

## **Terms of Reference**

**for**

### **JUNIOR CIVIL ENGINEER OF WATER SUPPLY & SANITATION FOR AIAS - ZAMBEZIA**

#### **1. Purpose**

The purpose of these Terms of Reference (TOR) is to describe the assignment of the Junior Water & Sanitation Engineer position for Water and Sanitation Infrastructures Management Board (Administração de Infra-estruturas de Água e Saneamento - AIAS), funded by the World Bank (WB) Emergency Resilient Recovery Project. As part of the WB project team, the Junior Water & Sanitation Engineer will work as the technical support for addressing the implementation of the water supply rehabilitation project of Mocuba City in Zambezia province.

#### **2. Background**

The Government of Mozambique (GOM) is currently implementing a capital investment program in water supply and sanitation, rehabilitating major infrastructures, including treatment facilities, pumping stations, transmission mains, and distribution networks in major urban areas as well as in medium sized cities and towns throughout the country. To meet this objective, new institutions are being created to assist in the development of this sub-sector and faster the decentralization and deconcentration processes. While physical rehabilitation and expansion of the various infrastructures is a major step in the process of developing the sector, the Government also recognizes the importance of providing adequate support to the operation of these newly rehabilitated systems. The Government is keen to align policy and institutional development with capital investment. The GOM has created AIAS which is responsible to oversee development on water supply in medium-sized cities and towns and sanitation in all urban centers, by ensuring involvement of private sector and autonomous entities in some cities and towns at first stage toward a sustainable service which, once successfully piloted, will be rolled-out to all urban centers and thus complement investments already done.

Thus, the Government mobilized financial resources and created an emergency program as to deal with emergency works because of the extreme flooding occurred late in January and February of 2015. One of the sub-components of the emergency program, will focus on fixing and upgrading the intake of the Mocuba drinking water supply system, which is currently located in the Lugela River and is highly vulnerable to shocks during both the rainy and dry seasons. The water intake of Mocuba is particularly vulnerable to the direct impact of floodwaters and was severely damaged by the latest disaster, to the extent that it was out of service for a month. Right after the disaster, AIAS carried out emergency repairs to restore water supply for the city and avoid water shortages, including providing power supply for electrical equipment. However, given the extreme fragility of the intake, there is an urgent need for additional works beyond those provisional arrangements.

### **3. Rehabilitation of Water Supply Systems**

The objective of this component is to support the physical rehabilitation of the components that are part of the water supply system of the Mocuba city. This will be achieved through interventions that will be made in the Intake, mainline, treatment plant, reservoirs and distribution network. The works under this emergency program sub component, will comprise in general terms, the following actions:

#### *i) Restore the Design Capacity of the Water Supply System*

This phase would focus on emergency repairs, which would require the rehabilitation and installation of existing infrastructure at the intake pumping station. The wear and the well with submersible pumps would also need to be refurbished. The bridge would also need to be repaired in order to support the raw water main pipe as well as several sections of the transmission main from the intake to the water treatment plant.

Civil works are foreseen at the intake area to repair the well, buildings of pumping station and the operator's office as well as the works to protect the site against soil erosion. Further repairs are needed around the access road, while electrical switchboards and transformers need to be revised and properly fixed. All electrical pumps at the distribution center will need to be

rechecked and repaired. The network has also been damaged and requires replacement of pipes that are leaking. These works will allow the water supply system to produce 1,800 to 2,000 m<sup>3</sup>/day. Minimal investments will be made in Phase 1, as this will only serve as, emergency repairs.

However, detailed set of interventions that will take place at the emergency phase are being currently investigated by the consultant hired to conduct both the emergency and phase 2 technical design.

*ii) Technical designs for Phase 2 will also be included in Phase 1 in order to prepare long-term, sustainable transformations*

As foreseen in the feasibility study carried out in 2011 in the scope of the Millennium Challenge Corporation (MCC) program, the current intake at Lugela River cannot cover future water demand, therefore a new intake will have to be built upstream of the confluence of the Lugela and Licungo Rivers. This phase would comprise a new intake pumping station, a raw water transmission main, a water treatment plant, elevated water tower, new storage reservoirs, and the rehabilitation and extension of the distribution network. This will allow the production of 12,000 m<sup>3</sup>/day. The intake pumping station, raw water transmission station and storage reservoirs will be designed for a capacity of 24,000 m<sup>3</sup>/day by 2040. This phase must also include the required rehabilitation and network extension to follow the growth and development of the city of Mocuba.

#### **4. General Scope of Responsibilities**

The Junior Water Supply & Sanitation Engineer, will be responsible for the follow up of AIAS Project Portfolio under the Emergency Resilient Recovery Project for the Northern and Central Regions at Zambezia and in providing technical assistance to AIAS Delegation in Zambezia Province. This position reports to AIAS through the AIAS Delegation of the Zambezia Province. This position will be based initially, during the technical and environmental studies in the City of Quelimane and later, during the rehabilitation works, in Mocuba City.

**Duties:**

- Oversee the overall implementation of water supply projects, and support AIAS in monitoring the implementation of environmental and resettlement plans;
- Contribute for the development and regular update of Implementation Plans, Work Plans, and Financial Plans for the project;
- In coordination with the Water & Sanitation Engineer based in Maputo and AIAS Head of DCOAT, manage the project schedule and budget, monitor and report on the physical and financial progress of the works undertaken by the consultants and contractors on quality of goods, works, and services provided;
- Participate in project's progress meetings with the relevant parties;
- Contribute in provision of key reports and documentation needed by AIAS for implementation, ongoing monitoring of performance of AIAS responsibilities described in the implementation agreement, timely review and coordination on all elements of the Work Plan;
- Verify that all the Contractors have obtained all necessary environmental permits including, but not limited to permits required for work camps, quarry operations, waste disposal sites, borrow pits, and blasting activities;
- Provide technical assistance to AIAS Delegation in Zambezia Province in water projects being implemented in the province.
- Other duties related with project scope of works as allocated by the Head of AIAS Delegation in Zambezia Province.

**5. Qualification and Experience**

- University degree, Civil or Hydraulics Engineering or all together, with recognizable experience in design, contract management and other relevant activities in the field of water and sanitation;
- At least 5 years working experience in water supply and sanitation;
- Knowledge in planning, design and supervision of projects;
- Excellent reporting and writing skills.
- Language Proficiency – fluent in Portuguese and good English skills;

- Less than 35 years old.

## 6. Deliverables

The consultants must present the following reports. The reports must be presented to the Head of AIAS Delegation in Zambézia Province and copied to the Head of Control, Operations and Technical Assistance Department, who will provide feedback and approval.

| Deliverables   | Frequency                       |
|--|---------------------------------|
| Updated Implementation Plans,  | Monthly, Quarterly and Annually |
| Comments on the Progress Reports of the Supervision of works   | As required                     |
| Supporting documents and Reports required for projects implementation, monitoring of performance in compliance with specific safeguards defined in the project agreement | As required                     |

## 7. Duration

The contract will have overall duration of 1 year, with possibility to be extended up to the end of the project, depending on the performance of the consultant under evaluation on annual basis.