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Date: 18th NOVEMBER 2019

**INTERNATIONAL ORGANIZATION FOR MIGRATION**

**Wishes to Hire**

**The Services of ENGINEERING FIRM**

“KISMAYO URBAN WATER SUPPLY PROJECT”

**TERMS OF REFERENCE (TOR)**

**FOR ENGINEERING FIRM**

**For KISMAYO URBAN WATER SUPPLY**

**SUMMARY**

|  |  |
| --- | --- |
| Title | Engineering Firm (Water Supply & Sanitation infrastructures )  |
| Purpose | To identify a suitable Engineering Firm and establish an institutional contract for the provision of technical expertise to IOM to conduct feasibility studies/assessments and planning for various water infrastructures works as part of **“Kismayo urban water supply’’** |
| Location | Kismayo, Jubaland State, Somalia.  |
| Duration | -- months  |
| Start Date |  |
| Reporting to | WASH manager and technical team |
| Budget Code/WBS | N/A |
| Project / activity codes | N/A |
| Contract Modality  | Institutional Contract (Open Competition) |

1. **Background**

The Federal government of Somalia received funding from the African development fund & African development bank under the project title: **Kismayo and Baidoa Urban Water Supply and Sanitation Project.**

The overall objective of the Project is (i) to increase access to safe water ii) Improve sanitation iii) Strengthen the capacity for improved delivery of water and sanitation services & iv) reduce economic and social exclusion of poor and vulnerable groups of the population living in Kismayo and Baidoa towns. This is to be achieved through the following ways: Water supply and sanitation infrastructures, Capacity development & Project management.

Under Water supply and sanitation infrastructures the following is entailed: rehabilitation and expansion of key water and sanitation infrastructures in Kismayo town (including water and sanitation facilities for internally displaced persons). The project will undertake water resources assessment in Kismayo, construct and rehabilitate water storage infrastructure, construct water treatment plants, and construct and rehabilitate water distribution networks. The project shall as well construct sanitation facilities in schools, health centers, and markets. Public and hygiene awareness and training shall be inbuilt in the interventions. The component also entails catchment conservation/protection of water sources through planting appropriate tree species.

**2.0 OBJECTIVE OF THE ASSIGNMENT**

The objective of the Firm’s assignment is to offer Technical Support to the Project during the Planning phases for Kismayo town in the areas collecting date and information on the demographic data to determine the amount of water needed, identifying suitable water sources, design, planning, structural assessment and supervision of the works. The Firm will work closely with IOM project implementation and Ministry of Water and Energy in Jubaland and will liaise with other stakeholders. The consultant Firm’s primary role is to advise to IOM and Ministry of Water and Energy in Jubaland on suitable water sources and ensure that all infrastructure components are considered and well planned for in the project scopes before going to tender.

**3.0 KEY PLAYERS**

The consultant firm will be expected to work effectively with all stakeholders including but not limited to: Federal Government Representatives, Ministries of Minerals, Energy & water-JSS, Ministry planning-JSS, Ministry of public works & Housing-JSS and DC office in Kismayo-Jubaland state, IOM WASH Engineer, IOM WASH Manger amongst others.

**4.0 PROJECT IMPLEMENTATION STRATEGY**

The Engineering Firm will have the overall responsibility for providing the complete consolidated demographical data, the amount of water, feasibility study on the water resources in the first phase of the project. After reviewing by the IOM project implementation and Ministry of Minerals, Energy and Water approves the report the consultant firm will be conduct Engineering design all infrastructures and Bill of Quantities (BoQ). The consultant is expected to supervise and provide monitoring to the contractors and material control during the project implementation.

**5.0 SCOPE OF WORK**

The consultant Firm will be expected to be based in Kismayo and travel to all project sites and require reviewing and assess the sites, scope and existing documentation for all existing water sources and existing infrastructures. The scope of the work is divided into three main phases

Phase 1: Water resources assessment Phase, it is anticipated that to collect baseline assessment demographical to determine the amount water needed for population in Kismayo. In addition, baseline assessment the consultant will conduct water resources assessment including environmental and social risks and potential impacts.

The second phase of the project, the consultant firm will prepare all architectural and engineering components across all project sites corresponding estimated costs for decision taking. This includes but not limited to comprehensive preparation of detailed Engineering design and Bill of Quantities of the all components.

