

ANNEX - B

Terms of Reference for geological assessment, drilling and rehabilitation supervision

1 Summary

Long Term Agreement for Hydrogeological assessment, supervision of drilling boreholes, well designing, rehabilitation and characterisation of aquifers using pumping test.

Long Term Agreement for Geophysical assessment and hydro/geological studies, supervision of boreholes drilling, well construction and rehabilitation with pumping test and final hydrogeological report.

Location - UNICEF assisted Projects in all the regions of Ethiopia

Estimated Period – three years

Reporting to - UNICEF Pillar Lead: UNICEF Rural WASH Manager and Urban WASH Manager

2 Definitions

In the Terms of Reference as defined below, the words and expressions defined have the following meanings assigned to them, except where the context requires otherwise:

Authorised Representative	Any person, whether UNICEF officer or employee of the Designated Supervising Agency, authorised by UNICEF in writing to carry out inspection, supervision, etc. of the Works. The term includes the Project Authority but can also include other representatives with written authority.
Assignment	Any specified task or work that has been assigned to the consultant to undertake, as set out in the Contract Documents.
Bid	Set of documents submitted by a bidder in order to participate in a Tender Process for procurement of Works or goods.
Bidder	Person who submitted an offer in a Tender Process.
Client	UNICEF
Certificate of Substantial Completion	Certificate certifying that the Works/Installation have reached Substantial Completion and stating the date of Substantial Completion

Community	The community members are the end users of the water supply as identified by the responsible government agency and UNICEF.
Consultant	Supervisor or supervising engineer
Defects Liability Period or DLP	The period for notifying defects in the Works calculated from the Date of Substantial Completion as stated in the Certificate of Substantial Completion
Designated Representative	The UNICEF officer designated as representing UNICEF in the contract.
Drilling Contractor	An organisation that undertakes drilling works. The contractor's responsibility is to drill and complete the borehole as specified in its contract with the Client.
Employer	UNICEF
Engineer	Supervising engineer, sometimes called Supervisor
Final Completion Certificate	Or Certificate of Final Completion; Certificate issued when the also known as Final Acceptance Certificate - is defined by state and the date when the Client determines the construction project to be 100% completed, punch list works included.
Government	Government of the Federal Democratic Republic of Ethiopia or regional government
Invitation to Bid or ITB	Set of documents inviting prequalified applicants, interested or preselected Persons, as the case may be, to submit a Bid.
Joint Venture or JV	Joint Venture (JV) means an association with or without a legal personality distinct from that of its members, of more than one person where one member has the authority to conduct all business for and on behalf of any and all the members of the JV
Key Expert	A single individual professional whose skills, qualifications and expertise are critical to the performance of the Contract and whose CV is taken into account during the evaluation.
Materials	things of all kinds (other than Plant) intended to form or forming part of the permanent work

Material deviation or reservation	A material deviation or reservation is one: (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
Offer	General term for Proposals and Bids.
Plant	The machinery, vehicles and apparatus intended to form or forming part of the permanent work
Prequalification	First stage of a Two-Stage Selection to identify a number of eligible and qualified Applicants, who will then be invited to submit an Offer.
Project Authority	The individual who shall be responsible for the day-to-day liaison and management of the Agreement. (Note: there will be one Project Authority nominated by UNICEF, who need not be a UNICEF staff member, and one nominated by the Consultant.)
Proposal	Set of documents submitted by Bidders in order to participate in a Tender Process for procurement of Consulting Services.
Punch List	List of Deficiencies
Site	Places provided by the Client where the Works are to be executed and to which Plant and Materials are to be delivered as shown in the Schedule of Site, and any other places specified in the Contract as forming part of the Site substantially responsive Bid is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation.
Supervisor	The person authorised by the Consultant to act as his/her representative on the drill site, to collect all the required data and information and give instructions to the Drilling Contractor as required for the completion and handing over of the borehole to the community/users.

Tender Process

Process carried out to procure Consulting Services, Works, Goods, Plant, starting with the publication of a tender notice/invitation to submit an Offer, as the case may be, and ending with award of contract or cancelation of a Tender Process.

