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AdvertQuote

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KWAZULU-NATAL PROVIN	ICE	
HEALTH REPURIS OF SOUTH AFRICA	Quotation Advert	
Opening Date:	2022-10-06	
Closing Date:	2022-10-14	fie)
Closing Time:	11:00	
INSTITUTION DETAILS		
Institution Name:	Christ the King hospital	V
Province:	KwaZulu-Natal	
Department or Entity:	Department of Health	
Division or section:	Central Supply Chain Management	
Place where goods / services is required	CHRIST THE KING HOSPITAL	
Date Submitted	2022-10-06	[19]
ITEM CATEGORY AND DETAILS		623
Quotation Number:	ZNQ: CTK 183-2022-2023	
Item Category:	Services	\checkmark
Item Description:	SERVICE OF BOREHOLES	
Control of the Contro		
Quantity (if supplies)		
COMPULSORY BRIEFING SESSION /	SITE VISIT	
Select Type:	Not Applicable	671
Date:	rac Applicante	<u>~</u>
Time:		i i i
/enue:		
QUOTES CAN BE COLLECTED FROM:	QUOTAION IS ATTACHED ON THE ADVERT	
QUOTES SHOULD BE DELIVERED TO:	CHRIST THE KING HOSPITAL 1 PETER HAUFF DRIVE IXOPO	
ENQUIRIES REGARDING THE ADVER	T MAY BE DIRECTED TO:	
lame:	S KHANYILE	
mail:	ONLY HAND DELIVERED QUOTATIONS WILL BE CONSIDERED	
Contact Number:	039 834 7519	
inance Manager Name;	BE NZIMANE A	
inance Manager Signaturé:	(AAO)	

STANDARD QUOTE DOCUMENTATION OVER R30 000.00 YOU ARE HEREBY INVITED TO QUOTE FOR REQUIREMENTS AT CHRIST THE KING HOSPITAL FACSIMILE NUMBER: N/A E-MAIL ADDRESS: PHYSICAL ADDRESS: CHRIST THE KING HOSPITAL, 1 PETER HAUFF DRIVE, IXOPO QUOTE NUMBER: ZNQ / CTK 122 - 23 DESCRIPTION: SERVICE OF BOREHOLES CONTRACT PERIOD ONCE OFF VALIDITY PERIOD 60 Days SARS PIN..... (if applicable) М Α Α CENTRAL SUPPLIER DATABASE REGISTRATION (CSD) NO. UNIQUE REGISTRATION REFERENCE DEPOSITED IN THE QUOTE BOX SITUATED AT (STREET ADDRESS) Bidders should ensure that quotes are delivered timeously to the correct address. If the quote is late, it will not be accepted for consideration. The quote box is open from 08:00 to 15:30. QUOTATIONS MUST BE SUBMITTED ON THE OFFICIAL FORMS - (NOT TO BE RETYPED) THIS QUOTE IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT. THE FOLLOWING PARTICULARS MUST BE FURNISHED (FAILURE TO DO SO MAY RESULT IN YOUR QUOTE BEING DISQUALIFIED) NAME OF BIDDER POSTAL ADDRESS STREET ADDRESS TELEPHONE NUMBER CODE......NUMBER......FACSIMILE NUMBER CODENUMBER....... CELLPHONE NUMBER E-MAIL ADDRESS VAT REGISTRATION NUMBER (If VAT vendor) YES NO HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (SBD 6.1)

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/SWORN AFFIDAVIT (FOR EMES& QSEs) MUST BE SUBMITTED TO QUALIFY

FOR PREFERENCE POINTS FOR B-BBEET

OFFICIAL I	PRICE PAGE	FOR QUOTATIONS OVER R30 000	QUOTE NUMBER	: <u>ZNQ</u> /CTK / 183	<u> 122 - 2</u>	3
DESCRIPTI	ION: SERVI	CE OF BOREHOLES		·····	***************************************	
SIGNATUR	E OF BIDDE	Rt, I hereby agree to all terms and conditions]				
CAPACITY	UNDER WH	ICH THIS QUOTE IS SIGNED	***************************************			•••••
Item No	Quantity	Description	Brand & model	Country of manufacture	Price R	l c
01	·	KINDLY SERVICE THE BOREHOLES FOR T		· · · · · · · · · · · · · · · · · · ·	1,	
		FOLLOWING CLINICS:				
	<u> </u>					1
	01 UNIT	NOKWEJA CLINICS				
	O4 LINUT	JOLIVET CLINIC				
	01 UNIT	JOLIVET CLINIC				
	01 UNIT	MTUNGWANA CLINIC				1
	01 UNIT	MASHUMI CLINC				
	01 UNIT	SANGCWABA CLINIC				
		`3				
	NB :	CIDB CATEGORY: 1 CE AND ABOVE				
	<u> </u>	SPECIFICATION ATTACHED				
	 					+-
	 					
