BMZ Federal Ministry for Economic Cooperation and Development

ARDE / KUBAHO

hoffnungszeichen sign of hope

TENDER DOCUMENT

Tender Title: Pumping Water supply system in, Mugina Sector, Kamonyi District (Phase I)

Tender Reference Number: **Nº 015/ARDE/KUBAHO/2023**

Procurement Method: **RESTRICTED TENDER**

Date of issue: **29 November 2023**

BACK GROUND

Association Rwandaise pour le Developpement Endogene, ARDE/KUBAHO, in short is a non-profit organisation in Rwanda that work for the well-being of particularly disadvantaged population groups. The mission of the organisation is to promote sustainable socio-economic development with the aim of improving the living conditions of hitherto less resilient communities. ARDE's guiding principle is the promotion of local initiatives, which in turn are the result of local needs. Sustainable and effective participation, as well as ownership by the participating population, are at the forefront. ARDE/ KUBAHO is active throughout the country. The geographical focus of its activities to date has been in the Kamonyi District, in the Southern Province. Its work focuses on water, sanitation, and hygiene (WASH), environmental protection and sustainable agriculture, health and humanitarian aid. Recently, ARDE/ KUBAHO has opened the doors for trans border's projects for promotion of human rights and peace building in Greatlakes region.

Since the year 2016, ARDE/KUBAHO entered into a partnership with a Germany INGO to implement was project in Ntebe, one year later in Kigarama both villages from Rugalika sector Kamonyi district both in which, a water source captured and stored to serve surrounding community, an extension of 2.1km and 3 km of pipeline, 6 water kiosks two water tanks of 100 cubic meters to serve more than 6,000 people in both villages. Following the success of the project in Rugalika, a suggestion was raised to extend in remote area of Kamonyi district, in Mugina Sector where people had less hygiene practices due to the inaccessibility to water and sanitation facilities. The only water source they had was marshland and Nyabarongo river. Using Kona water source, a gravity system of 6.6km, kiosks, tanks and public and private sanitation facilities constructed in three villages of Nteko cell to serve more than 947 families. This project started in 2020 to complete in 2023. However, Mugina have yet in need of access to water and sanitation including poor hygiene practices among people out of the ongoing project.

Currently, WASH project in Mugina Phase II has been approved to cover the rest of Nteko people adding one village of Mbati cell (Kigorora village). With this project, more than 890 families will be supported in terms of safe drinking water by constructing pumping water supply system of 14km. The project has started with the month of November 2023 until June 2026.

OBJECTIVE

The main objective to provide quotation on pumping water supply systems in Mugina Sector, Kamonyi district.

TIMELINE AND DELIVERIBLES

The successful bidders will work under guidance of ARDE/KUBAHO and partners: Sign of Hope and district of Kamonyi. The project is for 8 MONTHS starting from December 2023 to July 2024.

QUALIFICATION AND EXPERIENCE

More details in the attached tender document

SUBMISSION

Closing date for submission of bids is on **11th December 2023 @ 10:00AM, Rwanda time**. The soft documents will be sent via email: info@arde-kubahorwanda.org. The only selected candidate will be contacted for next steps.

Tender document with more details is attached.

For further information and tender document, you may send email to the same email above, or call **0788443155 or check the link:** https://www.arde-kubahorwanda.org/tender-job/ or to https://www.jobinrwanda.com

Done at Kigali on November 29th, 2023

BAHATI Augustin

Executive Director for **ARDE/KUBAHO**

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Section I: Instructions to Bidders (ITB)

A General

1. Scope of the invitation to tender

1.1 The Procuring Entity, as defined in the Bid Data Sheet (BDS) invites bids for the works, as **described in the BDS** and section II, "Special Conditions of Contract" (SCC). The name and identification number of the Contract are provided in the BDS and SCC.

1.2 The Successful Bidder shall be expected to complete the works by the Intended Completion **Date specified in the BDS 1.2 and SCC 1.1(r).**

1.3 Throughout these Bidding Documents:

(a) The term "in writing" means communication in written form (eg by letter, email) with proof of receipt,

(b) If the context so requires, the "singular" may replace the "plural" and vice versa; and

(c) "Day" means calendar day.

2. Source of funds

The Procuring Entity, **as defined in the BDS**, intends to apply part of the budget, **as defined in the BDS**, towards the cost of the Project, **as defined in the BDS**, to cover eligible payments under the Contract. Payments by the Procuring Entity shall be made only at the Contractor request and upon approval by Project Officers.

3. Fraud and Corruption

In accordance with the spirit of the legislation governing the award of contracts in Rwanda, the 'ARDE/KUBAHO' requires any Bidders to observe the highest standard of ethics during the procurement proceedings and execution of such contracts. In pursuing of this policy, 'ARDE/KUBAHO':

(a) Referring to the Law on public procurement, gives the definition, for the purposes of this provision, of the terms set forth below as follows:

(i) **"corrupt practice"** means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;

(ii) **"fraudulent practice"** means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;

(iii) **"collusive practice"** means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels; and

(iv) **"coercive practice"** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

(b) shall reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

(c) shall sanction a firm or individual by exclusion, either indefinitely or for a stated period of time, if it at any time determines that they have, directly or through an agent, engaged, in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract.

4. Eligibility of Bidders

1.1 A Bidder, and all parties constituting the Bidder, may have the nationality of any country, unless otherwise provided for by the **BDS**. A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors.

5. Qualification of the Bidders

5.1 All bidders shall provide in Section III, "Bid letter, proposed work method and schedule, including charts, as necessary.

5.2 In the event that prequalification of potential bidders has been undertaken, **only bids from prequalified bidders shall be considered for award of Contract**. These qualified bidders should submit with their bids any information updating their original prequalification applications or, alternatively, confirm in their bids that the originally submitted prequalification information remains essentially correct as of the date of bid submission. The update or confirmation should be provided in Section III.

5.3 If the Procuring Entity has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids as well as those specified in Section III: N.A

5.4 Bids submitted by a Joint Venture of two or more firms in partnership shall comply with the following requirements, unless otherwise **stated in the BDS**:

(a) The Bid shall include all the information listed in ITB Sub-Clause 5.3 above for each joint venture partner; If applicable

(b) The Bid shall be signed so as to be legally binding on all partners;

(c) All partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

(d) One of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and

€ A copy of the JV Agreement entered into by the partners shall be submitted with the bid.

