

# Loch Carnan Jetty Refurbishment South Uist, Outer Hebrides Method Statement

## 1. Proposed works

All works will be carried out manually either from a man basket/crane on the jetty, within an enclosed scaffold attached to the jetty, or by divers. Regardless of the access method used, the construction methods will be the same.

### 1.1. Fenders

Damaged shear fenders and support brackets along the front face of the jetty will either be reattached using replacement screws/bolts, or replaced on a like-for-like basis, using hand-operated power tools.

### 1.2. Fender rubbing strips

A number of damaged fender rubbing strips will be replaced on a like-for-like basis using replacement screws/bolts. The old rubbing strips will be unscrewed from the existing timbers and the replacement strips will be screwed on, using hand-operated power tools.

### 1.3. Bollards

Bollard locations are shown on Figure 1 (a number of which are on land adjacent to the jetty but are included for completeness). As detailed in Table 1, existing bollards will be either:

- Removed and replaced on a like-for-like basis<sup>1</sup>
- Removed and not replaced (mooring arrangement to be revised to use other available bollards); or
- Retained and refurbished.

Installation of replacement bollards on the jetty structure (E1 & E2) would involve removing the timber deck and welding a steel plate with stiffeners to the existing main steelwork members. This plate has threaded bars protruding as anchor bolts with spacer tubes and a second plate at deck level to attach the bollard onto; finally, the timber deck will be replaced.

Refurbishment of existing bollards would involve rust removal (by hand) and re-painting.

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<sup>1</sup> The new bollards will be like-for-like operational replacements, but upgraded to the new staghorn design bollard