	1					
		15% (Only if VAT Vendor)		i		
TOTAL QU	OTATION P	RICE (VALIDITY PERIOD 60 Days)				
Does This (Offer Comply	With The Specification? Specifi	cation?	The S.A.N.S. /	S.A.B.S.	
ls The Price		State Delivery	Period, e.g., 1day, 1w	eek		
		· · · · · · · · · · · · · · · · · · ·				

Is The Price Firm?	State De	elivery Period, e.g., 1day, 1week	
Enquiries regarding the guote may be directed to: Contact Person: S KHANYILE Tel: 039 E-Mail Address:	834 7519	Enquiries regarding technical information Contact Person: T.MAGUBENI	mation may be directed to:
E-IMAII Address:	,411,717,711,711,711,711,711,711,711,711		

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2.	RIDDER'S	DECL	ARATI	ΩN

- 2.1. Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state?

 YES/NO
- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State Institution

- 2.2. Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution?
- 2.2.1. If so, furnish particulars:
- 2.3. Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? YES/NO
- 2.3.1. If so, furnish particulars:

3. DECLARATION

I, the undersigned (name)...... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1. I have read and I understand the contents of this disclosure;
- 3.2. I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.5. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.6. There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.7. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

	*		
************	***************************************		***************************************
Name of Bidder	Signature	Position	Date

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

GENERAL CONDITIONS OF CONTRACT

1. AMENDMENT OF CONTRACT

1.1. Any amendment to or renunciation of the provisions of the contract shall at all times be done in writing and shall be signed by both parties.

2. CHANGE OF ADDRESS

2.1. Bidders must advise the Department of Health (institution where the offer was submitted) should their address (domicilium citandi et executandi) details change from the time of bidding to the expiry of the contract.

3. GENERAL CONDITIONS ATTACHED TO THIS QUOTATION

- 3.1. The Department is under no obligation to accept the lowest or any quote.
- 3.2. The Department reserves the right to communicate in writing with vendors in cases where information is incomplete or where there are obscurities regarding technical aspects of the offer, to obtain confirmation of prices or preference claims in cases where it is evident that a typing, written, transfer or unit error has been made, to investigate the vendor's standing and ability to complete the supply/service satisfactorily.
- 3.3. ALL DECÍSIONS TAKEN BY THE DEPARTMENT ARE FINAL, INCLUDING THE AWARD OR CANCELLATION OF THIS QUOTATION.
- 3.4. The price quoted must include VAT (if VAT vendor).
- 3.5. Should a bidder become a VAT vendor after award or during the implementation of a contract, they may not request the VAT percentage from the Department as the service provider made an offer during the period they were not registered as a VAT vendor. The Department is only liable for any VAT from registered VAT vendors as originally stated on the quotation document.
- 3.6. The bidder must ensure the correctness & validity of the quotation:
 - (i) that the price(s), rate(s) & preference quoted cover all for the work/item (s) & accept that any mistakes regarding the price (s) & calculations will be at the bidder's risk
 - (ii) It is the responsibility of the bidder to confirm receipt of their quotation and to keep proof thereof.
- 3.7. The bidder must accept full responsibility for the proper execution & fulfilment of all obligations conditions devolving on under this agreement, as the Principal (s) liable for the due fulfilment of this contract.
- 3.8. This quotation will be evaluated based on the 80/20 points system, specification, correctness of information and/or functionality criteria.

