

**RFQ/LBY/SLCRR/2020/070 - REQUEST FOR QUOTATION (RFQ)
(Civil Works)**

Drilling of two (2) Boreholes (325 ml/each) for Water Supply in AlKufra Municipality, Libya	DATE: October 20, 2020
	REFERENCE: RFQ/LBY/SLCRR/2020/079

We kindly request you to submit your quotation for the following works, as detailed in Annex 1 of this RFQ. Quotations may be submitted on or before **5th November 2020 at 14:00 hours** Tunis, Tunisia time, ref. www.greenwichmeantime.com and via email at tenders.ly@undp.org.

An organized site visit, subject to government movement restrictions, is arranged for 25th October 2020, at 11:00 hours, Libya time, at below mentioned place.

- Borehole 1 - Al Shoura Area Coordinates: N = 24°11'39.48 E = 23°17'40.74
- Borehole 2 - Al Mukthar Area Coordinates: N = 24°12'1.63" E = 23°15'29.71"

Focal Person: Eng. Eng. Ali Shaw Phone number +218 94 50 90 100

Quotations submitted by email must be limited to a maximum of 10 MB, transmissions. They must be free from any form of virus or corrupted contents, or the quotations shall be rejected.

It shall remain your responsibility to ensure that your quotation will reach the address above on or before the deadline. Quotations that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your quotation by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Please take note of the following requirements and conditions pertaining to the supply of the abovementioned works:

Place of contract	All the locations of this project are in Aljawf in the middle of Alkufra in the following locations: Borehole 1 - Al Shoura Area Coordinates: N = 24°11'39.48 E = 23°17'40.74 Borehole 2 - Al Mukthar Area Coordinates: N = 24°12'1.63" E = 23°15'29.71"
Preferred Currency of Quotation	United States Dollars (US \$)
Site visit	An organized site visit is arranged for 25 th October 2020, at 11:00 hrs (Libya Time) Focal Person: Eng. Ali Shaw Phone number +218 94 50 90 100
Period of Validity of Quotes	<u>120 days</u> - commencing on the submission date In exceptional circumstances, UNDP may request the Offeror to extend the validity of the Quotation beyond what has been initially indicated in this RFQ. The Offeror shall then confirm the extension in writing, without any modification whatsoever on the Quotation.

Advanced Payment upon signing of contract	Except when the interests of UNDP so require, it is the UNDP's preference to make no advanced payment(s) on contracts (i.e., payments without having received any outputs). In the event that the Bidder requires an advanced payment upon contract signature, and if such request is duly accepted by UNDP, and the said advanced payment exceeds 20% of the total Bid price or exceed the amount of USD 30,000.00 UNDP shall require the Bidder to submit a Bank Guarantee in the same amount as the advanced payment.
Liquidated Damages	Will be imposed under the following conditions: Percentage of contract price per day of delay up to maximum duration of 01 calendar month: 0.5% per day Max. limit of delay: 10%
Performance Security	<p>Required: In lieu of Performance security, contract will be subject to a deduction of 10 % (TEN) percent of the amount accepted for the payment as security deposit from all progressive payments.</p> <p>This amount will be kept as Retention to cover the Defect Liability period* of 6 months after Contract completion date. Retention amount could be replaced with the Bank Guarantee issued by reputable International Bank.</p> <p>a. The proceeds of the Performance Security shall be payable to UNDP as a compensation for any loss resulting from the Contractor's failure to complete its obligations under the contract.</p> <p>b. Upon successful completion of Defect Liability Period of 6 months and upon issuance of completion certificate, UNDP will release retention money to the Bidder.</p> <p>* Retention Defect Liability is instrument to cover any defects that are discovered or raised in the normal course of usage within 6 months after the works/goods have been put into the service</p>

<p>Quotation shall include the following:</p>	<p>a. <u>General Information and Experience</u>: Include a description of the firm/company's history and experience to demonstrate that the firm/company has the capacity to undertake the works including the list and value of similar projects performed in past, plus client's contact details who may be contacted for further information on those contracts.</p> <p>b. <u>Business Licenses</u>: Valid business license in general construction works. Interested bidders must have appropriate permission/registration from relevant Government body to operate in Libya (copy must be provided with the quote). The evidence (documents) must be translated into English language.</p> <p>c. <u>Copies of Contracts and Completion Certificate</u> of two similar contracts as prime contractor.</p> <p>d. <u>List of proposed personnel with CV's</u> showing relevant experience and qualification.</p> <p>e. <u>Project Schedule</u>: An outline of the firm/company's proposed timeline reflecting start and completion dates of works including</p> <p>f. <u>Signed/stamped Annex 2 & 2A</u> (FORM FOR SUBMITTING SUPPLIER'S QUOTATION – Annex 2) and (BILL OF QUANTITIES – Annex 2A)</p>
<p>Evaluation method to be used in selecting the most responsive Bid</p>	<p>Lowest priced offer of technically qualified/responsive quotation</p>