The third phase of the project, the Consultant shall perform and carry out supervision during implementation phase on behalf of the IOM and Ministry of Minerals, Energy & Water in Jubaland.

The scope of services and tasks the Consultant to performed may include (but not limited to):

***Phase I: (Assessment on water resources)***

Carry out detailed Water Resource Assessment and suggest the best suitable water sources for Kismayo town within the available resources for the project. The investigations may include but not limited to geo-morphological surveys and in particular for groundwater the hydrogeological surveys to establish with high degree of certainty the aquifer depth, yield, recharge, salinity levels and chemistry using advanced techniques such as long profiles, VES, Seismic within Kismayo town basin.

The consultant is expected to perform following tasks specifically; and suggest the best suitable water sources for Kismayo town within the available resources for the project.

1. ***Baseline conditions Tasks***
2. Identify which stakeholders (non-governmental organizations, business community, development agencies, etc) that are working on the issues related to water supply in Kismayo town specifically CAAFI company, Juba water company, GIZ, Danish Refugee Council (DRC), local vendor and business community on their role of the water supply in the town.
3. Establish the demographics, Population growth rates, spatial distribution, migration patterns (temporary and permanent settlements) minority and vulnerable citizens.
4. Establish a methodology and carry out an affordable analysis based on a desk study using available data.
5. Present an overview of the water consumption patterns in Kismayo and related hazard/ health effects associated with existing water supply and or inadequate water.
6. Describe the legal and institutional framework governing the status and water services operations in Kismayo.
7. ***Water Resources Tasks***
8. Carry out comprehensive water resources assessment and provide alternate solutions whilst prioritizing suitable water source for Kismayo water supply project, environmental impact and as well delineates the local sub catchment for source and assess its hydrology and morphology.
9. Conduct Environmental Impact Assessment (EIA).
10. Quantify the possible maximum water withdrawal from prioritized source based on the water resource assessment.
11. Measure and assess the biological, physical and chemical quality of water from prioritized water source.
12. Assess surface-water resource trends, including forecasted changes in rainfall patterns in associated catchment areas, and any observable effects of climate change on water supplies.
13. Assess the current and 25-years projected water demand for the target populations in Kismayo considering practical phasing of implementation.
14. Evaluate the possibility of drilling deep aquifer borehole along the old infrastructure for future water services.
15. Develop recommendations for improved management of water resources.
16. Assess the existing water rights as enshrined in the Water Act.
17. Recommend best practices for managing and solving conflicts related to water.
18. Review the Water Resources Management and Regulation.
19. Organize workshop to present and disseminate the results and recommendation to IOM project implementation Team (PIT), Ministry of Minerals, Energy and water of Jubaland State as well as the line ministries and project steering committee and other stakeholders.

***Phase II: (Engineering Design & BOQ)***

Based on prioritized water source and approval from the ministry of Minerals, Energy & water of Jubaland State, IOM-PIT and project steering committee, produce detailed Engineering Design (assessment on water demand, design of water source, abduction main surface water and well field, design of primary and secondary and part of the tertiary distribution, design reservoirs),

The consultant will conduct the following tasks of the phase II;

1. Prepare a digitized and contour map of the project area using GIS, AutoCAD and other engineering tools
2. Prepare detailed Engineering design of civil, structural, electrical and mechanical works at the intake, Surface Water Treatment Plant (SWTP); transmission mains and other facilities.
3. Prepare detailed bill of quantities for all construction works.
4. Provide a justifiable opinion on the choice of water treatment technology based on least cost approach (capital, operation and maintenance cost) which would achieve acceptable qualities of treated water.
5. Define urban water supply and sanitation facilities including but not limited to: -
* Layout of water intake
* Selected route of Raw Water Transmission Pipe
* Layout Plan of the SWTP
* Clean Water Transmission Main
* Intermediate reservoirs, distribution reservoirs and overhead tanks as necessary
1. Define project phases in liaison with the Jubaland State Ministry of Energy, Minerals and Water, IOM- PIT and Project Steering Committee.
2. Assess the extent of existing infrastructure and suggest the possibility of using part of the infrastructure in a new scheme.
3. Investigate applicable areas for utilization of renewable energy sources (preferably
solar and wind) and advice on possible areas of application.