 All required documentation must be completed in full and submitted.
- 3.9. Offers must comply strictly with the specification.
- 3.10. Only offers that meet or are greater than the specification will be considered.
- 3.11. Late offers will not be considered.
- 3.12. Expired product/s will not be accepted. All products supplied must be valid for a minimum period of six months.
- 3.13. Used/ second-hand products will not be accepted.
- 3.14. A bidder not registered on the Central Suppliers Database or whose verification has failed will not be considered.
- 3.15. All delivery costs must be included in the quoted price for delivery at the prescribed destination.
- 3.16. Only firm prices will be accepted. Such prices must remain firm for the contract period. Non-firm prices (including rates of exchange variations) will not be considered.
- 3.17. In cases where different delivery points influence the pricing, a separate pricing schedule must be submitted for each delivery point.
- 3.18. In the event of a bidder having multiple quotes, only the cheapest according to specification will be considered.
- 3.19. Verification will be conducted to identify if bidders have multiple companies and are cover-quoting for this bid.
- 3.20. In such instances, the Department reserves the right to immediately disqualify such bidders as cover-quoting is an offence that represents both corruption and acquisition fraud.

4. SPECIAL INSTRUCTIONS AND NOTICES TO BIDDERS REGARDING THE COMPLETION OF THIS QUOTATION.

- 4.1. Unless inconsistent with or expressly indicated otherwise by the context, the singular shall include the plural and vice versa and with words importing the masculine gender shall include the feminine and the neuter.
- 4.2. Under no circumstances whatsoever may the quotation/bid forms be retyped or redrafted. Photocopies of the original bid documentation may be used, but an original signature must appear on such photocopies.
- 4.3. The bidder is advised to check the number of pages and to satisfy himself that none are missing or duplicated.
- 4.4. Quotations submitted must be complete in all respects. However, where it is identified that information in a bidder's response, which does not affect the preference points or price, is incomplete in any respect, the said supplier meets all specification requirements and scores the highest points in terms of preference points and price, the Department reserves the right to request the bidder to complete/submit such information.
- 4.5. Any alteration made by the bidder must be initialled; failure to do so may render the response invalid.
- 4.6. Use of correcting fluid is prohibited and may render the response invalid.
- 4.7. Quotations will be opened in public as soon as practicable after the closing time of quotation.
- 4.8. Where practical, prices are made public at the time of opening quotations.
- 4.9. If it is desired to make more than one offer against any individual item, such offers should be given on a photocopy of the page in question. Clear indication thereof must be stated on the schedules attached.

4.10. The Department is under no obligation to pay suppliers in part for work done if the supplier can no longer for fulfil their obligation.

5. SPECIAL INSTRUCTIONS REGARDING HAND DELIVERED QUOTATIONS

- 5.1. Quotation shall be lodged at the address indicated not later than the closing time specified for their receipt, and in accordance with the directives in the quotation documents.
- 5.2. Each quotation shall be addressed in accordance with the directives in the quotation documents and shall be lodged in a separate sealed envelope, with the name and address of the bidder, the quotation number and closing date indicated on the envelope. The envelope shall not contain documents relating to any quotation other than that shown on the envelope. If this provision is not complied with, such quotations/bids may be rejected as being invalid.
- 5.3. All quotations received in sealed envelopes with the relevant quotation numbers on the envelopes are kept unopened in safe custody until the closing time of the quotation/bids. Where, however, a quotation is received open, it shall be sealed. If it is received without a quotation/bid number on the envelope, it shall be opened, the quotation number ascertained, the envelope sealed and the quotation number written on the envelope.
- 5.4. A specific box is provided for the receipt of quotations, and no quotation found in any other box or elsewhere subsequent to the closing date and time of quotation will be considered.
- 5.5. No quotation/bid sent through the post will be considered if it is received after the closing date and time stipulated in the quotation documentation, and proof of posting will not be accepted as proof of delivery.
- 5.6. Quotation documents must not be included in packages containing samples. Such quotations may be rejected as being invalid.

6. SAMPLES

- 6.1. In the case of the quote document stipulating that samples are required, the supplier will be informed in due course when samples should be provided to the institution. (This decreases the time of safety and storage risk that may be incurred by the respective institution). The bidders sample will be retained if such bidder wins the contract.
- (i) If a company/s who has not won the quote requires their samples, they must advise the institution in writing of such.
- (ii) If samples are not collected within three months of close of quote the institution reserves the right to dispose of them at their discretion.
- 6.2. Samples must be made available when requested in writing or if stipulated on the document.
- (i) If a Bidder fails to provide a sample of their product on offer for scrutiny against the set specification when requested, their offer will be rejected. All testing will be for the account of the bidder.