Evaluation Criteria	<ol style="list-style-type: none"> 1. Minimum of Three (3) years of experience in in civil works & drilling wells 2. Experience in implementation of at least two (2) similar contracts (drilling wells/boreholes), with at least one contract, should not be less than USD 150,000.00. 3. Implementation Timeline (not to exceed the period stated in the RFQ – 120 calendar days) 4. Qualification and suitability of the key personnel proposed for the contract including their previous experience with same type of assignment: <ol style="list-style-type: none"> A. Geotechnical Engineer/Project Manager - shall have a University Degree in Geotechnical Engineering and a minimum of 5 years of professional experience on works of an equivalent nature. B. Civil Engineer – shall have a University Degree in Civil Engineering and a minimum of 5 years of professional experience on works of an equivalent nature. C. Electrician – With a minimum of 5 years of professional experience on works of an equivalent nature. D. Plumber - with a minimum of 3 years of professional experience on works of an equivalent nature <p><i>Note: CVs to be provided for the personnel proposed for the contract. They must indicate clearly, years of professional experience and nature of the work experience.</i></p> 5. Submission of Implementation Timeline/Meeting the works completion deadline of 120 days. 6. Acceptance of General Terms & Conditions for Civil Works.
Defect Liability Period	Six (6) months after completion of contract
Maximum Expected duration of contract	The successful vendor shall complete the works 120 (one hundred and twenty) calendar days from the award of contract.
All documentations, including catalogs, instructions and operating manuals, shall be in this language	English
Deadline for the Submission of Quotation	On or before 5 th November 2020 at 14:00 hours Tunis, Tunisia time, ref. www.greenwichmeantime.com
Partial Quotes	Not permitted
UNDP will award to	One and only one Vendor

Type of Contract to be Signed	Contract for works
Conditions for Release of Payment	Submission of invoice and acceptance/certification by UNDP Engineer
Annexes to this RFQ	<p>Scope of Works (Annex 1)</p> <p>Form for Submission of Quotation including the BOQ (Annex 2 & 2 A)</p> <p>Drawing of work (Annex-3)</p> <p>Technical Specifications (Annex 4)</p> <p>General Terms and Conditions for Civil Works (Annex 5).</p> <p>Non-acceptance of the terms of the General Terms and Conditions (GTC) shall be grounds for disqualification from this procurement process.</p>
Request for clarification	<p>Offerors requesting clarification of any of the items, technical requirements or conditions stipulated in this RFQ shall communicate in writing with UNDP office to procurement.ly@undp.org stating the RFQ reference number:</p> <p>RFQ/LBY/SLCRR/2020/079</p> <p>All the enquiries should be made five days prior to deadline. Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the offerors.</p>
Other Information Related to the RFQ	<p>UNDP has zero tolerance for fraud and corruption, meaning that UNDP vendors are not to engage in fraud or corruption. Vendors engaged in fraud and corruption will be subject to sanctions. Fraud includes the submission of fraudulent or misrepresented documents, such as bid securities and financial statements.</p>

The quotation that complies with all of the specifications, requirements and offers the lowest price, as well as all other evaluation criteria indicated, shall be selected. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price (obtained by multiplying the unit price and quantity) shall be re-computed by UNDP. The unit price shall prevail, and the total price shall be corrected. If the supplier does not accept the final price based on UNDP's re-computation and correction of errors, its quotation will be rejected.

At any time during the validity of the quotation, no price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by UNDP after it has received the quotation. At the time of award of Contract or Purchase Order, UNDP reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.



Any Contract/Purchase Order that will be issued as a result of this RFQ shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a quotation implies that the vendor accepts without question the General Terms and Conditions of UNDP herein attached as Annex 4.

UNDP is not bound to accept any quotation, nor award a Contract/Purchase Order, nor be responsible for any costs associated with a Supplier's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.

Please be advised that UNDP's vendor protest procedure is intended to afford an opportunity to appeal for persons or firms not awarded a purchase order or contract in a competitive procurement process.

In the event that you believe you have not been fairly treated, you can find detailed information about vendor protest procedures in the following link:

<http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html>

UNDP encourages every prospective Vendor to avoid and prevent conflicts of interest, by disclosing to UNDP if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, specifications, cost estimates, and other information used in this RFQ.

UNDP implements a zero tolerance on fraud and other proscribed practices and is committed to identifying and addressing all such acts and practices against UNDP, as well as third parties involved in UNDP activities. UNDP expects its suppliers to adhere to the UN Supplier Code of Conduct found in this link:

http://www.un.org/depts/ptd/pdf/conduct_english.pdf

Thank you and we look forward to receiving your quotation.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Shohrukh'.

Shohrukh Abdulloev
Head of Service Centre a.i.
UNDP Libya

SCOPE OF WORK

Drilling of two (2) Boreholes (325 ml/each) for Water Supply in AlKufra Municipality, Libya

Introduction

“Strengthening Local Capacities for Resilience and Recovery” is a multi-phase, multi-year project that is directly implemented by UNDP Libya and funded mainly by the European Union.