***Phase III: (Monitoring & Supervision)***

The consultant firm will also be carrying out supervision and monitoring tasks during implementation phase of the project; these includes but not limited to:

1. Control of the materials and interpretation of specifications in line with standards approved by the IOM and line ministries
2. Conduct physical inspection and certify the work done by the contractors/consultants prior to submitting for review and processing their payment request;
3. Processing and certification of contractor’s payment estimates
4. Preparation of working drawings and ‘as-built’ drawings
5. Monitoring & Evaluation of the performance of the construction company and report on progress related to deliverable.

**6. EXPECTED DELIVERABLES AND TIMEFRAME**

It should be noted that the key deliverable, must include mid-term draft submissions prior to the final submission. As part of the consultancy the Firm will deliver the following:

**Phase I**

1. Inception Report together with instruments and preparation methodology to be used phase I and the formats of the expected results note later two weeks after signing the contract
2. Draft report of the phase 1, covering the demographical, the amount of the water needed, existing water sources, identifying suitable water source for Kismayo water supply within the resources - PowerPoint presentation or any other format deemed appropriate within 45 days
3. Final Report of phase I within 2 weeks from date of completion of the field work (6 copies bound in saddle stitch – hard cover)
4. In addition, the consultant will make available electronic copies (in external drive) of:
5. All reports in MS Word and PDF files
6. All raw data in tabulated form in MS Excel at the time of submission of the draft and the final report

**Phase II**

1. Inception Report together with instruments and preparation methodology of phase II to be used and the formats of the expected results note later after 2 weeks approving phase one.
2. Draft report of the phase II, covering the technical designing of water infrastructures, technical specifications with Bill of quantities, PowerPoint presentation or any other format deemed appropriate within 45 days of the assignment.
3. Final Report of phase II within 2 weeks from date of completion of the field work (10 copies bound in saddle stitch – hard cover)
4. In addition, the consultant will make available electronic copies (in external drive) of:
5. All reports in MS Word and PDF files
6. All raw data in tabulated form in MS Excel at the time of submission of the draft and the final report

**Phase III**

1. Inception Report together with instruments and preparation methodology of phase III to be used and the formats of the expected results note later after one weeks approving phase II.
2. Draft report of the phase III, covering how supervision and monitoring will be implemented, PowerPoint presentation or any other format deemed appropriate within 45 days
3. Final Report of Phase III after assignment is completed (10 copies bound in saddle stitch – hard cover)
4. In addition, the consultant will make available electronic copies (in external drive) of:
5. All reports in MS Word and PDF files
6. All raw data in tabulated form in MS Excel at the time of submission of the draft and the final report

**6.0 TIMEFRAME**

The phase I&II assignment shall be for a total duration of 90 Days from the date of signing with a possible extension based on project needs. Timeline for the phase III will be one year and can be extended based on the needs.

**7.0 REPORTING**

The Firm will report directly and administratively to IOM technical WASH Engineer. All reports prepared by the Firm shall therefore be submitted to IOM technical WASH Engineer. The Firm will need to ensure deliverables are submitted mid-term as drafts prior to the final submission.

**8.0 TOOLS AND EQUIPMENT**

The Firm shall provide all necessary tools, instruments, transport and equipment to execute the services as per the scope of works. These must be available for the Firm’s use during all service operations.

**9.0 MINIMUM ORGANISATIONAL REQUIREMENTS**

**9.1 OFFICE**

For the duration of the project it is expected that Firm establish an office in Kismayo/. This office will have to be equipped with minimum working facilities (a computer, a printer, a telephone fax and an internet mail connection).

**9.2 PERSONNEL**

At the proposal submission stage the consulting firm will submit a staffing structure with qualified, experienced and competent professionals at the stated levels and positions. It should be highlighted that due to the short project timeline the Firm must have the capacity to assign multiple personnel to the project to ensure timely delivery and the meeting of project deadlines. Firms/Bidders that are able to provide an ‘Environmental and Social Expert.

