Construction of Distribution Networks for Villages in Wilayat Samail and Izki (Al Dakiliyah Governorate) T/2531954/2023

1. GENERAL

The objective of this Project is to construct distribution networks in parts of Samail and Izki wilayat in Ad Dhakiliya governorate which currently are not covered with network including reservoirs, pumping stations and other associated works.
Whole amount of water shall be drawn from Ad Dhakiliya transmission main through two existing connection points and one from existing Booster Pumping Stations (BPS-2).

2. SCOPE OF WORKS

The scope of work shall include procuring the design services of a professional design engineering office experienced in the type of Works of Water Supply Systems and the involved components, and the procurement of materials and equipment, furnishing labour, plant and equipment, assigning the required technical design office, execution of earth and civil works, furnishing and installation and construction of the Works including civil, structural, architectural, site works, and mechanical, electrical, instrumentation, control, monitoring and telecommunication plant, equipment and systems described as follows.

The scope of the TENDERER is **Design, & Build [Finance (DBF) Optional] of the distribution networks for villages in wilayat Samail and Izki in Al Dakhiliyah Governorate.**

Water distribution networks has been divided into four water supply schemes based on the geographical position as follows:

1. **Old Villages in Wadi Mahram and Sayma in Samail and Izki Wilayats (WS-01),**

As Sayh	Wadi Dama	Wadi Suqut	Mahram	Al Uyaynah	At Tuwayyah	Yawrakh
Al Biah	Khilah	Tawi Hammam	Tawi Ad Dabun	Sayma Ash Shamaliyah	As Sihhamah	Al Qrateen
Sayma Al Janubiyah	Uwabi Qari	Qifaysa	Wadi Al Shebak	Al Hmaydah	Maqazzah	Tawi Umran

2. **New Villages in Samail Wilayat (WS-02),**

Manal	Biaq	Al Ghubrah	Wusad	Wadi Qari	Al Janah	Al Ain
Al Falijayn	Al Mahal	Al Rissah	Al Mughbariyah	Al Afyah	Sayh Adh Dhahir	Al Shwayah
Sayja	Bawri	Falaj Al Maraghah	Tawi An Nusf			

3. **Tawi Nisf area (WS-03),**
4. **Wadi Jaylah and Surrounding Villages**

The main Scope of Work for Contractor shall be Design & Build for the following:

1. Seven (7) ground reservoirs with all associated works;
2. Three (3) break pressure tank with all associated works;
3. Two (2) booster pumping stations with all associated works;
4. Two (2) pumping station with all associated works;
5. Electro-chlorination systems at all necessary locations (reservoirs and pumping stations sites);
6. Pipeline from DI pipes DN 400 mm, DN 300 mm, DN 250 mm, DN 200 mm and DN 150 mm in diameter, total length of app. 65,900 m;
7. Distribution network from HDPE pipes OD 355 mm, OD 280 mm, OD 225 mm, 200 mm OD, 180 mm, 160 mm and OD 110 mm in diameter, total length of app. 339,650 m;
8. Installation of fire hydrants, pillar type, DN 100 mm;
9. Installation of 44 pressure reducing valves (PRVs);
10. Installation of isolation valves, air valves, washouts, district flow meters and pressure monitoring points;
11. Wadi and road crossings;
12. House connections;
13. Electrical power supply system (external and internal) for All Service Reservoirs, Break Pressure Tanks, Pumping Stations and Booster Pumping Stations, with all subsystems;
14. ICA/SCADA and Integrated Security Systems for all Service Reservoirs, Break Pressure Tanks, Pumping Stations and Booster Pumping Stations, with all subsystems.
15. All other additional works related to several villages within Samail and Izki wilayats based on concept design.

More details are provided in the Tender Specifications and on the Tender Drawings.

The main responsibilities for the Contractor, with respect to the design, supply and construction activities are at least as described below:

- Survey pipe routes, compounds and all the areas where any construction shall be carried out.
- Geological survey for rock excavation and geotechnical and geophysical investigations.
- Obtain information on the existing utilities from the concerned authorities.
- Obtaining all the necessary NOCs before the beginning of the construction works for temporary and permanent works, including excavation and building permit.

- Review of the network modelling.
- Detailed design of all the components to be constructed (pipelines including all the appurtenances required, isolation valves, PRVs, leak detections systems for the reservoirs and transmission lines, catholic protection, data and power cabling along the transmission lines, house connections, district metering for area, compounds civil works including access roads, guard house, any type of structure required such as tanks and pump houses, lighting, reservoirs of any type, flowmeters, yard piping, pump stations in all their parts, MEP works, power connection, on-site chlorination systems complete on all their parts, instrumentation, SCADA). The Contractor shall produce enough documents, drawings and calculations to show clearly the design intentions and shall meet the Client satisfaction.
- Construction of all the components designed complete in all their parts, up to testing, commissioning, start-up and trial operation.
- Maintenance organization, equipment and spare parts.
- Design, procurement, installation and commissioning of all electrical works related to the external power supply based on the requirements from the relevant authority.
- Design, supply and install Surge protection systems for all the proposed discharge main. The design shall include surge analysis and the surge protection system including all associated work.
- Design, procurement, installation and commissioning of all electrical works related to the power supply inside pump station compounds as MV power, LV power, lighting, earthing etc.
- For the distribution network the Contractor shall consider the installation of fire hydrants, pillar type at Civil Defence fire department satisfaction, installation of isolation valves, air valves and washouts, wadi and road crossings, house connections to all occupied plots and installation of consumer water meters supplied by OWWSC.
- Modification / interface works at existing OWWSC facilities (e.g. pipes, reservoirs, pump houses, pumps stations, instrumentation, addition/synchronization/ up gradation / integration to the existing SCADA and electrical works) wherever required.
- Up gradation of existing PLC hardware, SCADA, FOC accessories such as EFOS, Modem. It is contractor responsibility for up gradation / Refurbishment / Replacement (for station / location which is covers under this tender) of existing ICA-Electrical system which includes Power Supply, MCCs, UPS, PLAC System, Instrument System, Fiber / Telecommunication system to meet the project requirement . During detail study / execution if any associates sites, other than the station / location list of this tender will be consider as variation. However, it is Contractor duty to fulfill the project requirement.
- Supply and installation of District Meters for Areas (DMA) all necessary valves, chambers, structures and laying of pipe work, Instrumentation and SCADA links
- The Contractor shall ascertain for himself the exact scope of work including all material / instrumentation and cablings.
- Training of the Employer staff.