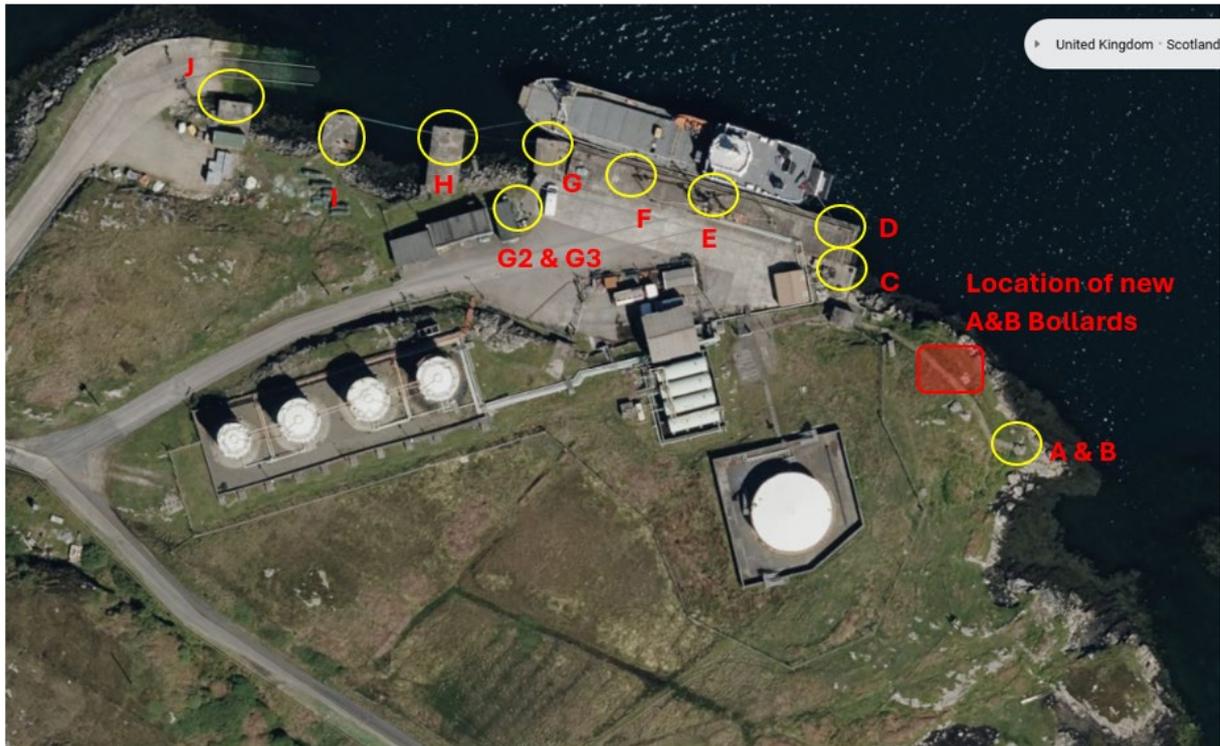


Figure 1 Location of jetty bollards

Table 1 Jetty bollard repair plan

Bollard Location	Type	Remedial Works	Site Pics
New Bollard A1 -	Stag Horn	Install two new stag horn bollards closer to the jetty.	 (Proposed)
New Bollard B1 -	Stag Horn	Design and cast new foundation near existing ring plinth considering access paths and topography. Install two new bollards replacing current bollards A & B.	
New Bollard E1 (Frame 9)	Stag Horn	Design, fabricate and install new fixing plates to the deck frame structure.	
New Bollard E2 (Frame 11)	Stag Horn	Install two new bollards replacing current bollards D, E & F.	
Existing Bollard A	Double Bitt	Remove and dispose existing bollard. Replace with new bollard A1.	

Bollard Location	Type	Remedial Works	Site Pics
<b>Existing Bollard B</b>	Double Bitt	Remove and dispose existing bollard. Replace with new bollard B1.	
<b>Existing Bollard C</b>	Pillar	Remove rust and repaint	
<b>Existing Bollard D</b>	Pillar	Remove and dispose bollard. Revise mooring arrangement to use other available bollards.	
<b>Existing Bollard E</b>	Pillar	Remove and dispose existing bollard. Replace with new bollards E1 & E2.	
<b>Existing Bollard F</b>	Pillar	Remove and dispose bollard. Revise mooring arrangement to use other available bollards.	
<b>Existing Bollard G2</b>	Double Bitt	Remove rust and repaint	
<b>Existing Bollard G3</b>	Double Bitt	Remove rust and repaint	

Bollard Location	Type	Remedial Works	Site Pics
Existing Bollard G	Stag Horn	Remove rust and repaint	
Existing Bollard H	Stag Horn	Remove rust and repaint	
Existing Bollard I	Stag Horn	Remove rust and repaint	
Existing Bollard J	Stag Horn	Remove rust and repaint	

#### 1.4. Structural steel replacement and connection repairs

The jetty comprises 19 near-identical main frames supporting the structure, summarised as follows and shown on Figure 2 and Figure 3:

- 19 cantilevered braced steel frames at 3m centres
- Transverse steel between the main frames
- Diagonal bracing, both vertical and horizontal
- 60m long and 5m high concrete buttress providing support to the cantilever frames, via cast-in fixings
- 19 greenheart timber fender panels, connected to each of the cantilever frames with pairs of elastomeric shear fenders, top and bottom
- Props to transfer low level fender loads directly into the concrete buttress; thereby relieving loading on the original cantilever frames
- 55m x 6.5m timber deck
- 3 deck bollards, connected through to the cantilever frames beneath.

A detailed jetty inspection will be carried out prior to works commencing, building on the existing survey work, to ascertain the exact repair requirements. It is not expected that

substantial repairs will be needed to the steel structure. Works will concentrate on the most corroded areas and will include:

- Replacement of existing bracing beams
- Over-plating of steel members
- Replacement of steel attachments for fenders and shear fenders
- Replacement of nuts, bolts and other fixings.

## 2. Delivery of materials to site

All materials will be delivered to site using the existing road network. There will be no marine plant used in construction.

## 3. Programme

Operating restrictions are currently in place to allow continued use of the jetty. These are not suitable for severe winter weather when the average wind speeds are much higher than the limits imposed. Additionally, the demand for fuel during the winter is more critical, and disruptions in fuel supply would be significant for the region.

As such, it is proposed to carry out the works as soon as possible once a marine licence has been granted, and will take approximately 2 months to complete.