7. COMPULSORY SITE INSPECTION / BRIEFING SESSION

7.1.	Bidders who fail to attend the compulsory meeting will be disqu	alified from the evaluation process.
(i) (ii)	The institution has determined that a compulsory site meeting Date/ Time Place	take place
Institut	ion Stamp:	Institution Site Inspection / briefing session Official
		Full Name:
		Signature:
		Date:

8. STATEMENT OF SUPPLIES AND SERVICES

8.1. The contractor shall, when requested to do so, furnish particulars of supplies delivered or services executed. If he/she falls to do so, the Department may, without prejudice to any other rights which it may have, institute inquiries at the expense of the contractor to obtain the required particulars.

9. SUBMISSION AND COMPLETION OF SBD 6.1

9.1. Should a bidder wish to qualify for preference points they must complete a SBD 6.1 document. Failure by a bidder to provide all relevant information required, will result in such a bidder not being considered for preference point's allocation. The preferences applicable on the closing date will be utilized. Any changes after the closing date will not be considered for that particular quote.

10. TAX COMPLIANCE REQUIREMENTS

- 10.1. In the event that the tax compliance status has failed on CSD, it is the suppliers' responsibility to provide a SARS pin in order for the institution to validate the tax compliance status of the supplier.
- 10.2. In the event that the institution cannot validate the suppliers' tax clearance on SARS as well as the Central Suppliers Database, the quote will not be considered and passed over as non-compliant according to National Treasury Instruction Note 4 (a) 2016/17.

11. TAX INVOICE

- 11.1. A tax invoice shall be in the currency of the Republic of South Africa and shall contain the following particulars:
- (i) the name, address and registration number of the supplier;
- (ii) the name and address of the recipient;
- (iii) an individual serialized number and the date upon which the tax invoice is issued;
- (iv) a description and quantity or volume of the goods or services supplied;
- (v) the official department order number issued to the supplier;
- (vi) the value of the supply, the amount of tax charged;
- (vii) the words tax invoice in a prominent place.

12. PATENT RIGHTS

The supplier shall indemnify the KZN Department of Health (hereafter known as the purchaser) against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

13. PENALTIES

- 13.1. If at any time during the contract period, the service provider is unable to perform in a timely manner, the service provider must notify the institution in writing/email of the cause of and the duration of the delay. Upon receipt of the notification, the institution should evaluate the circumstances and, if deemed necessary, the institution may extend the service provider's time for performance.
- 13.2. In the event of delayed performance that extends beyond the delivery period, the institution is entitled to purchase commodities of a similar quantity and quality as a substitution for the outstanding commodities, without terminating the contract, as well as return commodities delivered at a later stage at the service provider's expense.
- 13.3. Alternatively, the institution may elect to terminate the contract and procure the necessary commodities in order to complete the contract. In the event that the contract is terminated the institution may claim damages from the service provider in the form of a penalty. The service provider's performance should be captured on the service provider database in order to determine whether or not the service provider should be awarded any contracts in the future.
- 13.4. If the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance.

14. TERMINATION FOR DEFAULT

Andrew Printery Cartin Mills M

- 14.1. The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (i) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract,
- (ii) if the supplier fails to perform any other obligation(s) under the contract; or
- (iii) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 14.2. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services.
- 14.3. Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

15. THE DEPARTMENT RESERVES THE RIGHT TO PASS OVER ANY QUOTATION WHICH FAILS TO COMPLY WITH THE ABOVE.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all quotes invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to all quotes:
 - the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- 1.2 The value of this quote is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable.
- 1.3 Points for this quote shall be awarded for:
 - (a) Price; and
 - (b) B-BBEE Status Level of Contributor.
- 1.4 The maximum points for this quote is allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

- Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the quote, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- The purchaser reserves the right to require of a bidder, either before a quote is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

DEFINITIONS

- (a) "B-BBEE" means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) "B-BBEE status level of contributor" means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) "bid" means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) "Broad-Based Black Economic Empowerment Act" means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) "EME" means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) "functionality" means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) "prices" includes all applicable taxes less all unconditional discounts;
- (h) "proof of B-BBEE status level of contributor" means:
 - B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - Any other requirement prescribed in terms of the B-BBEE Act:
- (i) "QSE" means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes:

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:

$$Ps = 80 \left(1 - \frac{Pt - P\min}{P\min} \right) \text{ Where}$$

Ps Points scored for price of bid under consideration

Pt Price of bid under consideration Pmin price of lowest acceptable bid

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for 4.1 attaining the B-BBEE status level of contribution in accordance with the table below:

3-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

P	D) D	BEAL	ARATIO	
ח	H # F F F F F	11111	$A \cup A \cap B$	м

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:
- 6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1
- B-BBEE Status Level of Contributor: =(maximum of 20 points) 6.1

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7.	SUB-CONTRACTING applicable box)	(Tick			
7.4		Y	'ES	NO	
7.1	Will any portion of the contract be sub-contracted?				