The second phase aims at enhancing the provision of basic services at the local level and increasing access for most vulnerable groups from host communities – including Internally Displaced Populations and returnees – as well as migrants and refugees. This second phase is implemented in close cooperation with the Ministry of Local Governance, Municipalities, UNICEF, and the Italian Agency for Development Cooperation

To respond to the many challenges people in Libya are facing, the UNDP approach is to help the local authorities to restore security, essential services delivery, and livelihood opportunities putting the country on a more robust development path.

Project background & locations description:

The water supply system in general in Alkufra depends on pumping the water directly from wells to the water networks & because the number of the wells is still few, a lot of areas in Alkufra suffering from water shortage especially in the summer.

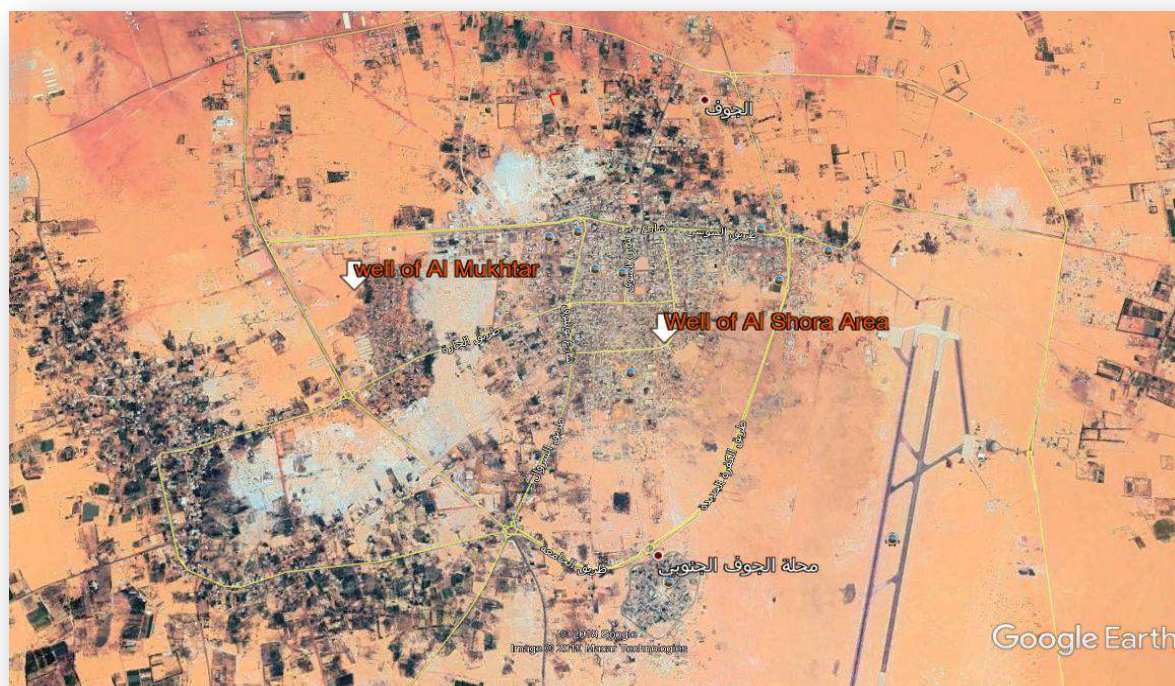
The beneficiaries of the borehole 1 will be the residents of Alshoura area, as well as residents of Buchouq area, where the population is about 5,000 people.

The borehole 2 will be in Almukthar area, where the population is estimated at 1,500 people, but also this well will supply the neighboring areas in the future.

All the locations of this project are in Aljawf in the middle of Alkufra in the following locations:

Borehole 1 - Al Shoura Area Coordinates: N = 24°11'39.48 E = 23°17' 40.74

Borehole 2 - Al Mukthar Area Coordinates: N = 24°12' 1.63" E = 23°15' 29.71"

