



Installation of 8 Boreholes



Project Name: Rural Access to New Opportunities for Water and Food -
Installation of Boreholes

Implemented by: Islamic Relief SA KZN Region

Aug 2023



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1. Introduction:

Water, hygiene and sanitation are critical elements of human survival. Fresh water in good quality and sufficient amount is essential for all aspects of human life and sustainable development. The fundamental human rights to water are recognized by states and it is the mandate of governments to provide safe drinking water to its citizens. Water plays a pivotal role in all aspects of development including food security, health and poverty reduction in sustaining growth in agriculture and maintaining health ecosystems.

Unfortunately, the right to water is neither universally nor equitably enjoyed. Different communities and schools have a disproportionate access to basic services. Learners in public schools and residents in rural communities still face unacceptable challenges to accessing water and sanitation services.

Background to Islamic Relief SA Borehole Intervention

Islamic Relief has been at the forefront in providing safe and clean drinking water in water distressed communities around the world. In 2018, Islamic Relief SA in partnership with its donors and the Muslim Community embarked on installing boreholes in water distressed communities as a contribution to solving the water scarcity problem encountered by communities and schools.

Islamic Relief has identified 8 sites all over KZN that are in desperate need of water as these sites are currently using rainwater, river water or municipal water trucks as their main water source. The installation of the 8 boreholes will bring relief to the community members in the various sites as most of the community members are vulnerable to becoming sick due to the lack of clean drinking water. Furthermore, this will reduce the cases of waterborne diseases in each area.

2. Statement of Work and Mission Purpose:

Objective of the assignment

The objective of this assignment is to drill, construct and develop 8 new borehole in the following areas:

1. Luthuli High School
2. Umkhukhuze Primary School
3. Tugela Ferry Masjid



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4. St. Johns Apostolic Church
5. Veyana Primary School /Mzondeni Orphan Care Centre
6. Phembukuthula Community Care
7. Dannhauser Community Aid
8. Osizweni Madressa

Ensuring a minimum required safe yield and water quality parameters.

Specific Purpose

Since the installation of 19 boreholes in KZN, Islamic Relief has identified 8 more areas in KZN that are in desperate need of water as their main water source is rainwater.

This ToR seeks to engage a service provider who will undertake the installation of the 8 boreholes in the identified areas in KZN.

The following details clarifies the mission scope of work:

Legal Requirement of the Service Provider

The Service Provider will be a local Drilling and Construction Company/Consultant legally registered with the Department of Water Affairs and Forestry, and working with/for the department will be an added advantage. They will have proven technical experience in drilling and borehole installation.

Technical Requirement of the Service Provider

Scope of Work General

The Company/Consultant will cover the supply of all materials and equipment required for the installation of the boreholes, the following is the scope of work for the installation of the boreholes.

Site assessment: The 8 borehole sites must be assessed and surveyed with a Magnetometer or equivalent Geohydrological survey equipment.

Equipping: The boreholes are to be equipped with quality SABS approved pumps, plumbing pipes and fittings and electrical fittings with a minimum guarantee of 12 months.

Competency: Geohydrological services are to conform to the standards detailed in the "Criteria for Ground Water Development for the Community Water Supply and Sanitation Program by the Department of Water Affairs and Forestry 1996". The Company/Consultant must be registered and recognized for their proficiency in hydro-geological services.



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Valid proof of registration with the South African Council for Natural Scientific Professions (SACNASP) must be attached.

Registered and paid up member of the Ground Water Association of KwaZulu Natal with attached copy of membership details.

The specific objective of the intervention is to install 8 boreholes in different parts of KZN for sustained provision of safe and clean drinking water. It is anticipated that through this intervention, schools, Churches and rural communities will start having access to water for improved livelihood and quality of life.

The Company/Consultant shall install 8 boreholes at the identified sites taking into consideration distances and the state of roads to different sites. Islamic Relief will not be responsible for any damage or loss to equipment or personnel in this undertaking. The Company/Consultant is expected to carry out all the work as stipulated in the scope of work in a workman manner and up to the current professional standards. For this purpose, the Company/Consultant shall use suitable machinery and gear, and efficient and experienced staff.