Variation

A change, alterations, addition or omission to the Works which is instructed by the Client or Client's representative

Well

Borehole

Works

All the work and installation and design (if any) to be performed by the Contractor in accordance with this Contract, including temporary work and any Variation

3 Background

Drought is the major natural disaster affecting the livelihood of Ethiopians, resulting in water insecurity which in turn causes disruption of livelihoods and loss of life. A significant proportion of the Ethiopian population still lacks access to clean water, despite the fact that Ethiopia successfully achieved the Millennium Development Goal (MDG) target of halving the number of people without access to improved drinking water. At the national level, 60 to 80 per cent of communicable diseases are attributed to limited access to safe water, and inadequate sanitation and hygiene services.

UNICEF supports the Government of Ethiopia to improve water security through the Phase 2 of the One WASH National Programme (OWNP II) and other regular and emergency development activities. It is vitally important that resilient WASH development programming takes place in water insecure areas to break the cycle of emergencies. Therefore, UNICEF has prioritized the implementation of the OWNP's Climate-Resilient WASH pillar by drilling boreholes in arid and semi-arid areas, constructing large multi-village water supply systems and supporting the set-up of rural water utilities.

It is crucial that boreholes are delivered in a cost-effective manner. Cost effectiveness means getting the long-term best value for money invested, i.e. boreholes continue to function through the acceptable lifetime of a good well. Poor borehole construction contributes to the failure of a well to provide the required service. One of the best ways to tackle this problem is to improve the quality and professionalism of water well drilling and rehabilitation including supervision. Good supervision is essential for a high-quality borehole and rehabilitation, even if a competent drilling contractor is employed. This includes also strong scientific based knowledge with hydrogeological and geological studies to ensure drilling the right site.

4 Objective

The objective of this Institutional Contract is to increase access to safe and sustainable water for the drought affected people by producing high quality ground assessment and reports with recommended drilling sites which UNICEF and other partners can use for developing groundwater resources in any regions of Ethiopia. Successful well drilling operations are a direct result of the research and fieldwork.

Following the research, the main objective of supervising borehole drilling or rehabilitation is to ensure that boreholes are drilled, constructed and tested as designed and all the data collected during the drilling are accurately recorded and reported to the relevant agencies.

A Consultant will ensure that the drilling, construction, rehabilitation and testing of the well is done as per the acceptable standards & technical specifications and contract agreement:

1. Conduct geophysical assessment for borehole siting
2. Environmental and social impact assessments
3. Borehole design
4. Tender documents
5. Quality assurance and supervision
 - Providing full-time supervision for rehabilitation and borehole drilling
 - Following up the adherence to the drilling work schedule.
 - Quality control of provided equipment
 - Checking measurement of works and approval of payments to the Drillers.
 - If at any time the Supervisor is of the opinion that the Drilling Contractor is negligent or incapable of delivering the works as designed, he/she will stop the works.
6. Verification
 - Supervisor will help in providing excellence in data analysis, knowledge management and decision making to maximize the chance of rehabilitation while protecting groundwater quality and ensuring maximum yield.
 - Post drilling borehole inspection and verification
7. Capacity building

5 Justification

Successful well drilling operations are a direct result of the efficiency of the Supervisor and crew. Water well drilling is an art for which there are no hard-and-fast rules; it is an art that requires professional skill, a good deal of common sense and improvisation coming from observations in the field. Independent supervision, quality control and quality assurance are key elements in ensuring compliance of drilling works to pre-defined and national terms and standards, ensure provision of sustainable boreholes as well as for cost-effective implementation of boreholes. The well drilling Supervisor will have a general knowledge of geology and the groundwater resources within. Often, problems arise in well drilling and the well drilling Supervisor must be able to visualize what is occurring at the bottom of the hole. An awareness of the conditions under which groundwater occurs and of geologic conditions is a shortcut to the solution of some drilling problems that would otherwise take much time and experience to attain through the trial-and-error method.