

# **Consultancy – Hydrogeological Investigation and Assessments in Baidoa Terms of Reference (ToR)**

## **I. PURPOSE**

The purpose of this consultancy is to complete an assessment of IDP locations in Baidoa, South West State, Somalia and make recommendations for the mechanical drilling of boreholes to be undertaken by World Vision.

## **2. OBJECTIVES**

1. Assess three (3) sites within the target IDP camps to determine suitability for mechanical drilling of boreholes
2. Provide a report on the underlying hydrogeological conditions for each of the assessed sites, recommending one site per location for drilling to be conducted
3. Develop specific guidance on the type of drilling methods and borehole development techniques that can be used to extract safe water for each community.
4. To prepare detail design of boreholes and bill of quantities for each of the three (3) drilling sites.

## **3. TARGET USERS:**

- WV WASH Manager
- WV WASH Advisor
- Ministry of Water and energy development
- Local drilling companies

## **4. DETAILED SCOPE**

1. Assess three (3) sites within the target IDP locations to determine suitability for mechanical drilling of boreholes
  - a. The community will pre-select three (3) sites which would be provided to the consultant, stating the order of preference for the sites. The consultant will receive the list of the IDPs with GPS coordinates of the pre-selected sites. The consultant upon visiting these locations will determine the road conditions for accessibility and recommend the drilling rig and other heavy equipment that can be used later for drilling.
  - b. Consultant will be responsible to get these pre-selected sites checked by proper Geophysical/ Geological and traditional methods to confirm the technical feasibility of drilling a successful borehole(s) for hand pump installation. In case the consultant selects a site that is not one of those selected by the client/Water User Committee, then s/he should discuss and receive prior consent from the client and explain the need for such changes.
  - c. The consultant should ensure that the sites selected, surveyed and recommended for the borehole are preferably within the communities and are not more than 500 meters from where at least 80% of people of that village/ community live. The site should definitely not be in a place that gets flooded in the rainy season and should be away from the flood plain area of any streams or rivers in the locality. Special care must be taken to ensure that the sites chosen are at least 50 meters away from toilet pits or

- any other sources of pollution such as garbage pits, sewerage tanks or spills/ over flow from pipes, graveyard, and stagnant pools of dirty water or animal pens
- d. To carry out a hydro-geological and geophysical site instigation for a total of 3 drilling sites in the above mentioned locations using the appropriate geo-electrical methods.
  - e. To conduct a thorough hydro-geological desk study prior to the commencement of the field survey to determine the appropriate method and how the surveys can be conducted.
  - f. To choose and utilize appropriate and modern geophysical instruments for the geophysical survey to identify potential sites for the proposed borehole sites.
  - g. To perform profiles in each site using suitable and quick array (Wenner or Schlumberger methods, etc.).
  - h. To perform Vertical Electrical Soundings (VES) per site using Schlumberger array. A minimum of 1,000 m long survey line should be used so as to collect data about resistivity strata depth information from 150 to 250 meters below grade surface. Good configuration that is understandable and adaptable, and appropriate recognized geophysical software(s) must be used for interpretation.
  - i. To collect, organize, analyze and process data and model it using standarestandard, modern and recognized geophysical software.
  - j. To label each VES taken with wooden markings and the three (3) potentially recommended sites must be shown in the site sketches in the final reports.
  - k. To look for the appropriate equipment and computer software to be used at consultant's expense.
  - l. To study and include borehole drilling success rates in the area under consideration.
  - m. Assessment of sites will consider the rainy season and accessibility to heavy drilling rigs and support vehicles. If the consultant considers improvements are required for any reason to enable him carry out the Works he shall make the improvements at his own expense if the cost involved is not high and when communities are unwilling to do the works. In the event that by simple works, the access is still not possible, then the consultant should intimate in writing to the client and replace the Location from the reserve list with the written consent of the Client.
  - n. The consultant shall provide all tools, equipment and materials, and shall perform all Works necessary to satisfactorily locate sites for drilling.
  - o. The consultant shall employ only competent workmen for the execution of the Works, and all such Works shall be performed under direct supervision of ana WV technical support PM.
  - p. The consultant shall specify in a Schedule of Survey Equipment and Accessories all those items that is are to be used to undertake this work. It shall at all times be kept in full working order and good repair.
  - q. If the Client (WV) considers that the survey equipment or any accessories in use on the site of the Works is in any way unsuitable, inefficient or inadequate in capacity, the Client shall have the right to call upon the consultant to put such equipment in good order within seven days or alternatively to remove such and replace it with additional equipment which the Client considers necessary to meet the requirements of the Contract.
2. Provide a report on the underlying hydrogeological conditions for each of the assessed sites, recommending one site for drilling to be conducted
    - a. At least three (3) sites shall be identified and recommendations made in order of survey results