5.5 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria

(a) An average annual financial amount of construction work over the period specified in the **BDS** of at least the multiple indicated in the **BDS**

(b) Experience as prime contractor in the **construction, study or supervision** of at least the number of works/assignments related to **Drinking Water Supply Systems** over the period **specified in the BDS** (to comply with this requirement, works or service must be completed 100% with good completion certificate issued by the respective clients);

(c) Proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;

Present key personnel with qualification and experience specified in the **BDS**; and

(d) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount **specified in the BDS**.

A relevant history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

5.6 The figures for each of the partners of a JV shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of ITB Sub-Clauses 5.5 (a) and (e)

6. One Bid per Bidder

Each Bidder shall submit only one Bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) shall cause all the proposals with the Bidder's participation to be disqualified.

7. Cost of Bidding

The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Procuring Entity shall in no case be responsible or liable for those costs.

8. Site Visit

The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense

Bidding Documents

9. Contents of Bidding Documents

The set of Bidding Documents comprises the documents listed below and addenda issued in accordance with ITB Clause 11:

Tender Notice /Invitation for Bids
Section I Instructions to Bidders
Section II Bid Data Sheet
Section III Forms of Bid,
Qualification Information,
Letter of acceptance, Agreement
Section IV General Conditions of Contract
Section V Special Conditions of Contract
Section VI Specifications
Section VII Drawings
Section VIII Bill of Quantities
Section IX Forms of Securities

B. Preparation of Bids

10. Language of Bid

All documents relating to the bid shall be in the languages **Specified in the BDS**.

11. Documents Composing the Bid

The Bid submitted by the Bidder shall comprise the following document:

1. A submission letter.
2. A valid clearance certificate from the RRA (also available on-line)
3. Certificate of VAT
4. A domestic Company registration from RDB (copy notified) with a specialization in civil engineering works.
5. A clearance certificate from the Rwanda Social Security Board
6. Work plan of execution

7. Eligible to bid in public tenders under category E of drinking water supply of RPPA.
8. Bid security of **5,500,000 Rwf** delivered by bank or other financial institutions.
9. A signed certificate of the site visit (planned on 06th December 2023 at 11:00AM at Kona water source);
10. Bill of quantities;
11. At least one similar reference with value amount not less than 100,000,000Rwf;
12. CVs, Degrees and academic testimonials and certificates as per ITB for staff (ITB 5.5. b)
13. A list of equipment to be used as per ITB 5.5. C

D. SUBMISSION OF BIDS

18 Submission, Sealing and Marking of Bids

18.1 Bidders will only submit their bids to the place indicated in the tender notice.

(a) Be addressed to the Procuring Entity at the address **provided in the BDS;**

(b) Bear the name and identification number of the Contract as **defined in the BDS** and SCC

F. AWARD OF CONTRACT

Award Criteria

The Procuring Entity shall award the Contract to the Bidder whose Bid has been selected as being substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of ITB Clause 4, and (b) qualified in accordance with the provisions of ITB

29 Procurement Entity's Right to accept any Bid and to reject any or all Bids

The Procuring Entity reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract

Section II. Bid Data Sheet (BDS)

A. General	
ITB 1.1	The Procuring Entity is **ARDE\KUBAHO** The Works are*:* ➢ **Pumping station (powerhouse with all equipment)** ➢ **Water pumping pipeline of total length of 4,572m** ➢ **Two R.C water tanks of 100 cubic meters**
ITB 1.2	The Intended Completion Date: **8 months after contract signature**
ITB 2.	The Project is: **Pumping Water supply system in Mugina sector, Kamonyi District (Phase I)** **Duration of works: 8 months after the date of contract signature.** The Funding Entity is: **BMZ, Project Partners: ARDE/KUBAHO and Sign of Hope**
ITB 2.1	The qualification data required from bidders in ITB Sub-Clause 5.4 are modified as follows: 1. A submission letter 2. A valid clearance certificate from the RRA (also available on-line) 3. VAT certificate 4. A domestic Company registration certificate with mention of related fields 5. A clearance certificate from the Rwanda Social Security Board 6. Work plan execution 7. A certificate of site visit 8. Bill of quantities without arithmetic errors 9. Unit of prices in figures and letters 10. Bid security of **5,500,000 Rwf** delivered by bank or other financial institutions 11. Non bankruptcy certificate from RDB 12. Registered in Rwanda Public Procurement Agency (RPPA) in CAT E of drinking water supply 13. Site visit (planned on 06th December 2023 at 11:00AM at Mugina sector, Kona water source). 14. Not listed on blacklisted companies of RPPA. Financial reports of last 5 years (2022, 2021,2020,2019,2018) certified by auditing companies recognized by Rwanda Revenue Authority (RRA)

ITB 2.2	The essential equipment to be made available for the contract by the successful Bidder shall be: - **1 Truck of 5 cubic meters of capacity** - **DGPS** - **TOTAL STATION** - **Welding pipes machine** - **Generator** Notice: To attach proof of ownership or leasing of all equipment
ITB 2.3	The qualification criteria in ITB Sub-Clause 5.5 (d) are modified as follows*:* The key personnel will have the following qualifications: **1.One Project Manager:** Having at least A0 degree in Hydraulic engineering, hydrology, civil engineer, hydraulic structure or master's degree with specialization in said fields(Hydraulics/hydraulique, Hydrology or Hydraulic structures), with at least ten (10) years working experience in the field. He / She Should be a certified and registered in the Association of Engineers of Rwanda and present his valid certificate of membership IER To attach detailed CV with certified notarized copy of degree; **2.Water Engineer:** Bachelor's degree in Civil Engineering having at least 5 years of experience for work of similar nature and attach, a detailed CV with a certified copy of degree and IER certificate; Join detailed CV with copy of degree **4.One Foreman:** A technician with Plumbing or construction or Public Works A2 level, with at least 7 years of professional experience in the field of WSS Attach a detailed CV with a certified copy of degree
ITB 2.4	Commitment letter signed and sealed by the bidder addressed to ARDE KUBAHO, that a bidder is committed and capable to execute the said tender with contractual conditions and provisions
ITB 2.5	Subcontractors' experience and resources **shall not be taken** into account.
ITB 2.6	The percentage of margin's domestic preference is: **100%**
B. Bidding Documents	
ITB 3	The Procuring Entity addresses for clarification is: ARDE\KUBAHO, Head office: Kacyiru, KG 569 Steet, Gasabo-Kigali City/Rwanda. Contact: phone: +250788443155, Email: info@arde-kubahorwanda.org ,Website: www.arde-kubahorwanda.org
C. Preparation of Bids	
ITB 4	The language of the bid is: English
ITB 5	Any additional materials required to be completed and submitted by the Bidders are: **Cfr BDS**