- Will any portion of the contract be sub-contracted?
- 7.1.1 If yes, indicate:
 - What percentage of the contract will be subcontracted.....%
 - The name of the sub-contractor....
- iii) The B-BBEE status level of the sub-contractor.....
- 8. Whether the sub-contractor is an EME or QSE (Tick applicable box)
 - Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of

Preferential Procurement Regulations, 2017: Designated Group: An EME or QSE which is at last 51% owned by: **EME** QSE Black people Black people who are youth Black people who are women Black people with disabilities Black people living in rural or underdeveloped areas or townships Cooperative owned by black people Black people who are military veterans OR Any EME Any QSE

NO

Name of company/firm: VAT registration number:				
VAT registration number:				
Company registration number:				
TYPE OF COMPANY/ FIRM [TICK APPLICABLE BOX]				
 □ Partnership/Joint Venture / Consortium □ One person business/sole propriety □ Close corporation □ Company □ (Pty) Limited 				
DESCRIBE PRINCIPAL BUSINESS ACTIVITIES				
	• > (• • • • • • • • • • • • • • • • •			
COMPANY CLASSIFICATION [TICK APPLICABLE BOX]				
 ☐ Manufacturer ☐ Supplier ☐ Professional service provider ☐ Other service providers, e.g. transporter, etc. 				
Total number of years the company/firm has been in business:				
I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based or the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:				
i) The information furnished is true and correct;				
ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of the	nis form;			
iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;	e contractor may			
iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of t contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have —	he conditions of			
(a) disqualify the person from the bidding process;				
(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct:				
	urable			
who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any	organ			
(e) forward the matter for criminal prosecution.				
WITNESSES				
SIGNATURE(S) OF BIDDERS(S)				
DATE:				
2				
	Partnership/Joint Venture / Consortium One person business/sole propriety Close corporation Company (Pty) Limited DESCRIBE PRINCIPAL BUSINESS ACTIVITIES COMPANY CLASSIFICATION [TICK APPLICABLE BOX] Manufacturer Supplier Professional service provider Other service providers, e.g. transporter, etc. Total number of years the company/firm has been in business: I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points of the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the of the preference(s) shown and I / we acknowledge that: i) The information furnished is true and correct; ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of it iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the be required to furnish documentary proof to the salisfaction of the purchaser that the claims are correct; iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have — (a) disqualify the person from the bidding process; (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct; (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favo arrangements due to such cancellation; or a fraudulent basis, be restricted by the National Treasury from obtaining business from any of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has applied; and (e) forward the matter for criminal prosecution.			

PROVINCE OF KWAZULU-NATAL

DEPARTMENT OF HEALTH

ZNQ-

NOKWEJA CLINIC - SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.

1.1 SCOPE OF CONTRACT

This Contract is for the execution of the project indicated above.

1.2 CONTRACT DRAWINGS

No drawings

1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES

1.3.1 PERIOD OF CONTRACT

One (01) Week as the Contract Period for the completion of the Work from date of Site handover.

1.3.2 CONTRACT GUARANTEE:

The Successful Bidder will **NOT** be required to submit a contract guarantee.

1.3.3 GUARANTEE PERIOD

The guarantee period for the completion of the Structural work and all materials must be a minimum of <u>Three (3) Calendar Months</u> from the date of first delivery.

1.3.4 SITE AND MODE OF PROCEDURE

The work contained in this contract will be carried out on the site of the existing at Nokweja Clinic

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance. Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder. The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-

Natal and can be obtained on request.

1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

NOKWEJA CLINIC - SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.

TECHNICAL SPECIFICATIONS

- 2. TECHNICAL SPECIFICATION
- 2.1 GENERAL

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

2.2 Standard Preambles

This is available from the department on request.

2.3 Health and Safety Specification

Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.

Grading: 1 CE and above

CIDB COMPLIANCE

2.4 Amendments: Functionality in different contracting strategies in line with regulations 4.3.3 of the CIDB regulations, where functionality is evaluated, at least three Persons who are fully conversant with the Technical aspects of the scope of works shall undertake such evaluation.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ-

NOKWEJA CLINIC - SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.