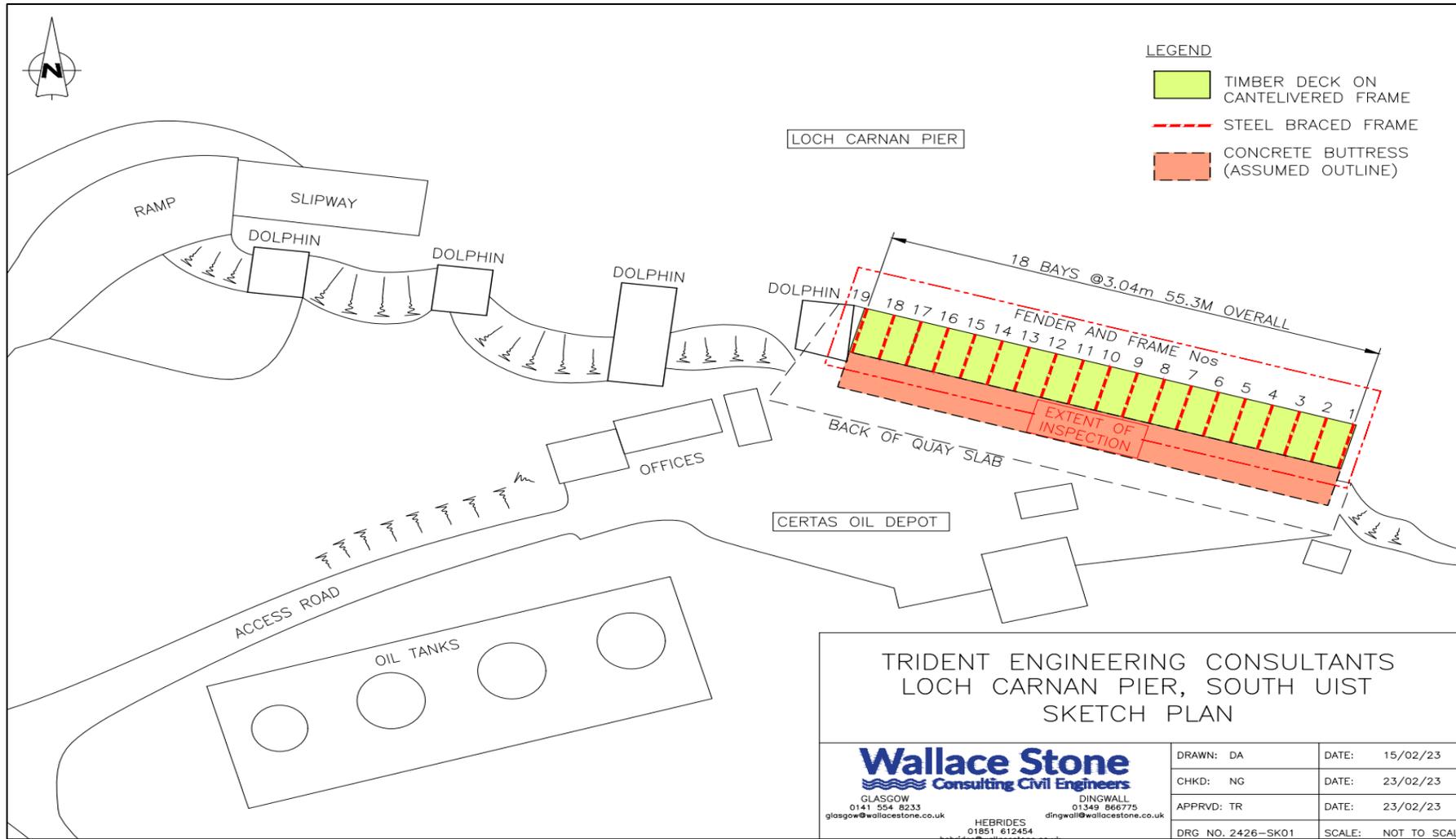


Figure 2 - Loch Carnan jetty location design

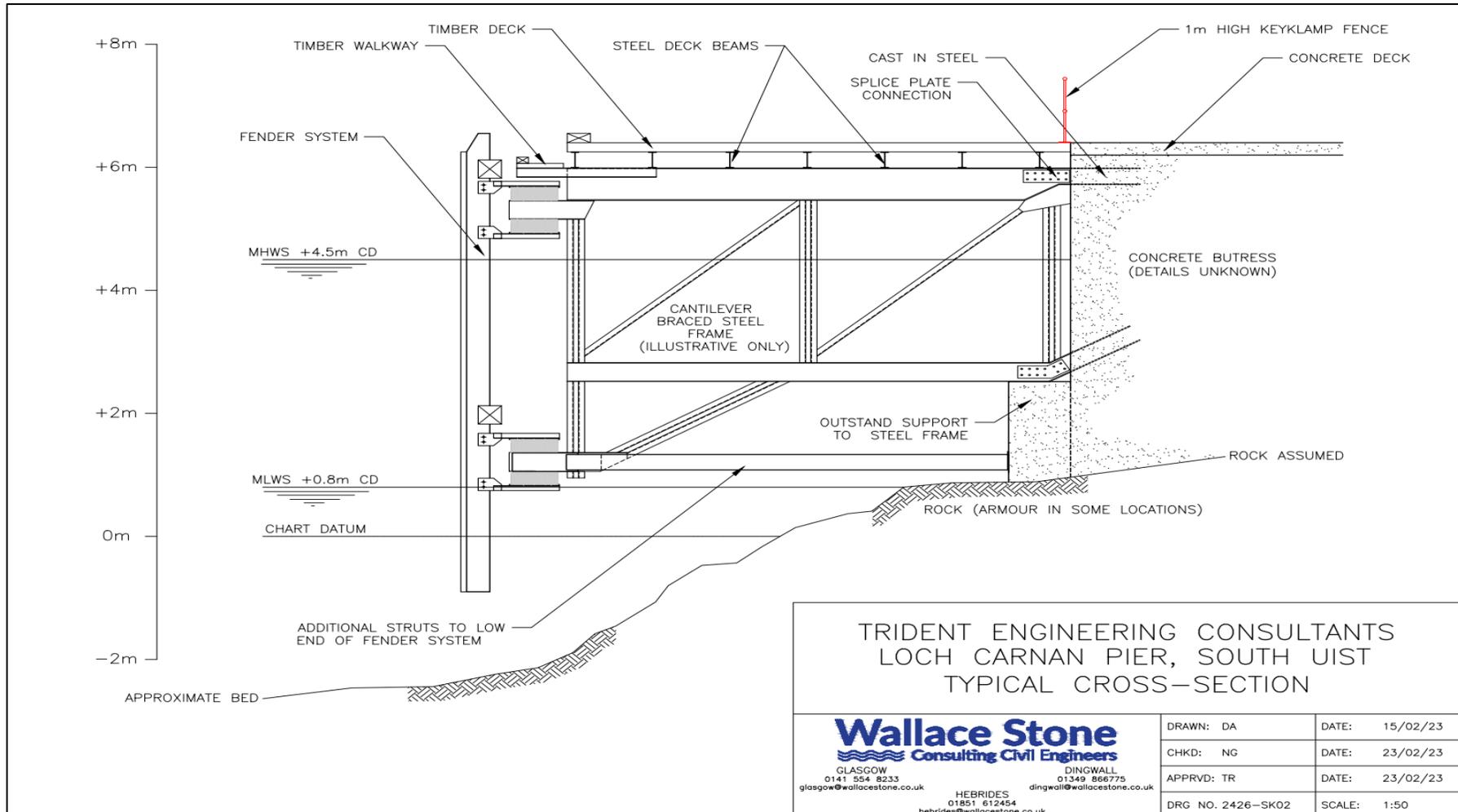


Figure 3 - Cross section of typical frame for Loch Carnan jetty

## Document history

Document reference	Date	Notes
P2024-13-REP2-R1	17 September 2024	Final issue
P2024-13-REP2-R2	19 December 2024	Updated with revised programme