The Service provider shall be responsible for drilling, installation of casings and screens, evaluation of water quality and human risk assessment, shale layer seal, sanitary seal, borehole development, pumping tests, water quality testing required for obtaining an operating license, and construction of aprons, drainage and soak ways. Where access conditions are difficult, it is expected that the service provider shall make allowances for this as part of the drilling cost.

Installation: A complete borehole installation will be done and additional security measures will be done such as the following:

- Install locks on metal lid to secure water pumps
- Islamic Relief granite signage (Height 1 meter, Length 1.5 meters)
- Welding of metal rods to secure storage tanks
- Lab test for quality of water
- jojo tanks



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3. Deliverables:

- Technical Competency of the Service Provider,
- Technical assessment report of the 8 boreholes
- Financial proposal of the work to be undertaken,
- Specific duration and schedule of work,

Technical Final Report including photos and basic service manual.

4. Time Frame:

The project is to start as soon as the contract is signed, tentatively in September 2023, and is expected to last for six months, including the period needed for the driller to obtain the permit. The project shall be under the control of the designated representative(s) appointed by Islamic Relief South Africa. The designated representative(s) shall appoint one or more technical supervisors who shall be responsible for the management and direction of the project on-site and shall approve all supplied materials, works, and measurements carried out by the service provider and his team of workers on the project.

5. Work schedule;

The bidder shall submit a comprehensive work schedule within his proposal which should fall within the period specified in the Terms of Reference. The work schedule shall include obtaining the necessary permits, setting up the bases, and moving the drilling units and support equipment to the drill site.

6. Due Care and Diligence;

The service provider shall, with due care and diligence, execute and maintain the works and provide all labor, materials, equipment, transportation, and other facilities necessary to substantially complete the works by the planned completion date, and in accordance with the requirements, documents and the standards defined by it.

The service provider shall take full responsibility for the adequacy, stability and safety of all site operations and methods of drilling, construction and development of boreholes and pump installation and for the security of the site itself, including the security of all materials stored or used on the site.

7. Safety measures and equipment

IRSA shall not be liable for any damages or compensation as a result of accident or injury to any



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workers employed by the service provider, any sub-contractor or any unauthorized persons unless such accidents or injuries are caused by any act or default of IRSA representative(s).

The service provider shall hold itself liable for any damage caused by the service provider, any invitees, collaborators, assistants or employees, and shall be liable for the cost of rehabilitation or restoration of such damage or for the mitigation measures required, as directed by IRSA.

8. Reporting:

The Company/Consultant will work closely with the Project Manager. They will provide daily updates as to how the project is going. A comprehensive report at each stage of completion together with the payment certificate signed off by the respective parties, should be submitted. A final technical report should be submitted on completion of work.

9. Proposals Submission:

- This call is opened **Only** for Geohydrological Borehole Drilling and Construction Company/Consultant.
- The Company/Consultant must be registered with the Groundwater Association of KwaZulu Natal and the Borehole Water Association of South Africa.
- Company/Consultant shall submit "one original copy" of the Technical and Financial Proposals in a package containing two separate envelopes (sealed and stamped) as follows:
 - (1)The first envelope must be clearly marked "TECHNICAL PROPOSAL".
 - (2)The second envelope must be clearly marked "FINANCIAL PROPOSAL".
- No financial information shall be contained in the Technical Proposal otherwise; the offer will be cancelled and excluded from the evaluation process.
- Companies shall not be entitled to compensation related to costs of preparing the proposals.

Technical Proposal

Content of Technical Proposal

The technical proposal shall ONLY and CLEARLY include the following sections:

- Competency of the Company/Consultant,
 - a) Proposed work to be undertaken at the 8 borehole sites
 - b) Duration/time frame
 - c) Personnel: The service provider shall provide capable and experienced personnel to perform the work. The service provider will appoint a project manager/drilling engineer with at least 10 years of drilling experience who shall be responsible for the drilling operations. The Service provider shall also provide a



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hydrogeologist with at least 5 years of experience in the field of water well drilling. Changes in personnel during the execution of the contract shall be done subject to the approval of the Project manager or IRSA designated representative(s).