ITB 5.1	The Contract is not subject to price adjustment in accordance with GCC Clause 47.
ITB 5.2	The authority for establishing the rates of exchange shall be ***National Bank of Rwanda (BNR)*.**
ITB 5.3	Bidders are not required to substantiate the rates and prices.
ITB 6	The Bid shall be valid for **120 days**
ITB 7.1	Bid shall include a Bid Security: Yes
ITB 7.2	The Bid Security amount is: 5,500,000 Rwf
ITB 8	Alternative Bids shall not be considered
ITB 9	The number of copies of the Bid to be completed and returned shall be**: N/A**
D. Submission of Bids	
ITB 10.1	The Procuring Entity's address for the purpose of Bid submission is: ARDE\KUBAHO, Head office: Kacyiru-Kigali City/Rwanda, Road KG 596 St.. Contact: phone: +250788443155, Email: info@arde-kubahorwanda.org , Website: www.arde-kubahorwanda.org
ITB 10.2	Name and Identification number of the contract as given in ITB 1.1 above in this BDS
ITB 11.1	The deadline for submission of bids shall be **11th December 2023 @ 10:00AM, Rwanda time**
E. Bid Opening and Evaluation	
ITB 12.1	The bid opening shall take place at: ARDE\KUBAHO, Head office: Kacyiru-Kigali City/Rwanda, Road KG 596 St. Date: **11th December 2023 @ 10:30AM,** Rwanda time and opening results shall be sent to bidders via their respective email
F. Award of Contract	
ITB 13	The Advance Payment shall be limited to **20%** percent of the Contract Price provided after providing its guarantee of 100% from Bank or recognized financial institutions/insurance company.
ITB 14	The Adjudicator proposed by the Procuring Entity is: **Not applicable** The Appointing Authority is: **Not applicable**.
ITB 15	Performance security from Bank or recognized financial institution/insurance company of 5%

Section III. Forms of Bid, Qualification Information, Letter of Acceptance, and Agreement

1. Contractor's Bid

*The **Bidder** shall fill in and submit this Bid form with the Bid. If the Bidder objects to the Adjudicator proposed by the Procuring Entity in the Bidding Documents, it should so state in its Bid, and present an alternative candidate, together with the candidate's daily fees and biographical data, in accordance with ITB Clause 37.*

[date]

Identification N° and Title of the tender: [insert identification number and title of the tender]

To: [name and address of Procuring Entity]

Having examined the Bidding Document, including addenda *[insert list]*, we offer to execute the *[name and identification number of the tender]* in accordance with the GCC accompanying this Bid for the Contract Price of *[insert amount in numbers]*, *[insert amount in words] [insert name of currency]*.

The Contract shall be paid in the following currencies:

Currency	Percentage payable in currency	Rate of exchange: one foreign equals *[insert local]*	Inputs for which foreign currency is required
(a) (b)			

The advance payment required is:

Amount	Currency
(a) (b)	

We accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator.

[or]

We do not accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator, and propose instead that *[insert name]* be appointed as Adjudicator, whose daily fees and biographical data are attached.

It is understood that the PE is not bound to accept the lowest or any Bid you receive.

It is hereby confirmed that this Bid complies with the Bid validity and, if required, Bid Security as required by the Bidding Document and specified in the BDS.

We, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries in accordance with ITB Sub-Clause 4.1;

We have no conflict of interest in accordance with ITB Sub-Clause 4.2;
Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been declared ineligible by RPPA, or under the laws or official regulations of the Republic of Rwanda in accordance with ITB Sub-Clauses 4.3.

Authorized Signature:

Name and Title of Signatory: _____

Name of Bidder: ____

Address: ____

2 construction works, study or Supervision of WSS related works/consultancy performed during the last *8 years*

Project name and country	Name of client and contact person	Type of work or service performed and year of completion
(a) (b)		

N.B. All completed projects should be proved by the performance certificates issued by the clients

2.1.1 Major items of Contractor's Equipment proposed for carrying out the Works. *[List all information requested below. Refer also to ITB Sub-Clause 5.5 (c).]*

Item of equipment	Description, make, and age	Condition (new, good, poor) and number	Owned, leased (from whom?), or to be purchased (from
(a) (b)			

N.B Attach the possession and/or leasing evidences

2.1.2 Qualifications and experience of key personnel proposed for administration and execution of the Contract. ***Attach The CVs and academic testimonials and professional body's certificates. Refer also to ITB Sub-Clause 5.5 d***

Position	Name	Years of experience (general)	Years of experience in proposed position
(a) (b)			

2.2 Joint Ventures

2.2.1 The information listed in 2.1.1 – 2.1.10 above shall be provided for each partner of the joint venture.

2.2.2 The information in 1.11 above shall be provided for the joint venture.

2.2.3 Attach the power of attorney of the signatory (ies) of the Bid authorizing the signature of the Bid on behalf of the joint venture.

2.2.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:

i. all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

ii. one of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and

iii. The execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

2.3. Additional Requirements

Bidders should provide any additional information required in the BDS

4. Form of Bid Letter

Identification N° and Title of Contract: *[insert identification number and title of the Contract]*

To: PROJECT COORDINATOR ARDE\KUBAHO

Ref: Tender Document for … … … … (date) concerning the sub-project. « Execution of the works of … … … …. (*Insert the type of works to be made as well as the place of works).*

Having read documents concerning Calls for tender relative to the works above-mentioned, and in particular four documents below:

- Instructions intended for the Bidders;
- Conditions and forms of the contract;
- Exercise book of the specifications or the technical prescriptions;
- List of the Unit Prices and Bill of Quantities.

And having estimated the nature and the potential of the company, according to my opinion and in my capacities, we (*insert company name*)… .

- Subject my offer for an amount of … … … … …. (*Insert the amount In figures and in letter*) inclusive of local taxes
- Accept without constraint, all the provisions were contained in the documents of

Tender notice ;

- Subject the list of cost of the contract wearing my signature and completed by my care, According to the model which was sent to me;
- Accept as contracting who has to realize the works indicated below, following Provisions appearing in the conditions of contract, and
- Subject the project of the contract wearing my signature.

