

Section 5.Scope of Contract

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A. Requirements

1. Brief Description of the Scope

The Proposed Suai Supply Base is a multi-user integrated supply base, and is an important part of the proposed developments at the South Coast of Timor-Leste. This Bid for the Design and Construction of the Suai Supply Base encompass the Phase 1 works of the proposed developments.

These works comprise the development of about 40 hectares of land into a multi-user and integrated supply base facility to support the construction of off-shore oil and gas exploration, development and production.

The basis of the Bid is for the design and build of the Works.

The standards for the design and construction of the Suai Supply Base by nature of its association and service to the oil and gas industry shall need to be compliant with the corresponding international codes and standards; and be designed and constructed to the highest standards of health, safety, security, environment and operational efficiency.

The facility shall need to be designed for minimum through-life and capital costs while being able to operate safely through its design life whilst minimising its environmental impact on its surrounding in the most cost effective and aesthetic manner.

The onshore facilities include several standalone mini-shorebases, fully furnished office buildings, covered warehouses, RO water system, waste water treatment system, canteen & central kitchen for offshore supply, pipe racks, fuel tank for diesel, aviation fuel and gasoline, open yards, hard stand paved parking areas, staging areas for offshore fabrication, staff accommodation with sports and social facilities, community meeting hall, and associated infrastructure like main access and internal roads, perimeter and internal drainage, entrance facilities, guard house and fencing. There shall also be truck load outs of fuel to serve the supply base and local community.

The corresponding mechanical and electrical works necessary to support the proposed facility shall also be provided. These include receiving the MV power supply, MV and LV power distribution including substations with transformers and switchgears, LV sub-distribution boards, small power distribution, fire fighting system, wash down system, HVAC system, lightings, PLC/ Local control system, CCTV, PABX and other communications system, lightning and earthing system

The supply base marine facilities include several reinforced concrete jetty structures, i.e. the main jetty with tug boat berth; the barge jetty; and the roll-on roll-off ramp. It also includes a reinforced concrete slipway jetty. These structures shall be equipped with the associated fenders, bollards, safety ladders and other wharf furniture.

The Main Jetty will be a piled open reinforced concrete structure, 150m long and 50m wide, with 5 berths capable of berthing 2 nos. 5,000 DWT PSC vessels and 1 no.10,000 DWT cargo vessel at -9m ACD natural depth, and equipped with 50t bollards and fenders. The jetty deck will be designed to accommodate the

installation of bulk plants for mixing and loading cement, barite, bentonite and brine to support offshore drilling operations. The jetty trestle is 15 m wide and 100 meters long and will be provided with 2-tug boat berths complete with bollards, rubber fenders and trestle lighting.

The Barge Jetty will be a piled reinforced concrete structure, 100m long and 30m wide capable of berthing one (1) no. 7,000t DWT barge at -5m ACD natural depth, and equipped with 50 ton bollards and fenders. The Barge Jetty will be a bulk head structure incorporating concrete sheet piles as the retaining bulk head wall. A mooring buoy will also be provided to support the operations of the Barge Jetty.

The LCT Ramp will comprise two (2) reinforced concrete LCT ramps capable of accommodating 5,000t DWT flat top barges with the ramp end at -4.0m ACD natural depth, and equipped with 50 ton bollards. The design and layout of the marine facilities within the harbour shall need to comply with the relevant international codes and requirements for safe navigation, berthing, mooring and operations.

Navigational aids system shall be installed for the safe navigation of vessels using the supply base.

A shore connected rubble-mound breakwater to be constructed up to the -18m ACD seabed is included in the works. It shall be designed to provide shelter from the waves, creating a calm harbour for the safe operations of the supply base under all weather conditions and throughout the year. A rock armour groin structure is also included in the works for the protection of the shoreline.

The crest of the proposed breakwater shall also be used as road access and access way for running utility pipes for the supply base Main Jetty.