- The Company/Consultant shall provide all the necessary machinery, tools, labor force, vehicles and technical equipment everything necessary for the proper execution of the works according to the true intent and meaning of the specifications including details of hydro-geologists who are members of professional body like the Groundwater Association of KZN,
- Undertake to provide without extra cost all assistance and everything reasonably necessary for providing the quality of work done as may be required by Islamic Relief,
- Company registration documents including Tax compliance,
- Company profile demonstrating experience and competence in the field,
- Verification of competence, the Company/Consultant will be expected to produce adequate and sufficient references to enable Islamic Relief to inspect previously completed projects and assess capacity of the Company/Consultant.

10. Methodology and Timeframe:

Once the contract is awarded, and before the mobilization to the bases, or drilling site the service provider shall be required to submit the updated schedule for the completion of the works in a Gantt chart of weekly activities as specified in the Terms of Reference. This schedule shall be checked and approved by Islamic Relief SA team. The schedule is to be updated at least monthly.

11. Financial Proposal:

- The financial proposal shall show all the direct costs related to the implementation of the installation of the 8 boreholes.
- The financial proposal will be quoted in South African Rands (ZAR).



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Item	Description	Unit	Quantity	Rate	Amount	Comments
1	Desktop Study, Geohydrological Investigation, and Report					
1.1	Desktop Study	hours	8 sites	***	***	Comment if applicable or not.
1.2	Geohydrological Study	Hours	8 sites	***	***	
1.3	Transportation	km	8 sites	***	***	
1.4	Geohydrological Report	Hours	8 sites	***	***	
2	Borehole Drilling, Pump testing, Data Evaluation, and borehole Equipping					
2.1	Establishment of Equipment	***	8 Sites	***	***	
2.2	Drilling (Air Percussion, Symmetrix, or Mud Rotary)	Meters	120 Meters	***	***	Please quote on the drilling method to be used, and how much it is per meter for the other drilling methods.
2.3	Steel / PVC Casing	Meters	8 Sites	***	***	
2.4	Borehole Pump	Pump	8 Sites	***	***	Quote on the type of pump to be used
2.5	Electrical Components / Fittings/water filter	***	8 Sites	***	***	
2.6	Pump Testing	Hours	10Hours	***	***	
2.7	Water Quality Analysis	***	8 Sites	***	***	
2.8	5000L Water Tanks (Islamic Relief Branded)	Jojo/Eco Tank	8 Sites	***	***	
2.9	Tank Stand	Tank Stand	8 Sites	***	***	
2.10	3 Taps	Taps	8 Sites	***	***	
2.11	Pipework	Pipes	3 Taps Per Site	***	***	
2.12	Concrete Manhole	Per Manhole	8 Sites	***	***	



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2.13	Security Features (Locks, metal rods on Jojo/Eco tank)	Per Borehole	8 Sites	***	***	
2.14	Granite Sign Post	Per Sign Post	8 Sites	***	***	
2.15	Labor and Installation	Hours	8 Sites	***	***	
2.16	Transportation	Km	8 Sites	***	***	
3	Borehole Commissioning					
3.1	Borehole Report	Hours	8 Sites	***	***	
3.2	Borehole Commissioning	Hours	8 Sites	***	***	Borehole commissioning such as showing stakeholders how to use the boreholes, sustainability requirements & recommendations.

12. Evaluation Proposal:

- The evaluation proposals (Technical and Financial Proposals) will be in terms of 80/20-point system.
- The technical and financial proposals will be evaluated, the threshold for the technical proposals is 70 points, if you meet the minimum threshold, that's when the financial offer should be evaluated.
- Only the technical proposals submitted within submission date will be opened.

Evaluation of the technical proposal

1st stage: Prerequisite:

The Company/Consultant will **first** be assessed based on the Technical Competency and experience related to;

- Geohydrological Services,
- Borehole Drilling,
- Technical equipment and machinery,
- Competent staff including engineers.

Only applicants who pass this stage will be eligible for the 2nd stage of evaluation.



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2nd stage: Collective evaluation

The evaluation of Technical Proposals will be out of 100 marks according to following criteria:

Sections	Criteria	Score
section 1	Machinery, tools and technical equipment	5
Section 2	Company profile & relevant technical capabilities	20
	Previously completed projects	15
	Specific experience of staff	20
section 3	Methodology and schedule	40
Total		100

Inspection of Materials and Equipment;

The service provider shall present to IRSA (Project Manager) the list of equipment and samples of materials (material details in the design report) to be used on the project as well as relevant information, with sufficient time for the Client to complete a review of samples.