The ARDE (ARDE\KUBAHO) as *the Employer will* pay, the due amounts and, established in the detailed statements, relative to the works, by crediting the bank account opened in the name of … …

… … … …. *(Name)*, number … … … …. *(Number)* in the branch … … … … (*name of the branch*)

of her … … … … … … (*name of the bank*)

The bid Validity is 120 days from the opening of this tender to …….(*insert the end day*) Authorized Signature: _

Name and Title of Signatory: _____

Name of Bidder: _____

Address: _____

Section IV. General Conditions of Contract

The General Conditions of Contract (GCC), read in conjunction with the Special Conditions of Contract and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

A. General

Conditions of contract will result from:

1) All conditions and provisions in ITB and BDS
2) Contract negotiation terms and conditions
3) Bid provisions
4) Tender Documents/ToRs conditions

Section V. Specifications & Performance Requirements

1. Site Installation and withdrawal

1.1.Access

The Contractor prepares all access path and roads to the site at his expense.

1.2.Local office

A local office shall be established by the contractor and shall be placed in a place agreed upon by the client. The shape and materials in the office shall be approved by the engineer, this office shall provide good working environment as all documents relating to the present tender and reports on the progress of work on the site shall be consulted from here by the client, besides this site meetings shall be held here.

1.3.Shelter for workers, Toilets and site shed

The contractor shall construct an appropriate shelter that can be closed and locked; it shall be made of materials accepted by the engineer. This shelter shall not be used as a store of materials it shall be used by the workers as a resting shelter and must be supplied with temporary sanitary equipments. All shall be done to keep to the local hygienic standards.
Areas for storage of material shall be well prepared in order to avoid their contact with un wanted materials.

2. Catchments' works
2.1 Catchments' works preparation

Surface prospecting will determine a discharge point or area. The catchment's works in themselves will start with an excavating down to the level of the spring in the aquifer. This phase will make it possible to decide where to locate the drains, the flow-control overflow Systems.
Catchment's works preparation will include:

- Hanging side level and thickness survey. This will preferably be done digging wells in the slope upstream the discharge point. These wells will show the nature of the surface ground and of the aquifer and also the level and thickness of the latter.
- As far as possible the wells will reach the lower confining bed.
- Site survey may be done by trenches, but it has the downside of draining the aquifer and modifying its behaviour before the water is caught.
- The elevation number of the discharge at the moment of the lowest water level will be determined as accurately as possible.

2.2 Catchment's devices

To prevent the risk of exhausting the water reserve and dry up a reservoir that might be limited, care must be taken not to catch more than what the aquifer can naturally provide. To this end, the yield must be set according to the gauged flow measured before starting to catch the water.

As of principle, water must be caught at a sufficient depth under the level of the aquifer and at least 1.00 m under the lowest water level. Furthermore a pressure in the drains higher than the natural pressure existing in the ground before catchments' will not be acceptable. Indeed, lateral or even vertical leaks might appear and there would be a risk of the spring going out of control.

Care will be taken that the level of water in the envelope treatment (made of rounded river gravel), above the catchments' drains is always lower than the level of the aquifer before catchment. This level will be set in such way that the yield in low water period never exceeds the natural flow of the aquifer. An overflow will be installed at the level of the tank in order to evacuate the exceeding flow during high water toward the river downstream.

In the event of successive aquifers stemming from pervious rocks superimposed on less pervious rocks, care will also be taken not to put the aquifer under pressure downwards as it would force the ground water through the underlying rocks. Each aquifer will be caught separately using a SYSTEMS of gravity-fed drains where the water flows without any dam. The water will flow through a water flow collector. It will collect all the successive discharge areas and lead the water to the main tank of the network.

Some isolated emergence points coming out of the rock will simply be concreted in order to avoid infiltration of surface water in the spring. The water will be gravity-led, without pressurizing the spring site, using a free-flow collector, until the main tank or departure tank of the network.
For any intervention of the catchment area, the contractor will refer to the instructions given by the engineer according to each case.

2.3 Technical characteristics of the drains

Drains will be made of non-toxic PVC pipes PN 10, splinted lengthwise and screened with cross slits of 0.5 or 1 mm. The total opening percentage of the drains compared to the surface of the drains will be at least 6% for 0.5 slits and 10 % for 1 mm slits. The drains will be round, with no gutter and the slits will be spread all around the drains.

The size of the slit will be relative to the nature of the aquifer. By definition its exact nature is only known when the trench or the discharge points are opened. In view of the yield and the diameter chosen for the drains, 0.5 slits will be the default measure. 1 mm slits will be used for rocky aquifers or exceptional cases of important flows.

2.4 Installation of the drain

Between the aquifer and the drain, filtrating gravel calibrated on the slit of the screen and the grain-size distribution of the ground.
The characteristics of the filtrating gravel change depending on the grain-size distribution of the sand

in the string, as described in the table below:

Screen slot **Filtrating gravel**	**0,5 mm** **Very thin sand**	**1,0 mm** **Medium sand**
0,25 to 0,5 mm	10%	
0,5 to1,0 mm	40%	10%
1,0 to2,0 mm	40%	45%
2,0 to5,0 mm	10%	45%

Rounded river gravel (never crushed gravel) will be used the make the envelope treatment. The "filtrating" gravel will be made out of the screened sands (0.25 to 0.5 mm), (0.5 mm to 1.00 mm) and (1.00 mm to 2.00 mm) and gravels (2.00 to 5.00 mm)
The drainage trench will be at least 1.2 m deep under the aquifer at the low water period. They must not be more than 0.70 m wide. The bottom of the drain will lie at least 1.4 m under the top of the aquifer at the low water period on a bed of 0.10 m filtrating gravel, or directly on the top of the lower confined bed, if there is one.

The sheet of polyethylene will be carefully laid on top of the gravels. It will be 150 micrometer thick and will be directly covered in clay. The latter will be pure, free of any organic matter and it contain water in such quantity as to be plastic enough to be laid in thin layers of 25 to 50 mm on the downstream wall of the drainage trench and in layers 100 mm thick on top of the plastic sheet.
For any intervention regarding the installation of the drains and envelope treatment, the contractor will refer to the instructions given by the engineer according to each case.

