager and Diving Supervisor will check and confirm that all operations are carried out in accordance with the specification and record it in the daily log.

All drawings will be marked as a log and any changes to condition/build will be reported in a log

**8 SAFETY**

8.1 All diving operations to be conducted in conjunction with the rules and regulations as stipulated in the UK Diving at Work regulations 1997 and associated guidelines of the Inshore ACoPS L104.

8.2 All surface operations will be completed in accordance with the Construction (Design & Management Regulations 2007 (Schedule 2) and the Irish Legislations (2005 act, 2006 Construction Regulations, General applications regulations, diving regulations 1981).

8.3 All personnel employed by the project will be qualified and experienced in this type of combined Marine surface operation. They will all be aware that safety is the responsibility of the team. Specific hazards will be identified for each part of the operation prior to starting the works and will form part of the overall safety plan.

8.4 Machinery shall be certified where applicable and all will be kept in good safe working order.

* 1. Personnel certification where applicable will also be maintained valid. Copies of valid certification will be retained in the Site Safety Manual & issued to the Client, if requested.
	2. Personnel will wear the appropriate safety equipment at all times, such as hard hat, coveralls, safety footwear, life jackets and Hi-Viz vests.
	3. When divers are not dressed in diving suits all divers will wear lifejackets.
	4. Surface swimmer must have harness and life line with an attendant. Swimmer may only be used in calm weather conditions with flow of less than 1 knot
	5. Standby divers must be fully dressed and helmet readied prior to and during diving operation.
	6. All diving operations will be planned using surface demand diving equipment. A project Dive Plan will be prepared prior to any diving operations taking place. No use of S.C.U.B.A. equipment will be allowed or held on site.
	7. All personnel must be aware of emergency plans and be able to understand and refer to them.
	8. List of site First Aid trained personnel will be posted within the Dive Control with details of first aid kit locations.
1. **EMERGENCY PROCEDURES**
	1. Aberdeen Marine Diving Procedures Manual, Aberdeen Safety Management Procedures and the site specific requirement for emergency procedures and safety requirements. All personnel will be briefed on the emergency procedures.

Emergency contacts sheet provided separately.

* 1. **Casualty evacuation from site**
		1. Casualty evacuation from the site will be conducted in accordance with the MS/RA.
	2. **Poor weather conditions**
		1. Site personnel will monitor weather conditions during working hours. If the weather conditions worsen **all personnel have the** **right and duty to stop the operation**. If an operation has been stopped due to weather conditions it cannot be restarted until the weather risk has been re assessed by site management team and offers no added risk to task.
		2. The maximum weather limits will be set by assessing each element of the plant planned for the operation. The lowest maximum safe working limit for any of the plant making up the marine element of the operation will dictate the maximum weather limitation of the project.
1. **Emergency Contact Numbers**
	1. Emergency contact numbers are held by the Site Supervisor in the Site Safety Manual, a copy is provided to the Client.
2. **Refuelling procedure for machinery and plant**
	1. Refuelling procedure “Toolbox” talk given to all parties involved in the operation.
	2. Plant to be re-fuelled turned off.
	3. The re-fuelling of smaller plant must be done from bowser or recognised fuel container will spout/funnel. Smaller plant must be place within drip tray or bund and the drip tray or bund must have 150% capacity of all fuel/oils carried in plant.
	4. Larger plant will be re-fuelled directly from the bowser, in the main compound. The bowser must be fully bunded. The fuel delivery where hand pumped or mechanically pumped must be monitored at all times.
	5. Any minor fuel spills (no matter how slight) must be clear up immediately and reported to the supervisor. Any fuel spills that enter the water course must be reported through the Clients environmental emergency procedure.
3. **Environmental emergency procedures**
	1. All works will be carried out in accordance with the Clients Environmental Procedures.
	2. If the site operates during the hours of darkness, it will sufficiently lit and to the satisfaction of the Clients representative.
	3. Risk Assessments will be completed for each operation and all team individuals will be briefed on these prior to commencing any work.
	4. Equipment will be checked daily and kept in a safe operating condition
4. **Sub-contractors**
	1. Concrete Placement Boom – Camfaud Pumps

