SHANE CARR LTD

MARINE-I 113

REQUEST FOR QUOTATION

MODULAR DRY DOCK (MDD)

PROFESSIONAL ENGINEERING SERVICE

TENDER REF: 002b

DATE ISSUED: 17th December 2018

1.0 Introduction

Shane Carr Ltd is progressing a research and development project to design and develop a prototype of an innovative Modular Dry Dock (MDD) that will be easily transportable worldwide in conventional ISO shipping containers and must be capable of rapid assembly for quick deployment.

2.0 Background

Floating dry docks are presently built to a box steel design which uses sea water to ballast down in order to dry dock vessels etc. The build specification of these docks is generally to 'Lloyds Rules and Regulations for the Construction and Classification of Floating Docks', or DNV/GL and similar equivalent.

Shane Carr, MD of Marine Design & Construction, is the Inventor and Patent Application holder of a novel floating dry dock system, the Modular Dry Dock. The novel **M**odular **D**ry **D**ock (**MDD**) design will be designed, built and tested to the same Lloyds (or similar classification society's) specification but uses an open steel frame design and air filled buoyancy bags to achieve the vessel lift from the water.

The steel frame design must either include a fabricated 'Strut and Node' connection or fully welded frames that can be rigidly joined together by bolting or other means and of a size that can be easily transported by road as standard ISO shipping container modules or fit inside ISO standard shipping containers. The Strut and Node system should also have a minimum 20-year lifespan with minimum maintenance and be designed in steel with a view to add (in a future phase) an Aluminium version.

3.0 Scope of Works

Shane Carr Ltd wish to procure the services of a **Professional Engineering Service** to help design the prototype for our novel MDD system. The prototype must ideally fit into either 6-metre ISO containers or 12-metre ISO High Cube containers for transportation (note, these containers may be fabricated open frame type that are capable of being used as part of the MDD structure).

There are two phases to the project:

Phase 1 – Prototype design –

- Reviewing work already carried out by Rydal Engineering, including preparing GA's of that 'Mero' strut arrangement
- A container frame arrangement (either as a container or to fit inside a container).
- Exporing feasibility of some of the members being 'tension rods'.
- Engaging the appointed Naval Architect Solis to consider the stability of any new layout of buoyancy bags (include any Naval Architecture costs in the quotation)
- Studies of alternative frame geometries based on a fabricated Strut and Node space frame system
- Interpretation and application of loading requirements for different vessels and operational conditions
- Structural analysis and component sizing of alternative frames
- Development of deck construction solutions for different MDD uses and distributions of vessel support loads
- Integration of air supply lines and wash down provision in the deck design
- Supply of typical General Arrangement drawings including welding and bolting details
- Design of cradle side support and under keel support
- Incorporation of a small pontoon on deck to house the 'air ballast' control systems
- Co-ordination of design submission with Solis

5.0 Contract Deliverables

The key deliverables from this commission are:

1. General arrangement drawings of the completed design, including welding and bolting details.

6.0 Submissions

Please provide the following cost information:

- Total cost to complete the scope of works, excluding VAT

Please also provide the following company information:

- VAT Number if available
- Company Number if available

Please submit your quote to shane@marinedesignconstruction.com by 31st December 2018.