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| --- | --- |
|  Civil Engineer/ Water engineer (2) | Minimum Master degree in water Engineering having 15 years of professional experience or B.Sc. Civil Engineering having minimum 20 years of professional experience; Must have knowledge of local building construction techniques and standards; Knowledge of AutoCAD or similar drafting software; Proficiency in MS Word, MS Xcel are expected; ability to travel within regional Kismayo a non-negotiable; Written and Verbal abilities in English and Somali is required. He/she must demonstrate management and Administration experience.  |
| Hydrogeologist/ Geologist/ Hydrologist/ Geophysicist (2) | Minimum master degree in Geology, Hydrology, geophysics, Hydrogeology or related filed having minimum 15 years of professional experience or BSC in the above related field with experience of 20 years. Experience in designing urban water supply system in fragile states is an added advantage; Knowledge of MS Word, MS Xcel are expected; Written and Verbal abilities in English and Somali is required. |
|  Environmental and Social Expert (2) | Minimum Master degree in Environmental Engineering, or similar advanced degree from an internationally recognized tertiary institution; a post-graduate qualification in environment, social development, gender will be an advantage; At least fifteen (15) years professional experience in environmental management; experience in producing ESMF guidelines and reports a non-negotiable; Proficiency in MS Word, MS Xcel are expected; ability to travel within regional South West a non-negotiable; Written and Verbal abilities in English is required. |

**10.0 PAYMENT**

The type of contract payment schedule will be as a lump sum remuneration or based on work performed. In case a progressive payment scheme is used, the payment schedule will be linked to each key milestone/deliverable.

The payment schedule will be similar to what is presented in the table below:

|  |  |  |
| --- | --- | --- |
| No. | Payment Milestone (Task/Deliverable | Percentage of Total Payment |
| 1 | Inception Report-submission of work plan etc. | 20% |
| 2 | Deliverable A as per agreed work plan | 40% |
| 3 | Deliverable B as per agreed work plan | 30% |
| 4 | Final Report | 10% |

When invoicing, all invoices should attach a copy of the signed Service Orders, completed during that month. Competed Service Orders shall bear the signature of the Consultant’s Manager. Invoices shall be submitted in an original and three (3) copies to IOM WASH team. All payments will be paid in USD currency.

**11.0 TERMINATION OF CONTRACT**

This Contract shall commence on the Commencement Date and terminate upon payment of the final installment of the Contract Price; provided however that either Party may exercise its right to early termination in accordance with this Contract.

**11.1 TERMINATION BY IOM**

IOM may terminate this Contract at any time on thirty (30) days’ written notice to the Contractor[[1]](#footnote-1)/Service provider if, in IOM’s judgment, it is in IOM’s interest to do so. If the Contractor fails, in whole or in part, to fulfill any of its obligations under this Contract in a timely manner IOM may, by notice to the firm, demand that the firm perform those obligations. If (a) the firm fails to perform those obligations within thirty (30) days after receipt of such notice, or (b) the firm shall have become insolvent or taken steps to make accommodation with its creditors by reason of an inability to pay its debts as and when they come due, or (c) if control of the firm changes for any reason including by reason of insolvency (each an “Event of Default”), then IOM may, without prejudice to any other rights or remedies and notwithstanding any suspension, terminate this Contract not less than fourteen (14) days written notice to the Contractor.

**11.1.1 Upon termination of this Contract:**

(a) The FIRM shall take immediate steps to terminate its services in a prompt and orderly manner and to reduce losses and to keep further expenditures to a minimum;

(b) The Firm shall be entitled, except in the case of an Event of Default by the firm, to be paid for the work satisfactorily completed, substantiated costs resulting from commitments entered into prior to the date of termination as well as any reasonable substantiated direct costs incurred by the firm as a result of the termination, but the frim shall not be entitled to receive any other or further payment, or any damages for termination hereunder. In the case of this Contract between the Parties as to the existence of an Event of Default, the matter shall be resolved in accordance with the provision of Article 55 hereof.

**11.2 TERMINATION BY THE FIRM**

If IOM fails, in whole or in part, to fulfill any of its obligations under this Contract in a timely manner the FIRM may, by notice to IOM, demand that IOM perform those obligations. If IOM fails to perform those obligations within thirty (30) days after receipt of such notice, the FIRM may terminate this Contract upon not less than fourteen (14) days’ written notice to IOM. In the case of this Contract between the Parties as to whether IOM has fulfilled such obligations, the matter shall be resolved in accordance with the UNCITRAL Conciliation Rules then in force, or according to such other procedure as may be agreed between the Parties.

Upon termination of this Contract under this Article, the provisions of Article 11.1.1 item (a) and (b) hereof shall apply.

**12.0 SECURITY**

The Firm may be subject to security clearance i.e. submitting the names of all its employees to the government prior to commencing its work in Somalia, the firm is expected to abide by the requirements to ensure that they are allowed to work in Somalia.

1. In this documents the word Contractor is synonymous with Service Provider, Consultant and Firm and these are used interchangeably [↑](#footnote-ref-1)