2.5 Catchment protection

For single tanks, the protection of the works will be ensured by a concrete slab. For drains, the catchment will be protected with a plastic film and backfill made of compacted clay up to the area where the aquifer is protected by soil more than 3 m thick. The area will be fenced immediately around the catchment area by barbed wire doubled with a hedge.

The fence will be made of wood posts treated against pest, laid every 3 m, pitched in the ground 40 cm deep and 1.25m high above the ground. Three parallel barbed wires will be tightened between the posts at around 35, 70 and 1.05 m above the ground. Furthermore, barbed wire will be tightened diagonally between the top and the bottom of the posts in order to improve their stability and protection against intrusions. The angle posts will be strengthened with braces.

The fence will be doubled with a euphorbia hedge or any other plant better suited. The hedge will be planted under the fence with 10 seedlings per meter of fence. The site will be closed with a 80 cm wide gate made of an extended wire net, tightened on a metallic frame that is attached, articulated and closed on two metal posts fixed to the ground via a concrete base. The gate will be equipped with a latch making it possible to install a padlock. All the metallic parts will be treated against rust and covered with an enamel layer whose colour will be decided by the project.
Beyond this zone, the protection to be implemented depends on appropriate soil or tree cover.
Should the surface water head toward the catchment's Systems, it will be diverted using shallow trapezoidal ditches covered in grass and in strong slope or using masonry gutters down the downstream the catchments.

For any intervention regarding installation of the fences and protections, the contractor will refer to the instructions given by the engineer, according to each case.
Clearing the site and removing the stumps consist in cutting the trees, shrubs and groves, eliminating any cultivation, removing stumps and disposing of the plant debris away from the site.
The surface which will have been altered and cleared during the works will be covered with short-rooted plants of the type PASPARUM after the completion of the works. Plantation will be done by staking out 100 plants per square meter. This plant cover will help protect the surface against erosion without damaging the catchments.
A sketch of these works is to be found in the standard plans

2.6 Clearing the site

- Start from the tanks and dig trenches in order to follow the pipes up to the catchment's (drain, envelope treatment, etc.),
- Carry out the works during the dry season in order to avoid or reduce the risk of landslide,
- Most of the discharge points are located at the junction between the valley slopes and the bottom of the valley,
- Existing catchment's may have identifiable leaks. It may be considered to start from those leaks and follow the water up to the discharge point,
- It may be easier to locate the discharge points with the help of the local population (farmers or other people in charge of the Public taps), who may have witnesses the previous works,
- Embankments may be very large,
- The bottom of the excavation where the draining trench will be installed must be in the water-bearing deposit. The land must then be cleared down to that point,

2.7 Filtrating gravel

- Production of filtrating gravel (via successive screening of rounded river gravel) is a crucial step. Ideally the company should start producing this gravel long before clearing the discharge points. The gravels must be cleaned before it is laid.
- Each fraction of the gravel must be prepared individually. The mix of the various fractions is made afterwards according to the nature of the soil and the cross slits (refer to table in the SPR of the tender book). The ready-made mix is stored in bags that will later be taken to the catchment's site according to the needs,
- After it has been installed, the filtrating gravel is sanitized with a hypochlorite solution. When sodium hypochlorite is being used, the disinfecting water must contain 30 g of chlorine for 1m³ of water.

3. Tanks
3.1 Tanks of 100 m³

Tanks of 100 m³ will be made of a 50 cm-thick circle wall of stone masonry, based on a reinforced concrete slab. The work will be closed by a slab of reinforced concrete slab equipped with one inspection hatch. The equipment of these tanks will be made of 1" galvanized steel. The hatch will be locked with a padlock.

The interior of the work will be accessed via a removable aluminium ladder that will be provided with the service building. A #1.00 m manhole will contain the inlet and outlet valves as well as a limiting device of pressure intended to protect the fragile equipment such as the float valve and the flow control valve.

4. Manholes

Three types of manholes will be used depending on the size of the equipments to be protected. They are made of stone or baked brick masonry. The exterior face will be pared; the interior will be left quarry-faced. The parts that are buried in the ground will be protected with a bituminous coating. Bleeding manholes for will be equipped with an outlet block.
The dimensions refer to the interior dimensions of the works

4.1 Manhole # 1.60 m

This square manhole will have sides of 1.5 m and will be 1.5 m deep. Its equipment will be laid on pipes no smaller than ED 63: valves, outlet, vents, meters, etc.
A concrete base will be foreseen for the installation of heavy equipment, anchorages will be added if necessary. The manhole is equipped with rungs made of 20 mm concrete reinforcing bars embedded in the wall.

4.2 Manhole # 1.00 m

This square manhole will have sides of 1.00 m and will be 1.25 m deep. Its equipment will be laid on pipes of ED 32 and ED 50: valves, outlet, vents, meters, etc.
A concrete base will be foreseen for the installation of heavy equipment, anchorages will be added if necessary. The manhole is equipped with rungs made of 20 mm concrete reinforcing bars embedded in the wall.

4.3 Manhole # 0.60 m

This small square manhole will have sides of 1.50 m and will be 0.5 m deep. It will contain the equipment for House connections. The cut-off valve will be located outside this manhole, in a valve box. The equipment in this manhole (meter, isolation valve and filter) will be laid diagonally under the catch in order to be accessible.

5. Chambers

Chambers are watertight manholes which contain water. They are made of rubble or baked bricks masonry. The outer faces are reappointed and the inner faces are covered in a 3-cm thick waterproofing agent.

The parts that are buried in the ground will be protected with a bituminous coating. Each chamber is completed by a "discharge nozzle" (000/PT/12) where all the outlet and overflow pipes end. The end of the outlet is sealed with a plain plate mounted on a flange. The dimensions refer to the interior

dimensions of the works.

5.1 Departure or surge chamber (1 inlet)

The surge chamber is a cube of 1.00 m sides. It collects water from one single pipe. It has only one access trap. Considering how little deep it is, no rungs are foreseen.
This chamber only feeds one outlet.
The standard equipment is made of DN 60 cast iron.
In case of specific equipment, the chamber is considered as “unequipped” and the equipment is taken separately.

5.2 Departure chamber or collection chamber (2 inlets)

The surge chamber is a cube of 1.00 m sides. It collects water from two pipes. It has only one access trap. Considering how little deep it is, no rungs are foreseen.

This chamber only feeds one outlet. The standard equipment is made of DN 60 cast iron.
In case of specific equipment, the chamber is considered as “unequipped” and the equipment is taken separately.