All materials used in the course of these works shall be new and proper for their use. No reusable materials coming from the site shall be used unless permitted by IRSA in writing.

The service provider is not allowed to start work until IRSA team has checked and approved the equipment and materials. Prior to the beginning of drilling operations, all equipment supplied by the contractor shall be certified by the contractor to be suitable for the specified drilling operation. The replacement of any equipment and materials later found to be unsuitable shall be at the contractor's expense.

Evaluation of the Financial Proposal

The financial proposals will only be opened for the bidders who pass with a score of 70 out of 100 in the technical offers. IRSA is not restricted to least prices.

Proposals Submission

- Please submit your proposals to: irsa.procurement@islamic-relief.org.za
- Deadline for the submissions is Friday 8th September 2023



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- Following submission, IRSA may engage in further discussion with applicants concerning quotations in order to ensure mutual understanding and an optimal agreement

13. Contract

This ToR and the companion annexes have been prepared based on the most recent information available regarding site conditions, drilling methods, and materials to be used. IRSA will be responsible for all contractual matters relating to this assignment; However, should the service provider take exception to any part of these specifications or well design and is not prepared to follow the specifications as included herein, the contractor shall notify this within the offer. IRSA will decide during the tender process if the changes are accepted or not.

14. Method of Payment:

Financial payment shall be made only for the works actually executed and approved by IR. No claim for extra, or any variation shall be entertained unless such extra, additional or variation was ordered in writing by the Head of Department.

Payment will be made into the Consultant's pre-agreed bank account and payment will be made after satisfactory completion of work in the various stages.



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Annex: A

Borehole Certificate

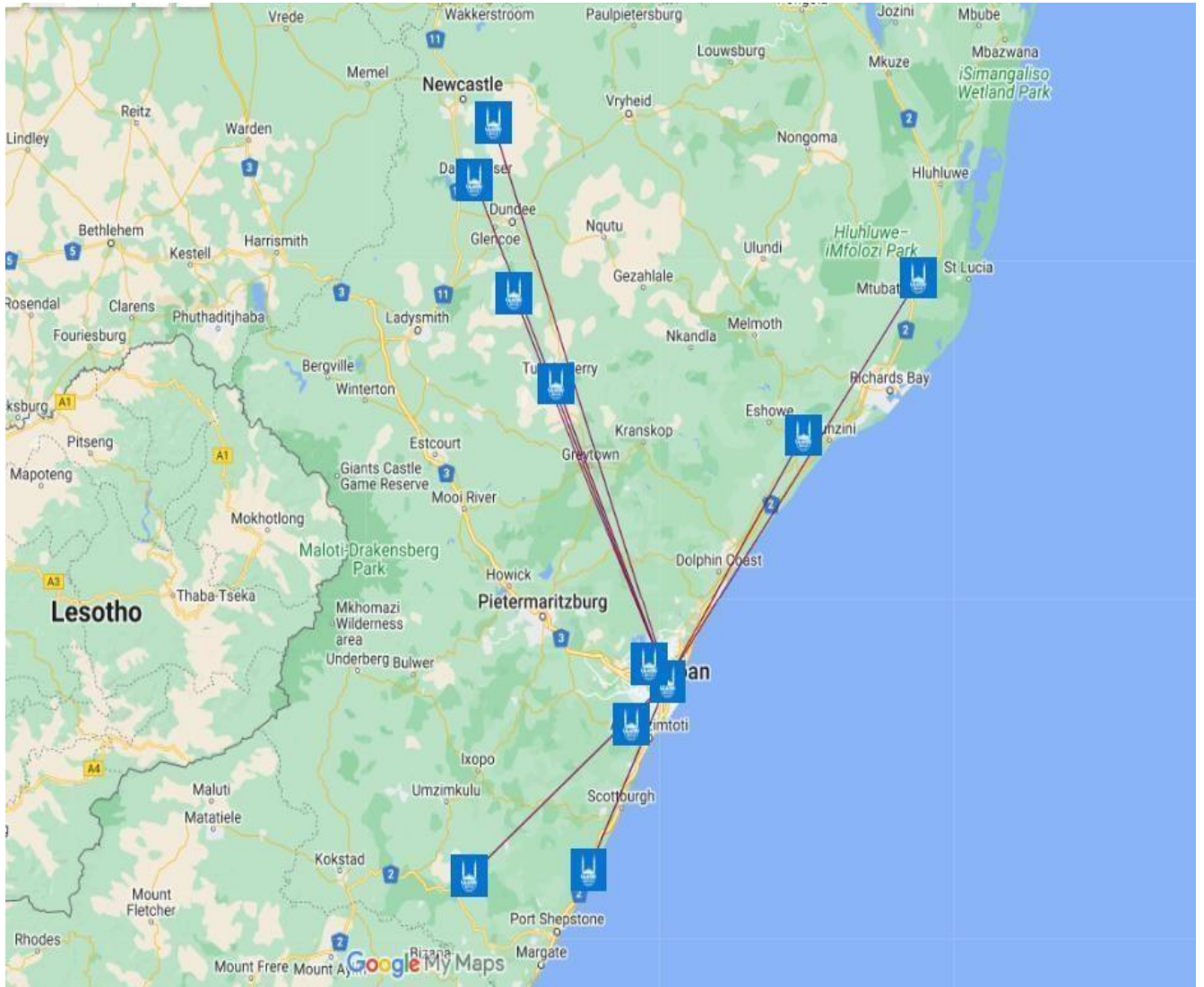
Upon completion, the Service Provider will issue a compliance certificate for the boreholes as follows:

Client: IR	Program: WASH	Project: Boreholes	
Contract Number:		GPS Coordinates of sites	
SLA Number:			
Region:	District:	Community Name:	
Borehole ID (Code of the Borehole):		Date of Service/Rehabilitation:	
Borehole specifications:			
Diameter of casing			
Type of casing			
Depth of casing			
Level of screens			
Height of sand trap			
Bottom cap			
Completion date of Service/rehabilitation			
Pump Specifications:			
Pump type and brand			
Serial number of cylinder			
Serial number of pump stand			
Hydrological specifications:			
Static level of water			
Drawdown			
Water quality testing			
Recovery time			
Yield (litres per hour)			



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15. Borehole Map



No.	Borehole Site	Location	Status	Distance	GPS Co-ordinates	GPS Link
<u>1</u>	Luthuli High School	Mtwalume	N/A	93 km	-30.50363063924629, 30.597149264951334	https://www.google.com/maps/d/edit?mid=1MNL58X8D61VLRdu71PGPMvt-Djy57ag&usp=sharing
<u>2</u>	Umkhukhuze Primary School	Nhlabo	N/A	135 km	-28.940169023776747, 31.62293855573566	https://www.google.com/maps/d/edit?mid=1TWgHZmVLG8oQeT2Sj-ppcqJklfZ_Lzo&usp=sharing
<u>3</u>	Tugela Ferry Masjid	Tugela Ferry	N/A	191 km	-28.75338303404748, 30.444017659506073	https://www.google.com/maps/d/edit?mid=1LX5GcKFqcrA_BtTOhsfowAPQKLrx59M&usp=sharing
<u>4</u>	St. Johns Apostolic Church	Harding	N/A	205 km	-30.527988773630266, 30.024692726044147	https://www.google.com/maps/d/edit?mid=1Tr_Pq-26HTMff-72Q2X5QEUhMCamXTk&usp=sharing
<u>5</u>	Phembukuthula Community Care	Ladysmith	N/A	284 km	-28.42726952527535, 30.23870943995222	https://www.google.com/maps/d/edit?mid=1qhFhkgZXz1BgoC9G87sy5grfRagc5Xc&usp=sharing
<u>6</u>	Veyana Primary School /Mzondeni Orphan Care Centre	Mtubatuba	N/A	220 km	-28.36806330767466, 32.17266093253238	https://www.google.com/maps/d/edit?mid=1-wopX33ikNnERNWQuJwazuQhBxphu5g&usp=sharing

<u>7</u>	Dannhaus er Communit y Aid	Dannhauser	N/A	312 km	-28.00947238665745, 30.053944097128824	https://www.google.com/maps/d/edit?mid=1askKTsZdNJ6IOViSPOBsg3vzYX1D6Ys&usp=sharing
<u>8</u>	Osizweni Madressa	Newcastle	N/A	349 km	-27.799103101544503, 30.14265752595792	https://www.google.com/maps/d/edit?mid=1JfJmFGuYLOiQfCUZhkhkwnJA_5hls4&usp=sharing