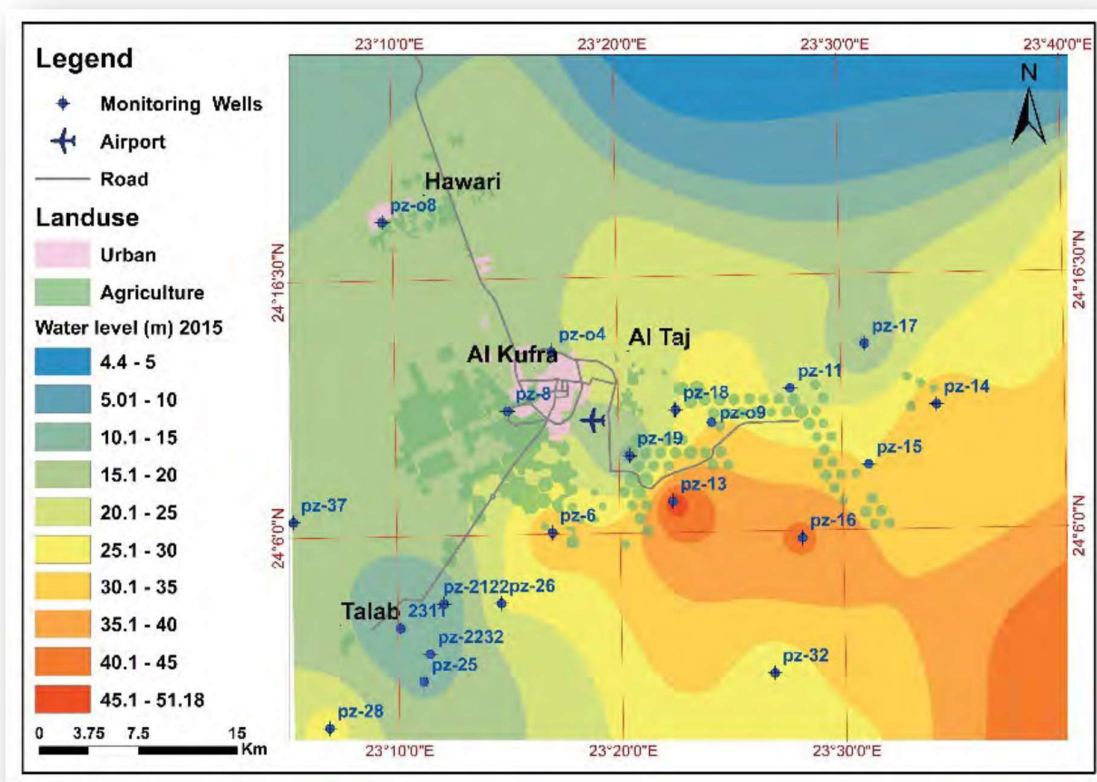


Lithology

According to the existing wells in Alkufra like the wells that are in the Alkufra agricultural project (more than 100 wells) & the Alkufra settlement project and the wells of the water company the lithology of Al Kufra Wellfield, In general, is the Nubian sandstone, this Nubian sandstones is mixed between the fine sand, coarse to medium sand & gravel, along with that there are clay & silt layers in different places between this sandstones and below are The expected lithology (source: the water company).

No.	description	thickness	Depth	
			from	to
1	Sandstone, light gray, fine to coarse-grained	50	0	50
2	Sandstone, light gray, fine to coarse-grained mixed with some gravel	30	50	80
3	Sandstone, light gray, fine to coarse-grained, well cemented	20	80	100
4	Sandstone, light gray, medium to very coarse mixed with some clay	35	100	135
5	Sandstone, yellowish, medium to coarse-grained, weakly cemented with some gravel	85	135	220
6	sandstone, fine to coarse-grained, mixed with some clay	25	220	245
7	Sandstone, medium to coarse with gravel size	90	245	335
8	Claystone / Siltstone; pinkish-brown, Light bluish gray siltstone fragments, moderately hard.	25	335	360

The groundwater level is from 14m to 18m according to the studies of the previous projects(as shown in the next Fig.



Technical Specification

A. Borehole:

a) Well Design (325 m. 15%±) Requirements

1. 20" casing (API) from the surface down to 30m With Drilling Bit, of 24".
2. Using approved cement mortar for cementing 13 $\frac{3}{8}$ " casing up to the surface.
3. 13 $\frac{3}{8}$ " (GRP) casing 245 m With Drilling Bit, of 17 $\frac{1}{2}$ " to 325 m depth.
4. conducting geophysical logging for the well to clarify the hydrogeological properties of the water-bearing layers to determine the length of the 13 $\frac{3}{8}$ " (GRP) casing exactly.
5. GRP screen is to be installed 80m.
6. Gravels pack continuous from the bottom of the well to the starting of the Screens pipes with practice size range between 2 & 4 mm.
7. Using approved cement mortar for cementing 13 $\frac{3}{8}$ " casing up to the surface
8. Construction of concrete slab 2 x 2 x 0.8ml around 20" casing pipe.

b) Well development

This process for removing all silt, clay and drilling fluid residues deposited on the site of the borehole wall. The development is deposited on the site of the borehole wall. The development is achieved by carryout the following operation:

1. Bade-washing
2. High velocity horizontal jetting
3. Compressed airlift

c) Testing of well production

B. Reporting: At the end of the field operation the contractor shall submit a borehole report covering the following items:

1. Well design diagram
2. Formation samples required of every 1 m & complete lithological loge
3. Development procedures
4. Water chemical analysis

C. Water pumps type and installation & electrical works.

1. The Electrical Submersible Pump should be installation with the following:
 - a. Delta star pump type with capacity = 150 m³/hr. & Head to the pump = 350m.
 - b. Supply& install Copper Power Cable (3x50 mm²) (30%±) from the operating switch of the control box to the pump.
 - c. The setting of the pump is 70 m (30%±)
2. Supply, install & connecting the delta star control box to the source of the power with using Copper Power.

D. Civil Works

1. Eexcavation in all types of soil with 80 cm deep, 60 cm width
2. Cable laying (4x95 mm²), testing, bedding, install precast concrete protection slabs, warning tape& backfilling the trench.

Duration of the project

The estimated duration of the project is **120 (one hundred and twenty) calendar days** from the site-handover date.