5.3 Departure chamber or collection chamber with 2 inlets and pH correction

The departure chamber is rectangular (2.00 m X 1.00 m X 1.00 m deep). It is split in two equal parts by a wall. The two parts are linked by drains in order to ensure appropriate water circulation. The tanks are filled with dolomite gravel (5 to 10 mm).
The aim of this construction is collecting water from catchments. When put in contact with dolomite, the water is neutralized to acceptable pH value (no less than 6.5). The chamber is equipped with two access catches. Considering how little deep it is, no rungs are foreseen.
This chamber only feeds one outlet.
The equipment laid is made of DN 60 cast iron.

5.4 Distribution chamber

The surge chamber is a cube of 1.00 m sides. Its aim is to receive water from one single pipe. It has only one access trap. Considering how little deep it is, no rungs are foreseen.
This chamber feeds two outlets. The equipment is made of DN 60 cast iron.
This chamber can split water into two parts of the network.
Should that be the case, separation walls will be built inside the tank and a special splitting device is foreseen according to the type of split that is needed.

6.1 Public tap stand with 2 taps

The basic public tap stand will be equipped with one or two taps depending on circumstances. It is equipped with a water meter and a pressure reducing valve if necessary. The body is made of bricks masonry. The hydraulic equipment is located in the cavity, which is padlocked.

The base is a Telford type base made of stones equalized with lean concrete and covered in a waterproof coating. The valve box allowing access to the cut-off valve is embedded in it. A sump filled with rocks aims at collecting the lost water and rain water collected by the waterproof surface. This device prevents the formation of puddles or slough making the site unhealthy. In primary schools and health centres, such a public tap stand will be built but without a water meter.

Section VI. Drawings

Pumping station.pdf Shelter house.pdf Reservoir100m3.pdf Project map.pdf

Section VII. Bill of Quantities

General Conditions and content of the unit prices

The entrepreneur is reputed to have a perfect knowledge of all vassalages imposed for the execution of works and all local conditions susceptible to influence on this execution, among others:

- Of the nature and the quality of soils and lands,
- Of the conditions of transportation and access to the Building sites,
- Of the régime of waters and rains in the region,
- Of the possibilities of food in waters and electricity of the Building site,
- Of the relative particular conditions to the present Building site.

He won't be able to raise any complaint having for basis of the difficulties or unforeseen vassalages, with the exception of the case of absolute necessity.

The unit prices of the present works consist of the entrepreneur's expenses without exception in order to achieve the totality of works foreseen to the present contract, the profit as well as the rights, taxes and various expenses (except the rights and taxes that, according to arrangements of the Convention of Lomé, must not be supported by the entrepreneur), general expenses, incidentals, and broadly speaking, all expenses, to Rwanda, that results from works and notably;

All expenses of hand-d'œuvre (wage, overheads holidays etc.) supplies, renting, amortization, working and maintenance of the material, the expenses for the edible matters bought to Rwanda or abroad, tooling, installation of Building site and careers, insurances of all nature, general expenses, tax and profits, incidentals of all natures, all vassalages of planning and maintenance of the temporary tracks for deviations, access to the characters, loans and points of water, all expenses of laboratory and secondary prospectings, all supplies of water, the logistical support provided to the control, the preparation of areas of storage of materials, all vassalages dragged by

the maintenance of the circulation during the execution of works,.

The prices also consist of all services out of Rwanda as freight, aerial, maritime transportation, by road etc.

The prices also consist of the expenses of various studies of establishment, working and fold of the Building site, all expenses dragged by the obtaining of the supplementary lands which enterprise could have need for his/her/its bases except free discount possibility by the administration.
The prices consist then of all royalties or renting, all expenses of control necessary to the receipt of works, of accidental damages to the cultures, of access, extraction of the materials, purification with regard to the lodgings etc.

In a general manner, all expenses imposed to the entrepreneur for the correct execution of works, that are explicitly or non foreseen in the section of Technical prescriptions, are to his expenses and the entrepreneur is perfectly reputed to know them for himself in to be given personally account on the land before soumissionner.
Broadly speaking, the prices consist of all expenses resulting from the included or quoted documents in the pieces written, administrative and technical sections of the present bidding document for the execution of all works foreseen to the Project, on the basis of the economic and fiscal conditions in force to the month preceding the notification of the offers.

The prices also consist of the installation and the working of the entrepreneur's facilities as well as the stake at the disposal of the Mission of supervision and control, of the offices and the laboratory for material, the prices consist of the transportation, the harbor expenses, brought it until the places of intervention as well as repatriation at the end of Building site and all vassalages. In a general manner, the unit prices consist of the cost of the materials of setting in work, the transportation of type until the Building site, the handover of work and other inherent expenses to the realization of the work.

BILLS OF QUANTITY FOR PUMPING WATER SUPPLY SYSTEM IN MUGINA SECTOR, KAMONYI DISTRICT/RWANDA

No	Designation	Unit	QTY	UP	Total
1.0	**SITE PRELIMINARIES**				
1.1	Site installation including , the transport of materials, provision of insurances (20%) (all risk); Site Security, Provision of Healthy and Safety policies (20%), the provision of PPEs(reflector, pair boot, helmet, wash station, first aid kits) (20%)and other requirements for environmental and social mitigation measures., Site Office for the employer and Engineer(20%)including all furniture, office equipment, services, stock, sanitation facilities, drinking water	LS	1		
1.2	Putting in place a site billboards according to the client's instructions, and including and all accruals	Ls	1.00		
1.3	Design review and production of work execution documents, and including all accruals, and as built plans documents (soft and hard copies)	Km	4,572		
S/total 1					
2	**Earthwork by excavation and backfilling**				
2.1.	Excavation and backfilling of louse ground up to 1.0 m depth , including all accruals.	lm	4,572		
2.2	Supply and Installation of Concrete Terminals (painted blue and numbered) on the route of the pipeline, dim.0.15 * 0.15 * 0.8m , every 100m and at each change of direction (elbow position)	EA	70		
S/total 2					
3	**Supply and installation of pipelines**				
3.1	D.I pipesDN 90 PN 25	lm	1,704		
3.2	HDPE pipesDN 90 PN 16	lm	2,868		
3.3	Solid mass of Stone masonry walls for pipe stabilisation/protection on river crossing and road crossing	m3	3.75		
3.4	Pressure test	lm	4,572		
3.5	Network desinfection with chlorine	lm	4,572		
S/total 3					
	SUBTOTAL DIVISION 2				
4	**CIVIL WORKS**				
4.1	**Construction of a 100 m3 reservoir capacity**				
4.1.1	Terracing, digging, cutting, excavation, backfilling, overlay of surplus soil and land remediation, including all acruals	m3	314.02		
4.1.2	Hardcore (stones pitching) of 30 cm with voids full with cement and sand mortar mix of ratio 1 to 10 respectively, saturated with water	m3	48.91		
4.1.3	Blind concrete class C, thickness 5 cm	m3	8.15		
4.1.4	Hydraulic reinforced concrete for the base	m3	19.02		