**Activity Based Method Statements**

### SPECIFIC WORKING OPERATIONS:

* **Site Set Up:** Mobilise to site, set-up working area, carry out inductions.
* **Preparation:** Establish chainage datums at 5m intervals on pier deck to providea clear reference for location of the defects.
* **Repairs: D18, D30 and D34 -** All diving repairs on the East side of the Pier which will require shutters and pouring of concrete using a placement boom.
* **Repairs: D7, D9, D12, D14 and D25 -** All dry repairs on the East and West sides of the Pier which will require a range of temporary shutters or pointing.
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| 1. Mobilise to site, set-up working area, carry out inductions |
| Step | Detailed activity |  |
| 1 | Delivery of diving equipment | The Dive Control will be a self-contained Towavan based diving system and will be towed to site. |
| 2 | Preparation and site set up | The following equipment will be fully mobilised prior to the start of work (where required):1. Diving equipment
2. Measuring equipment
3. Site cones / barriers / tape
4. Safety / emergency equipment
* The working area will be coned off and barrier tape tied between these to prevent public access during the works.
* Site personnel will keep a lookout during the works for anyone entering the working area without authority.
 |
| 3 | MV Highlander  | Aberdeen Marines’ vessel Highlander will be mobilised from Granton Harbour to South Queensferry and will be moored alongside the East side during the planned operations as required. MV Highlander will be utilised for the sub-sea works only.  |
| 4 | Site safety drill and inductions | All personnel will be inducted on the RAMS, site layout, emergency drills and company procedures.Personnel will carry out the following drills prior to start of work:1. General site muster drills
2. Diver emergency recovery drills
3. Casualty evacuation drills
* All personnel will receive induction and training on site specific equipment and procedures. Copy of all training will be held on site records.
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| 2. Preparation |
| Step | Detailed activity |  |
| 1 | Pre start requirement | 1. Site mobilisation completed
2. Toolbox talks and dive / work plans completed
3. All equipment checked and at hand ready for tasks
4. Site coned off / barriers in place
 |
| 2 | Establish chainage datums at 5m intervals on pier deck to providea clear reference for repairs and to enable a final Safety File completion.  | Chainage marks will be appended to the pier deck along the East and West Deck in 5m increments.Above water this will be by using a measuring wheel & marker paint; below water this will be by using an engineer’s staff & marker crayon.These will be recorded on the drawings / photographs. |

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| 3. Repairs: D18, D30 and D34 |
| Step | Detailed activity |  |
| 1 | Pre start requirement | 1. Toolbox talks and dive / work plans completed
2. All equipment checked and at hand ready for tasks
3. Site coned off / barriers in place
4. Chainage datums’ agreed and recorded
 |
| 2 | Concrete Repairs | Defects D18, D30 and D34 are all sub-sea works and require the use of a temporary steel shutter to be placed and secured prior to placement/pumping of concrete. Areas to be repaired will be re-inspected and any alterations to the original plan / defects noted to The City of Edinburgh Council. All areas will be pressure cleaned sub-sea to remove any marine growth. The defects to be repaired will be shuttered using 5mm steel plates which will be secured at 500mm intervals around the perimeter of the shutter. The securing bolts will be 12mm stainless steel bars secured with Hilti HIT500 resin. The perimeter of the shutter must be sealed to ensure no loss of concrete occurs and this will be undertaken using expanding foam/hessian bags/timber as required.  |
| 3 | Pouring of Concrete  | A concrete placement boom will be used to discharge the concrete into the shutter. The shutter will be provided with a steel valve connection at the base of the shutter to which the diver will connect the connection at the end of the flexible pipe. This ensures that the concrete does not disperse in the water within the shutter and pumps slowly from the base upwards. Tell-tale holes will be provided along the top of the shutter to allow the diver to confirm that the shutter is full of concrete. Divers will check during pouring for any potential leaks around the perimeter of the shutter and pack with hessian should this occur.  |
| 4 | Removal of shutter | Once the concrete has been poured and allowed to set for a minimum of 24hrs the steel shutter will be removed. The fixings into the structure which are stainless steel will be cut flush with the masonry.  |

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| 1. **Repairs: D7, D9, D12, D14, D25 -** All dry repairs on the East and West Side of the Pier which will require a range of temporary shutters or pointing.

**4.1 Repairs: D1 to D30 (excluding the above repairs) -** All small / dry repairs on the East and  West sides of the Pier which will require a range of temporary shutters or pointing. |
| Step | Detailed activity |  |
| 1 | Pre start requirement | 1. Site mobilisation completed
2. Toolbox talks and dive / work plans completed
3. All equipment checked and at hand ready for tasks
4. Site coned off / barriers in place
 |
| 2 | Repairs to Voids/Scour/Pointing | The remaining repairs to be undertaken to Hawes Pier are of a smaller nature and can all be undertaken in the dry. Access will be provided by a man riding basket operated from a small Spider Crane which will be sat on the deck of the pier. Material supplied will be hand batched on site to the manufacturers’ specification. Small holes/pointing - the mortar will be hand applied. Scour at base of the structure will require the use of temporary hessian bags filled with sand – which will be removed from site once repairs have been completed. Any larger voids/scour may require the use of temporary timber/steel shutters which will be fixed using stainless steel 12mm bars (Hilti HIT500 resin fixed). The shutter would be fixed into position and the mortar placed using a letter box opening at the top of the shutter. The shutter would be vibrated to ensure compaction of the mortar. All temporary shutters, sand bags, etc. will be removed from site on completion of the individual repair.  |

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| **5. Demobilisation** |
| Step | Detailed activity |  |
| 1 | Removal of site compound / welfare facilities | On completion of the works the site compound, welfare facilities and any remaining barriers will be removed completely.  |
| 2 | Demobilise | * Site meeting with Client to confirm satisfactory completion of agreed works and all works signed off
* Site Diaries/Daily Plant and Labour Allocation sheets completed and agreed with Client
* Copies of all required documentation provided to Client.
* All plant and equipment checked, cleaned and stored for uplift
* All waste / debris / excess materials suitably disposed off
* Equipment off-hired and transport arranged for uplift.
* Final site checks after equipment removed to satisfaction of Client.
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Aberdeen Marine Risk Assessment

Attached