FORM FOR SUBMITTING SUPPLIER'S QUOTATION

We, the undersigned, hereby accept in full the **UNDP General Terms and Conditions**, and hereby offer to perform the works as per the summary provided below and attached priced BoQ in conformity with the specification and requirements of UNDP as per RFQ Reference No. **RFQ/LBY/SLCRR/2020/079 - Drilling of two (2) Boreholes (325 ml. each) for Water Supply in AlKufra Municipality, Libya**

Description:	Total (US\$)
Total work for Drilling of two (2) Boreholes (325 ml. each) for Water Supply in AlKufra Municipality, Libya (as per priced BOQ-Annex 2A)	
Grand Total:	

Currency: United States Dollars

All other information that we have not provided automatically implies our full compliance with the requirements, terms and conditions of the RFQ.

We declare that the firm/company or individuals employed by the firm/company are not included in the UN Security Council 1267/1989 list, UN Procurement Division List or other UN Ineligibility List.

Company Name: _____

Contact Person: _____

Position: _____

Email: _____

Mobile Number: _____

Address: _____

Authorised Signature & Stamp: _____ Date: _____

BILL OF QUANTITIES

Description: Drilling of two (2) Boreholes (325 ml. each) for Water Supply in ALkufra Municipality, Libya
RFQ Reference Number: RFQ/LBY/SLCRR/2020/079

BILL OF QUANTITIES (BOQ)					
Drilling of two (2) Boreholes (325 ml/each) for Water Supply in ALkufra Municipality, Libya					
Borehole 2 - Al Mukthar Area					
Item	Description	Unit	Qty	Unit rate in US\$	Total Amount in US\$
A	Drilling, Casing, Piping & Testing				
	Notes:				
Notes	<p>The work shall include and comply with the following:</p> <p>a) Mobilization and setting up equipment ready to work, site preparation and clearance after use (site for 2 boreholes);</p> <p>b) Contractor will install plain, screen casings, DIN 4925 trapezoidal threads and flush joints;</p> <p>c) The contractor will install gravel packs of quality approved by UNDP consultant engineer;</p> <p>d) Boreholes must be developed after completion of drilling, after casing, screen, and filter packs are installed. The boreholes will be developed by airlifting until satisfactory yield is reached & during development, contractor will proceed with static water level measurement;</p> <p>e) All materials must be approved by UNDP consultant engineer with official document SS and API.</p>				
A.1	<p>Drilling Ø 24":</p> <p>Supply tools, materials and manpower to drill 24" borehole from 0 to 30 meters deep (±15%), including supply of all required facilitations, taking geological samples every 2 meters. All according to the technical specifications and instructions of the supervising engineer.</p>	Lin.M	30		
A.2	<p>Black steel casing Ø20":</p> <p>Supply tools, materials and manpower for conductor casing from black steel Ø20", according to American Specification for Pipes (API-J55), from 0.3 m above the surface down to 30 m depth, including welding using Gas Arc Machine, GMAW or Gas Tungsten Arc Welding GTAW or TIG, cleaning and installation includes cementing guide/float shoe and installation of 1 centralizer. The casing should be locked shut/spot welded after completion to avoid contamination/vandalism of the well. Including all necessary to complete the work and according to the technical specifications, approved samples and instructions of the supervising engineer.</p>	Lin.M	30.3		

A.3	Cementing: Supply tools, materials and manpower for cementing 24" casing between 24" hole and conductor casing of Ø20" from depth 30.0 m (±15%) up to the surface, by using Portland cement type (I) according to Libyan company for cement. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	Lin.M	30		
A.4	Drilling Ø 17 1/2": Supply tools, materials and manpower to drill Ø17 1/2" from 30 m depth down to 325 meters deep (±15%), by implementing all the necessary precaution actions and including geological samples every 1.00 m. All in accordance to the technical specifications and as per UNDP consultant Engineer's instructions and approval.	Lin.M	295		
A.5	Casing GRP Pipes: Supply materials, tools and manpower for installing 13 3/8" casing GRP pipes (Italian or Germany type). Min. thickness 14mm, collapse pressure 320 psi, design pressure 20 bar, axial Strength 20 tons, length of pipes 6000-5850 mm & design temperature 50 c (ASTM 2996), from ground surface down to 245 m depth (±20%). Including installation of 5 centralizers 13 3/8" * 17 1/2" , installation of casing shoe and all necessary to complete the work according to the technical specifications and as per UNDP consultant engineer's instructions and approved samples.	Lin.M	245		
A.6	GRP slotted pipes: Supply tools, manpower and materials for installing GRP slotted pipes 1 mm (screen) (Italian or Germany type). Min. thickness 14mm, collapse pressure 320 psi, design pressure 20 bar, axial strength 20 tons, length of pipes 6000-5850 mm & design temperature 50 c (ASTM 2996) with 3 centralizers 13 3/8". Including 6m GRP sedimentation pipe and all necessary to complete the work. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	Lin.M	80		
A.7	Gravel Packing: Supply materials, tools and manpower for placing 2-4 mm gravel packing from the bottom of the well up to (80 m ± 15%) packed and including all necessary to complete the work. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	L.S	1		
A.8	Cementing: Supply tools, materials and manpower for cementing 13 3/8" casing between 17 1/2" hole and conductor casing of Ø13 3/8" from depth 245 m up to the surface, by using Portland cement type (I) according to Libyan company for cement. All in accordance with the technical specifications and as per UNDP Engineer's instructions and approval.	Lin.M	245		