4.1.5	Reinforced concrete for roof slab and beams ,class A	m3	6.93		
4.1.6	Concrete for the reservoir walls (elevations). (dosage 350 kg/m3)	m3	33.38		
4.1.7	Coating of the internal face of wall of the tank with 3 hydrafuges water proofing coats	m2	139.12		
4.1.8	Supply and coating the faces of the tank with 3 layers of "Sikalatex" paint	m2	139.12		
4.1.9	Plaster on the upper side of roof slab with a rough mortar class B	m2	69.32		
4.1.10	Supply and fix damp proof course between the roof slab, the wall and the beam of support	m2	16.83		
4.1.11	Supply and fix of the metallic cover of 80 x 80 x 0,3 cm with a ventilation shaft at the top and a mosquito screen	EA	4		
4.1.12	Supply a portable aluminium ladder, the step=25cm and total length = 3 meter.	LS	4		
S/total 4.1					
4.2	**INSPECTION CHAMBER # (2×1.6×1m)**				
4.2.1	Terracing, digging, cutting, excavation, backfilling, overlay of surplus soil and land remediation, including all acruals	m3	10.78		
4.2.2	Hardcore (stones pitching) of 20 cm with a filling of 1:10 cement sand mortar mix, saturated with water	m3	1.21		
4.2.3	Blind concrete class C, thickness 5 cm	m3	0.3		
4.2.4	Reinforced concrete for base slab and roof slab ,class A	m3	1.07		
4.2.5	Lateral walls in stones masonry jointed with a mortar of class D	m3	1.36		
4.2.6	Coating of the internal side of wall of the inspection chamber with 3 layers of plaster of 300 kg ciment mixture	m2	13.6		
4.2.7	Plaster on upper side of the slab with a rough mortar class B	m2	4.68		
4.2.8	Supply and fix the damp proof course between the roof slab, the wall and the beam of support	m2	1.2		
4.2.9	Supply and fix of the metallic cover of 60X60X0.3 cm with a ventilation shaft at the top and the mosquito screen	EA	1		
4.2.10	Supply and fix an iron ladder for interior access embedded in the wall, painted with 3 layers of rust preventive paint, the step=25cm	lm	1		
S/total 4.2					
4.3	**REJECTION WORK #**				
4.3.1	Terracing, digging, cutting, excavation, backfilling, overlay of surplus soil and land remediation, including all acruals	m3	5.67		
4.3.2	Hardcore (Stones pitching) of 20 cm with a filling of 1:10 cement sand mortar mix, saturated with water	m3	0.44		
4.3.3	Blind concrete class C, thickness 5 cm	m3	0.11		
4.3.4	Reinforced concrete class A, for base slab	m3	0.22		
4.3.5	Masonry walls in hardcore, with fair face pointed at the joints	m3	0.13		

4.3.6	Coating of walls with 3 layers of plaster of 300 kg cement mixture	m2	5.3		
4.3.7	Soakaway pit 1 m3, full of gravel and hardcore (stones pitching)	EA	1		
4.3.8	Supply and installation of Flanged Ductile Iron hydraulic equipment and Fittings for connection of reservoir	LS	1		
4.3.9	Water Quality Analysis (parameters including but not limited to Turbidity, pH, Residual chlorine, Nitrates, Nitrites, Ammonia nitrogen, Iron, Manganese, Fluorides,Conductivity, Total Dissolved Solids, E.Coli, Thermotolerant coliform and Fecal coliform)	LS	1		
S/total 4.3					
	TOTAL OF 1 R 100 m^3		**2**		
	SUBTOTAL DIVISION 4:				
5	**PUMPING STATION AND DEVELOPMENT OF THE PLACE**				
5.1	**Shelter of sentinel**				
5.1.1	Site clearance and removal of top soil	m3	10.8		
5.1.2	Site terracing	m3	28.8		
5.1.3	Excavation for foundation; h = 0,7m	m3	4.32		
5.1.4	Blind concrete	m3	0.36		
5.1.5	Foundation in stones masonry	m3	5.28		
5.1.6	Concrete for foundation screed	m^2	4.8		
5.1.7	Damp proof roofing	m^2	4.8		
5.1.8	walling with burnt brickwork	m3	7.02		
5.1.9	Lintel in reinforced concrete	m3	0.48		
5.1.10	Ventilator in bore hole concrete blocks	EA	6		
5.1.11	Wooden struts and purlins	lm	26.6		
5.1.12	Supply and fix of cover of embossed sheet iron	m^2	14.44		
5.1.13	Wooden frieze board	lm	15.2		
5.1.14	Metallic simple plain door with glazed window :- 90x210cm	EA	1		
5.1.15	Glazed metallic window with burglar proofs:- 100x120cm	EA	1		
5.1.16	Plinth of the interior and exterior walls	m^2	2.62		
5.1.17	Plastering of internal wall sides	m^2	33.31		
5.1.18	Pointing of joints on external sides of walls	m2	36.51		
5.1.19	Paving with burnt bricks	m^2	5.76		
5.1.20	Floor finishes with a rough cement mortar	m^2	7.84		
5.1.21	Splash apron	m^2	12.16		
5.1.22	Latex paints on walls and lintel	m^2	35.71		
5.1.23	Enamel paint on doors, windows and frieze board	m^2	16.04		
5.1.24	Electrification of the shelter (2 sockets, 2 fluorescent lamps and cabling)	LS	1		
5.1.25	Supply of furniture (4 chairs, 1 table and 1 wardrobe)	LS	1		

