Project Technical Documents Project Code: DR.0060

Project Name: Bor Flood Risk Management

Title: Term of Reference (ToR) Date: 17 August 2023



Terms of Reference (ToR) - Lot 3 - Drainage networks and Levelling

1) Personnel Capabilities

Experience of prime candidates and alternatives for key management and specialist positions in the construction site:

- a) **Site manager:** senior staff representing the company in the field holds a bachelor's degree in administrative or construction management with a minimum experience managing construction projects for 10 years.
 - They will supervise and manage all site-based staff employed by the contractor; overall planning; coordinate resources; monitor and control progress and quality; communicate and provide feedback and reports on the progress to IOM's site engineer.
- b) **Site foreman:** senior construction foreman in the field, holds a diploma degree in construction (preferably not mandatory) with minimum experience in organising construction work on the site for 10 years.
 - They will organise tools, workshops, machinery, and materials; organise and supervise workers; ensure construction is carried out accurately, following plans and specifications; take responsibility for the site's health and safety and communicate project progress to IOM's technical staff and site engineer.
- c) **Surveyor:** technical staff in the field holds a bachelor's degree in surveying or a valid certificate in surveying with a minimum experience in implementing similar construction projects for 5 years.
 - They will be responsible for land assessment, surveying and mapping using technical equipment; boundary and benchmarks identification; creating records of survey results; producing maps, sketches, and charts; planning and levelling the construction site; and maintaining contact with site engineers.

The following table represents the minimum number needed:

| Lot number | Project Name | Site Manager | Site foreman | Surveyor | | | |
|---------------|-------------------------------------|--------------|--------------|----------|--|--|--|
| 3 | Drainage Network X6 Levelling X1 | 1 | 6 | 2 | | | |

Requested documents/information: filling key Personnel table in the respective section of the bid documents, including staff name, position/title, academic qualification, number of years of experience, location and contact details and provide a copy of each personnel curriculum vitae (CV)

2) Equipment Capabilities

Type, characteristics, minimum number, and availability of key equipment

- A. **Earth Moving Equipment**: used to carry out various excavation tasks such as digging and moving the earth. Different types of earth-moving equipment have unique applications and are primarily used for repairing, constructing, elevating, agriculture, and demolition.
 - a) **Crawler Excavators:** earth-moving vehicles that feature a bucket/auger/breaker, arm, rotating cab, and movable tracks to perform various functions, from digging trenches and breaking holes to lifting away waste and excavating underground level.
 - b) Wheeled Loading Shovel: a vehicle attached with a shovel designed to perform heavy-duty tasks in earthwork and construction operations. This shovel has specific capabilities to accomplish the loading tasks. This wheeled loader is furnished as a skid-steer, payloader, bucket loader, skip loader, and wheel loader.
 - c) Compactors: crush and compress loads of gravel and soil and contribute to the smoothing and levelling of a work site. The work performed by a heavy-duty compactor machine condenses, stabilises, and prepares the earth for concrete foundations or pavements.

The following table represents the minimum number needed:

| Lot number | Project Name | Crawler Excavators | Wheeled Loading Shovel | Vibratory Rollers Compactor (Capacity 20 tons) | Plate Compactor (Capacity 4-5 Tons) |
|---------------|-------------------------------------|-----------------------|------------------------------|--|---|
| 3 | Drainage Network X6 Levelling X1 | 2 | 2 | 1 | 1 |

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B. Surveying Equipment

- a) **Total Stations:** An electronic/optical instrument used for surveying and building construction. It is an electronic transit theodolite integrated with electronic distance measurement (EDM) to measure both vertical and horizontal angles and the slope distance from the instrument to a particular point, and an onboard computer to collect data and perform triangulation calculations.
- b) **Automatic level:** It is an instrument to take levels of any surface. Have property of automatic horizontal adjustment of the line of sight, an erect figure, and a horizontal circle of 0 360° and large ribbed control buttons to simplify the adjustment of the instrument.

The following table represents the minimum number needed:

| Lot number | Project Name | Total Stations | Automatic Level |
|------------|-------------------------------------|-----------------------|-----------------|
| 3 | Drainage Network X6 Levelling X1 | 1 | 2 |

3) Facilities Capabilities

Type, characteristics, minimum number, and availability of key facilities

| Lot number | Project Name | Warehouse (to store raw materials and equipment's) | Workshop (to prefabricate Timber/wooden pedestrian passages) |
|------------|-------------------------------------|--|---|
| 3 | Drainage Network X6 Levelling X1 | 1 | 1 |

4) Schedule of Execution

The Contractor shall complete the work and services of the project to be executed under the contract in accordance with the execution schedule. Under the proposed project, an outlined work schedule is provided below:

Lot 3: Drainage Network X6 and Levelling X1

Provision of Drainage Network X6 and Levelling X1 in 60 calendar days (Two Months)

| SN | Operation | W | 1 | W | 2 | W | 3 | W | 4 | W | 5 | W | 6 | W | 17 | W | 8' |
|----|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|----|
| 1 | Team Mobilization | | | | | | | | | | | | | | | | |
| 2 | Site clearance | | | | | | | | | | | | | | | | |
| 3 | Excavation works | | | | | | | | | | | | | | | | |
| 4 | Levelling and Compaction work | | | | | | | | | | | | | | | | |
| 5 | Installation of Timber passages | | | | | | | | | | | | | | | | |
| 6 | Handover | | | | | | | | | | | | | | | | |

Requested documents/information: submit the Schedule of Execution in tabular or graphical form for the lot and per the above-suggested schedule.