A.9	Well cleaning: Supply tools, materials and manpower for water washing and clenaing of well. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	L.S	1		
A.10	Water test samples: Supply manpower, materials and equipment for conducting at least 2 chemical and bacteriological analysis test of water samples. Well should be disinfected after completion by chlorination (sodium hypochlorite or calcium hypochlorite) at a concentration no less than 10 mg/L as free chlorine for 24 hrs. The wells should then be purged by pumping to waste until the presence of chlorine is reduced, as verified through testing Including provision of certificates and reports of results. All in accordance with the technical specifications and as per UNDP Engineer's instructions and approval.	L.S	2		
A.11	Test well productivity: Supply equipment, manpower and all the tools required for conducting pump test 3 stages, each stage 2 hours, as following: 1- Measure water level return.(12 hours) 2- One long stage. 72 hour 3- Measure water level return. 24 hour	L.S	1		
A.12	Reinforced concrete slab: Construction of concrete slab around the casing Ø20" of dimensions 2x2x0.8 m depth. Including all required works to complete the job and according to the technical specifications and as per UNDP Engineer's instructions and approval.	L.S.	1		
A.13	Steel cover & plate: Supply and install steel cover and welding steel plate of dimensions 15x25 cm, containing complete well information. Including all required works to complete the job and according to the technical specifications & as per the Engineer's instructions & approval.	No.	1		
A.14	Technical report: Submit technical final report for all works that have been done, including soft electronic copy, as per the Engineer's instructions.	No.	3		
A) Total for Drilling, Casing, Piping & Testing					
B Submersible Pump with Accessories and Electrical Works					
B.1	Submersible pump: Supply tools, materials and manpower to install 100 hp submersible (ESP) pump (Rovatti, Delta, KSB, WILO or equivalent), 150 m³/hrs capacity. Head to pump 350 m. Including accessories, all required connection works and according to the technial specifications & as per UNDP consultant Engineer's instructions & approval	No.	1		

B.2	PPR Pipe 6": Supply tools, manpower and materials for installing of 6" PPR pipe (OD) water pumping pipes (30%±) (pressures up to 40 bar, and the tested pressure up to 100 bar). Including all required accessories and connection works. All according to the technical specifications & as per UNDP consultant Engineer's instructions & approval	Lin.M	70		
B.3	Switch control box: Supply & install first grade operating switch of the control box (delta star), against dust and waterproof. Including all necessary to complete the work and according to the technical specification & as per UNDP consultant engineer's instructions.	L.S	1		
B.4	Copper cable 3x50 mm²: Supply, install, connect & commission, Copper Power Cable 600/1000 V BS 5467 (3x50 mm²) (30%±), from the operating switch of the control box to the pump & the work includes all necessary to complete the work according to the specification & as per consultant engineer instructions & approved samples.	lin.M	160		
B.5	Copper cable 4x95 mm²: Supply, install, connect & commission, first grade Low Voltage Copper Power Cable 600/1000 V BS 5467 (4x95 mm²), from the source of the power to the well & the work includes all necessary to complete the work according to the specification & as per consultant engineer instructions & approved samples.	Lin.M	100		
B.6	Excavation of trench: Supply tools, manpower and materials for excavation of trench (80 cm depth, 60 cm width) in any type of soil. Including 15 cm of sand bedding, cable laying, testing, supply and installation of precast concrete protection slabs, warning tape, backfilling the trench and all necessary to complete the work according to the technical specifications & as per UNDP consultants Engineer's instructions and approval.	Lin.M	100		
B) Total for Submersible Pumps and Accessories					
C	Fence works				
C.1	Reinforced Concrete Foundations: Supply materials, tools and manpower for casting foundations of dimensions (1x1x0.40m), by using C30 concrete, and steel reinforcement of 100 kg/m³. The work shall include the excavation works & supplying all needed material and workmanship to complete the work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	No.	8		

C.2	Reinforced Concrete Beams: Supply materials, tools and manpower for casting beams & posts of dimensions (0.20x0.40m) by using C30 concrete and steel reinforcement of 100 kg/m ³ . The work shall include the supplying all needed material and workmanship to complete the work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	Lin.M	33.2		
C.3	Heavy Diamond-mesh Fence: Supply and install Heavy Diamond-mesh fence (Expanded wire mesh thickness 4mm). The rate shall include the metal frame with steel columns 70 *70 mm fixed in the concrete beams (1 m between every 2 columns) & steel beams 50*50 mm (1 m between every 2 beams) as per the attached drawings along with metal gate including hinges, locks & painting all steel elements with anti robust paints & final paint with the desired color. All the required material and workmanship to complete the fencing work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	Lin.M	28		
	C) Total for Fence works				
A	Total for Drilling, Casing, Piping & Testing				
B	Total for Submersible Pumps and Accessories				
C	Total for Fence works				
Total Grand Project					