- b. Report should include sufficient detail to satisfy the requirements of the project donor.
- 3. Develop specific guidance on the type of drilling and borehole development techniques that can be used to extract safe water for each community
  - a. Guidance should include practical recommendations based upon the site assessments
    - accessibility, hydrogeological considerations, locally available equipment and expertise

## 6. DELIVERABLES

### In Field Debriefing

The consultant should provide a debriefing before leaving the country in line with the above stated objectives and detailed scope.

### HQ Debriefing

The consultant should provide a debriefing (via Skype) to the WV technical team on the main findings and recommendations.

### Reports

Title	Target Audience
Hydrogeological Investigation and Assessment Report	WV, local authorities
Borehole Drilling Guidance	WV, local authorities and consultants

## 7. TIMING OF THE CONSULTANCY

Kindly indicate the accurate starting date and specifically showing the number of days for desk study, inception ~~reports~~, reports, preliminary and final reports:

<b>Duration of Contract (working days)</b>		
	In Country	12 days
	<b>Total</b>	<b>12 days</b>

## 8. TEAM

The work will be supervised by the WASH Manager, with technical input from the WASH Technical Advisor.

## 9. OTHER DETAILS

- 1. The consultant shall be responsible for the provision of all technical inputs, all the necessary equipment and personnel comprising of one (1) Hydrogeologist and one (1) Assistant Hydrogeologist.

2. The Consultant will present three copies of the technical report together with all relevant maps, diagrams profiles and data related the hydrological instigations according the scope of this TOR.
3. The consultant shall ensure that he is operating within the national legislation and has the proper legal status from the relevant authorities to undertake the project in the country of registration of the company.
4. The consultant shall implement the project with due care and diligence in accordance with the objectives and obligations specified in this TOR and within the mutually agreed budget and time frame.
5. The consultant shall be responsible for safety procedures for the personnel and equipment materials used for carrying out project activities.
6. The consultant will be responsible for all international travel arrangements (including but not limited to visas, insurance and accommodation), for which reasonable costs will be reimbursed by WV upon successful conclusion of the contract. Such anticipated costs should be provided as part of the contractual budget submitted to WV.
7. WV will be responsible for travel and accommodation within Somalia, for the duration of the consultant's stay in the country. Any special requirements, such as freight for equipment should be communicated in advance to allow for planning.
8. All documentation must be written in English

As part of the Consultant selection process, the best five candidates will be required to make a presentation of the technical proposal to the Supply Chain and Core Project Technical team to inform the final decision on the award of the contract.

Applications should be submitted electronically to [somo\\_supplychain@wvi.org](mailto:somo_supplychain@wvi.org) on or before **Tuesday the 28th November 2017 at 16:00 Hours East African Time**, with attachments in pdf and a subject line: **Hydrogeological Investigation and Assessments in Baidoa**

**NB: Application deadline is Tuesday November 28, 2017**

### **Provisions of Taxation as per the Kenya Revenue Authority on Technical Fees**

#### **Technical service fees**

A 5% withholding tax is levied on the payment of technical service fees (as well as professional and management fees) where the services are provided by a resident/ resident firm in Kenya

The rate is 20% where the service provider is a non-resident/non-resident firm, unless an applicable tax treaty provides otherwise.

Consultant firms must be able to demonstrate their tax compliance status at the time of bidding for this assignment as WVS will only engage with tax compliant individuals/firms

The Proposal that complies with all of the requirements, meets all the evaluation criteria and offers the best value for money shall be selected and awarded the contract. Any offer that does not meet the requirements shall be rejected.

**Note:**

As part of the Consultant selection process, the best five candidates will be requested to prepare draft inception report and make a presentation of the same to the Tender Committee Technical Team to inform the final decision on award of the Contract.