It is intended that a liquid berth structure for a proposed refinery project in the nearby vicinity undertaken by Others may be constructed at the landward side of the breakwater located near the head of the breakwater. In such a case, the spatial requirements and the design of the breakwater may need to accommodate the requirements of the proposed liquid berth e.g. the breakwater design criteria and cross-sections, the crest width to accommodate additional operational areas and pipelines. Any such development or requirements will be updated and incorporated into the Bid Documents.

The works will also include the operations of quarries including blasting for rock, hauling, barging and placement of approximately 2.8million m³ of rock supply for core and rock armour units for construction of the breakwater.

A preliminary site investigations has been carried out comprising 3 marine boreholes and 2 onshore boreholes at the site. The report will be made available as information for the Bid.

A Breakwater Quarries Reconnaissance Fieldwork has been carried out to investigate potential sites which may be suitable to be developed as quarries for supply of core material and armour rocks for the breakwater works. This field work will provide preliminary information to the Bidders who may need to further investigate and ascertain the suitability and feasibility of developing the potential quarry sites. The report will be made available as information for the Bid.

2. Estimated Quantities of Major Components

For the marine, civil & structural works the estimated quantities are as follows:

- a) Site clearing: 40ha
- b) Cut to fill earthworks 1.0million m³ (750,000m³ onshore filling with compaction and 250,000m³ haul & back tipping reclamation fill)
- c) Rock supply 2.8million m³ for construction of Breakwater
- d) Jetty concrete deck area: 15,000m²
- e) Ground improvement area: 33,000m²
- f) Hardstand paved parking areas; 14,000m²
- g) Roadway paved surfaces: 30,000m²
- h) Port Operations Office: 1,550m²
- i) Staff Accommodation: 1,900m²
- j) Miscellaneous Buildings: 1,300m²
- k) Sports & Training Centre: 22,000m² Land area
- l) Covered warehouse (2x3,600m² each): 7,200m²
- m) Mini Shore base units (4nos)
- n) Electrical Sub-stations: 160m²
- o) Temporary explosive bunker: 1 no.

3. Methods Required

a) Remote Greenfield Site, Logistics from Sea

Access from Dili to the Site by road is poor especially during the wet seasons. It is not feasible to transport large quantities of Equipment, Plant or Materials for the construction of the works by road and it is envisaged that supply logistics for the works will be from the sea.

The efficient execution of the works will depend on reliable offshore logistics. An off-site materials consolidation and load out point is envisaged to ensure the smooth supply of Equipment, Plant and Materials to the Site. Such a load out point location may be outside of Timor-Leste.

It is paramount that the Contractor puts in place a superior and reliable logistics chain.

b) Bad Weather and Sea Conditions

The seasonal bad weather and rough sea conditions is usually from May to August while the better condition months are from September to December. The bad weather months may pose a challenge for the construction supply

chain, the execution of the works especially the marine works and the overall project scheduling.

c) Local Supply Chain

Timor-Leste has not had significant experience of providing the supply chain for the construction of large projects especially on the south coast. The supply chain will need to be reinforced and supplemented by enhancing its capacity or by imports including for skilled labour and trades; and the Equipment, Plant and Materials for the works.

d) Quarrying and Quarry Products

It is envisaged that the Contractor will need to start up and operate one or more quarries in order to supply the needs for the works especially for the breakwater works.

As the construction of the breakwater will be on the critical path for the overall completion of the Works, the earliest start-up and smooth operations of the quarry will be critical to ensure timely completion of the Works.

e) Fuel Supply

It is anticipated that significant quantities of fuel will be consumed during construction and current available supply may not be able to meet this additional demand. However arrangements are being made to supply this requirement and will be confirmed at the time of the Bid.

f) Marine Works

The Contractor shall need to have on Site a dedicated and complete marine spread to carry out and support both the onshore and marine works which will include large crane barges and construction barges.

4. Contract Implementation Period

It is envisaged that the Contract Period will be 24 months.