S/total 5.1					
5.2	**Ventilated pit latrine for the Sentinel**				
5.2.1	Site clearance and removal of top vegetable soil	m3	8.53		
5.2.2	Terracing of the site	m3	19.89		
5.2.3	Digging of the pit	m3	25.08		
5.2.4	Excavation for foundation; h = 0,7m	m3	1.12		
5.2.5	Blind concrete	m3	0.08		
5.2.6	Foundation in stone masonry	m3	1.44		
5.2.7	Slabs in reinforced concrete	m3	1		
5.2.8	Walling in burnt brickwork	m3	13.52		
5.2.9	Lintel in reinforced concrete	m3	0.41		
5.2.10	Ventilator in bore hole concrete blocks	EA	6		
5.2.11	Wooden struts and purlins	lm	21.3		
5.2.12	Supply and fix of cover of embossed sheet iron	m2	11.96		
5.2.13	Wooden frieze board	lm	14.2		
5.2.14	Plywood doors :- 80x200	EA	2		
5.2.15	PVC pipe 110 for ventilation + Lattice	lm	8		
5.2.16	Plinthe en ciment lissée intér. et extérieur	m2	3.3		
5.2.17	Plinth of the interior and exterior wall faces	m2	28		
5.2.18	Pointing of joints on external faces of walls	m2	30.22		
5.2.19	Paving with burnt bricks	m2	1.4		
5.2.20	Floor covering with hard rough finish	m2	4.16		
5.2.21	Splash apron	m2	6.08		
5.2.22	Latex paints on walls and lintel	m2	28.41		
5.2.23	Enamel paint on doors and wooden frieze board	m2	9.56		
5.2.24	Elecrification of the latrine (2 sockets, 2 fluorescent lamps and cabling)	LS	1		
S/total 5.2					
5.3	**Construction of pump house**				
5.3.1	Terracing, digging, cutting, excavation, backfilling, overlay of surplus soil and land remediation, including all acruals	m3	96		
5.3.2	Construction of stone masonry retaining wall at pumping station	m3	52.5		
5.3.3	Inside subfloor pavement in hardcore	m2	64		
5.3.4	Blind concrete class C, thickness 5 cm	m3	0.6		
5.3.5	Plastering of external pavements, brinks of windows with smooth finish concrete including all accruals.	m3	3.72		
5.3.6	Floor covering inside the hall with smooth finish concrete.	m2	3.03		
5.3.7	Ring beam in reinforced concrete	m3	1.2		
5.3.8	Masonry in hardcore bound with cement mortar for foundation.	m3	14.4		

5.3.9	Elevation wall in burnt bricks masonry bound with cement mortal and external joints pointed	m3	18.72		
5.3.10	Blinding and screed cement mortar	m3	9.6		
5.3.11	Pedestal in solid concrete for command board and anti-hummer system.	m3	2.04		
5.3.12	Supply and fix of ventillation cement blocs (claustras)	EA	77		
5.3.13	Supply and fix of damp proof course	lm	9.6		
5.3.14	Internal and external wall sides plastering with a thin coat of plastic mortar	m2	103.2		
5.3.15	Pointing of joints for wall's external sides	m2	93.6		
5.3.16	Coating of walls, doors and windows with 2 thin layers of paint	m2	111.12		
5.3.17	Supplying and laying of steel tubes 60x40 mm for purlins	lm	20.7		
5.3.18	Supplying and laying of steel tubes 40x40 mm struts	lm	32.5		
5.3.19	Supply and fix of profiled metal I PE 200 mm for mechanical hoist	lm	5.7		
5.3.20	Supply and installation of a mecanical hoist (500 Kg)	EA	1		
5.3.21	Supply and fix of cover of embossed sheet iron	m2	44.2		
5.3.22	Supplying and installation of metallic eave gutter	lm	6.5		
5.3.23	Supplying and laying of metallic frieze board	lm	26		
5.3.24	Supply and installation including fittings of rain water drop down pipe in PVC DE 110 and disposal toward surounding fields	lm	17.4		
5.3.25	Supply and installation of a steel and plain double leaf door (2,8mx2,1m) sized including an sefety lock	EA	1		
5.3.26	Renforced cement concrete for removable slabs of electrical cables gutters	m3	0.3		
5.3.27	Supply and installation of 4 fluorescent lamps on opposit sides and 4 power intake sockets inside, 4 fluorescent lamps on four sides of the building, 4 street standard lamps outside and cables including all accruals	EA	1		
5.3.28	Implementation of a soakaways / percolation pit for rainwater inside the pumping station including all accruals	EA	1		
5.3.29	Supplying and installation of a ligthning conductor	EA	1		

5.3.30	Supply and fix of horizontal backing pump with electromotive and the following characteristics:Pump has TDH=250.84m with Q=25m3/H flowrate, supplied with a fully equipped electrical control panel for Star-Delta/Softstarter/Variable Frequency Drive VFD starting mode. They work in Duty-standby mode. The required power transformer with at least 50kVA.They must be installed in horizontal position, with an angle of 45Deg to the discharge collector water flow direction, and the electrical motor and hydraulic pump mounted on a common baseplate, long-coupled by Flender-Eupex N coupling system. A Power Factor Correction (PFC) System for Cosphi>0.92 to be installed.	EA	2		
5.3.31	Supply and installation of a counter water hammer vassel of 60 bars and 500 litres capacity	EA	1		
5.3.32	Concrete for abutment	m3	1.2		
5.3.33	Woven wire fencing 2m height bound on metallic poles (40x40mm) 2,50 m equidistant and anchoring in a hardcore and cement mortar foundation (1,20 m height) along the outline of the plot	lm	120		
5.3.34	Mesh gate stretched on a metal tubes framework (4,0x2,0 m) for access inside the parcel, including stones masonry columns for fixing	EA	1		
5.3.35	Development of access and traffic street inside the plot including borders and gutters. For coating the track, sandy and gravel soil will be spread and compacted with a steamroller	lm	23		
5.3.36	Planting of lawn grasses inside the plot	m2	900		
S/total 5.3					
5.4	**Hydraulic equipments**				
5.4.1	Hydraulic equipments for sucking up, backing up and wash out with flanges	LS	1		
S/total 5.4					
	SUBTOTAL 5.				
	GRAND TOTAL TAX EXCLUSIVE				
	GRAND TOTAL TAX INCLUSIVE				

Company Name:

Signed: ***[signature of person whose name and capacity are shown below]***

Name: ***[insert complete name of person signing the bid]***

In the capacity of ***[insert legal capacity of person signing the bid]***

Duly authorized to sign the bid for and on behalf of: ***[insert complete name of Bidder/Joint Venture]***

Dated on_____day of_____,_____*[insert date of signing]*