BILL OF QUANTITIES (BOQ)					
Drilling of two (2) Boreholes (325 ml/each) for Water Supply in ALkufra Municipality, Libya Borehole 2 - Al Mukthar Area					
Item	Description	Unit	Qty	Unit rate in US\$	Total Amount in US\$
A	Drilling, Casing, Piping & Testing				
	Notes:				
Notes	The work shall include and comply with the following: a) Mobilization and setting up equipment ready to work, site preparation and clearance after use (site for 2 boreholes); b) Contractor will install plain, screen casings, DIN 4925 trapezoidal threads and flush joints; c) The contractor will install gravel packs of quality approved by UNDP consultant engineer; d) Boreholes must be developed after completion of drilling, after casing, screen, and filter packs are installed. The boreholes will be developed by airlifting until satisfactory yield is reached & during development, contractor will proceed with static water level measurement; e) All materials must be approved by UNDP consultant engineer with official document SS and API.				
A.1	Drilling Ø 24": Supply tools, materials and manpower to drill 24" borehole from 0 to 30 meters deep (±15%), including supply of all required facilitations, taking geological samples every 2 meters. All according to the technical specifications and instructions of the supervising engineer.	Lin.M	30		
A.2	Black steel casing Ø20": Supply tools, materials and manpower for conductor casing from black steel Ø20", according to American Specification for Pipes (API-J55), from 0.3 m above the surface down to 30 m depth, including welding using Gas Arc Machine, GMAW or Gas Tungsten Arc Welding GTAW or TIG, cleaning and installation includes cementing guide/float shoe and installation of 1 centralizer. The casing should be locked shut/spot welded after completion to avoid contamination/vandalism of the well. Including all necessary to complete the work and according to the technical specifications, approved samples and instructions of the supervising engineer.	Lin.M	30.3		

A.3	Cementing: Supply tools, materials and manpower for cementing 24" casing between 24" hole and conductor casing of Ø20" from depth 30.0 m ($\pm 15\%$) up to the surface, by using Portland cement type (I) according to Libyan company for cement. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	Lin.M	30		
A.4	Drilling Ø 17 1/2": Supply tools, materials and manpower to drill Ø17 1/2" from 30 m depth down to 325 meters deep ($\pm 15\%$), by implementing all the necessary precaution actions and including geological samples every 1.00 m. All in accordance to the technical specifications and as per UNDP consultant Engineer's instructions and approval.	Lin.M	295		
A.5	Casing GRP Pipes: Supply materials, tools and manpower for installing 13 3/8" casing GRP pipes (Italian or Germany type). Min. thickness 14mm, collapse pressure 320 psi, design pressure 20 bar, axial Strength 20 tons, length of pipes 6000-5850 mm & design temperature 50 c (ASTM 2996), from ground surface down to 245 m depth ($\pm 20\%$). Including installation of 5 centralizers 13 3/8" * 17 1/2" , installation of casing shoe and all necessary to complete the work according to the technical specifications and as per UNDP consultant engineer's instructions and approved samples.	Lin.M	245		
A.6	GRP slotted pipes: Supply tools, manpower and materials for installing GRP slotted pipes 1 mm (screen) (Italian or Germany type). Min. thickness 14mm, collapse pressure 320 psi, design pressure 20 bar, axial strength 20 tons, length of pipes 6000-5850 mm & design temperature 50 c (ASTM 2996) with 3 centralizers 13 3/8". Including 6m GRP sedimentation pipe and all necessary to complete the work. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	Lin.M	80		
A.7	Gravel Packing: Supply materials, tools and manpower for placing 2-4 mm gravel packing from the bottom of the well up to (80 m $\pm 15\%$) packed and including all necessary to complete the work. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	L.S	1		
A.8	Cementing: Supply tools, materials and manpower for cementing 13 3/8" casing between 17 1/2" hole and conductor casing of Ø13 3/8" from depth 245 m up to the surface, by using Portland cement type (I) according to Libyan company for cement. All in accordance with the technical specifications and as per UNDP Engineer's instructions and approval.	Lin.M	245		

A.9	Well cleaning: Supply tools, materials and manpower for water washing and cleaning of well. All in accordance with the technical specifications and as per UNDP consultant Engineer's instructions and approval of samples.	L.S	1		
A.10	Water test samples: Supply manpower, materials and equipment for conducting at least 2 chemical and bacteriological analysis test of water samples. Well should be disinfected after completion by chlorination (sodium hypochlorite or calcium hypochlorite) at a concentration no less than 10 mg/L as free chlorine for 24 hrs. The wells should then be purged by pumping to waste until the presence of chlorine is reduced, as verified through testing Including provision of certificates and reports of results. All in accordance with the technical specifications and as per UNDP Engineer's instructions and approval.	L.S	2		
A.11	Test well productivity: Supply equipment, manpower and all the tools required for conducting pump test 3 stages, each stage 2 hours, as following: 1- Measure water level return.(12 hours) 2- One long stage. 72 hour 3- Measure water level return. 24 hour	L.S	1		
A.12	Reinforced concrete slab: Construction of concrete slab around the casing Ø20" of dimensions 2x2x0.8 m depth. Including all required works to complete the job and according to the technical specifications and as per UNDP Engineer's instructions and approval.	L.S.	1		
A.13	Steel cover & plate: Supply and install steel cover and welding steel plate of dimensions 15x25 cm, containing complete well information. Including all required works to complete the job and according to the technical specifications & as per the Engineer's instructions & approval.	No.	1		
A.14	Technical report: Submit technical final report for all works that have been done, including soft electronic copy, as per the Engineer's instructions.	No.	3		
A) Total for Drilling, Casing, Piping & Testing					
B Submersible Pump with Accessories and Electrical Works					
B.1	Submersible pump: Supply tools, materials and manpower to install 100 hp submersible (ESP) pump (Rovatti, Delta, KSB, WILO or equivalent), 150 m ³ /hrs capacity. Head to pump 350 m. Including accessories, all required connection works and according to the technical specifications & as per UNDP consultant Engineer's instructions & approval	No.	1		

B.2	PPR Pipe 6": Supply tools, manpower and materials for installing of 6" PPR pipe (OD) water pumping pipes (30%±) (pressures up to 40 bar, and the tested pressure up to 100 bar). Including all required accessories and connection works. All according to the technical specifications & as per UNDP consultant Engineer's instructions & approval	Lin.M	70		
B.3	Switch control box: Supply & install first grade operating switch of the control box (delta star), against dust and waterproof. Including all necessary to complete the work and according to the technical specification & as per UNDP consultant engineer's instructions.	L.S	1		
B.4	Copper cable 3x50 mm²: Supply, install, connect & commission, Copper Power Cable 600/1000 V BS 5467 (3x50 mm ²) (30%±), from the operating switch of the control box to the pump & the work includes all necessary to complete the work according to the specification & as per consultant engineer instructions & approved samples.	lin.M	160		
B.5	Copper cable 4x95 mm²: Supply, install, connect & commission, first grade Low Voltage Copper Power Cable 600/1000 V BS 5467 (4x95 mm ²), from the source of the power to the well & the work includes all necessary to complete the work according to the specification & as per consultant engineer instructions & approved samples.	Lin.M	100		
B.6	Excavation of trench: Supply tools, manpower and materials for excavation of trench (80 cm depth, 60 cm width) in any type of soil. Including 15 cm of sand bedding, cable laying, testing, supply and installation of precast concrete protection slabs, warning tape, backfilling the trench and all necessary to complete the work according to the technical specifications & as per UNDP consultants Engineer's instructions and approval.	Lin.M	100		
B) Total for Submersible Pumps and Accessories					
C	Fence works				
C.1	Reinforced Concrete Foundations: Supply materials, tools and manpower for casting foundations of dimensions (1x1x0.40m), by using C30 concrete, and steel reinforcement of 100 kg/m ³ . The work shall include the excavation works & supplying all needed material and workmanship to complete the work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	No.	8		

C.2	Reinforced Concrete Beams: Supply materials, tools and manpower for casting beams & posts of dimensions (0.20x0.40m) by using C30 concrete and steel reinforcement of 100 kg/m ³ . The work shall include the supplying all needed material and workmanship to complete the work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	Lin.M	33.2		
C.3	Heavy Diamond-mesh Fence: Supply and install Heavy Diamond-mesh fence (Expanded wire mesh thickness 4mm). The rate shall include the metal frame with steel columns 70 *70 mm fixed in the concrete beams (1 m between every 2 columns) & steel beams 50*50 mm (1 m between every 2 beams) as per the attached drawings along with metal gate including hinges, locks & painting all steel elements with anti robust paints & final paint with the desired color. All the required material and workmanship to complete the fencing work as per the attached drawings & as per consultant engineer instructions & approved samples. See attached drawings	Lin.M	28		
C) Total for Fence works					
A	Total for Drilling, Casing, Piping & Testing				
B	Total for Submersible Pumps and Accessories				
C	Total for Fence works				
Total Grand Project					

BILL OF QUANTITIES (BOQ)		
Drilling of two (2) Boreholes (325 ml/each) for Water Supply in ALkufra Municipality, Libya		
Item	Description	Total Amount in US\$
1	Drilling of two (2) Boreholes (325 ml/each) for Water Supply in ALkufra Municipality, Libya Borehole 1 - Al Shoura Area	-
2	Drilling of two (2) Boreholes (325 ml/each) for Water Supply in ALkufra Municipality, Libya Borehole 2 - Al Mukthar Area	-
Total Grand Project		-



Annex- 3

Drawings are attached with file of drawing to this RFQ

Technical Specifications

Attached



Annex-5

UNDP General Conditions of Contract for Civil Works

Attached