3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

- 3.1. The work comprises of
 - (a) Service of a borehole.

ROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

NOKWEJA CLINIC – SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.

SCHEDULE OF RATES

4.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

4.2 TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable to the current rate).

4.3 RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labor, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

4.4 CIDB grading ME or SO.

- Contractors to have their own water and electricity.
- No Contractor will be allowed to sleep on site.
- Contractors to comply with Health and Safety act for the duration of the contract.
- Contractor to have the qualified hydrologist.

PROPRIETARY ARTICLES:

All equipment and material used in this contract shall be that which is specified or other approved.

PARTY

The objective of an efficient operation and maintenance of a water supply system is to provide safe drinking water as per designed quality and quantity, with adequate pressure at convenient location and time at competitive cost on a sustainable basis

Annual servicing of borehole Technical Specification

The most important legislation and polloy documents governing the development and operation of water services are:

Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

Water Services Act, 1997 (Act 108 of 1997)

National Water Act, 1998 (Act 36 of 1998)

e Public Finance Management Act, 1999 (Act 1 of 1999)

Strategic Framework for Water Services, September 2003

White Paper on Sanitation, September 2001

Regulations under 89 of the Water Services Act, 1997

Regulations under 810 of the Water Services Act, 1997

e. Regulations under S 19 of the Water Services Act, 1997

Model Water Services Bylaws. Section 21(1) of the Water Services Act, 1997

R. Guidelines For Human Settlements Planning and Design (Red Book). Obtainable from the CSIR.

1 BOREHOLE DEVELOPMENT STEPS

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The hydrogeological services required during project implementation are as follows:

- Assessment of existing groundwater sources. This may require the test pumping of existing boreholes, rehabilitation or re-drilling of boreholes, chemical analysis of water samples from existing boreholes and an examination of documentation relating to the reliability and sustained discharge rate of existing boreholes.
- Groundwater quality assessment. In areas with marginal water quality, testing of newly drilled boreholes or equipped existing boreholes should not commence prior to availability of chemical analysis results of TDS, NO₃ and F.
- Borehole yield recommendations. Motorized borehole pumps are generally warranted only in instances where a discharge rate in excess of 0,51/s can be maintained for a continuous pumping period of eight hours or more per day. Borehole yields must always be determined on the basis of 24 hour per day pumping.
- e Reporting. A technical report documenting all data and information is required on completion of investigations. The project hydrogeologist is required to ensure that data requirements from the hydrogeologist and contractors are documented on appropriate data recording forms and submitted to Department of Health KZN officials.

Borehole pump testing. The pump testing contractor is required to test drilled boreholes. The type of borehole test methods required include:

Slug Test Calibration Discharge Test Stepped Discharge Test Constant Discharge Test Recovery Test

- The rest and pumping water levels in a borehole may vary considerably during drought and above average rainfall sequences. Choice of type of borehole pumping plant must take this into account.
- The ability of the pumping plant to commence operation under the full static head conditions of the pump unit.

The ability of the pump to start operation with the riser pipe empty.

The level at which the pumping unit has to be placed in the borehole must be as specified by the hydrogeologist or based on reliable information known to the engineer should a hydrogeologist not be available.

2 BOREHOLE MONITORING AND OTHER EQUIPMENT

All boreholes and borehole pumping plant must be provided with equipment to monitor pump, borehole and aquifer performance. The main components required are:

Water meters

e Hour meters

- Water level depth measuring devices —a conduit pipe (20-25mm diameter) next to the riser in the borehole through which a measuring cable can be lowered is preferred; however an electrical transducer or pressure pipe is an alternative.
- Operational equipment

The following operational equipment is required:

Non return valve, to prevent backflow into berehole.

e Isolating valve, to prevent backflow into the borehole. Only allowed for positive displacement pumps if a pressure relief valve is installed upstream of the valve.

Scour valve.

Valves placed to enable removal/replacement of meter in exceptional circumstances.

Pressure release valve upstream of all isolating valves.

 Pressure cut out switch with manual control and pressure cut out switch with 1 to 2 hour timed reset in auto control (if electrically operated).

Delivery pressure gauge.

- Low water level in borehole cut out relay with manual control and low water level in borehole cut out relay with 1 to 2 hr. timed reset in auto control (if electrically operated).
- 3. Recovery Test:

Immediately after the pump is turned off after the pumping test, start measuring water levels. Measure Recovery until:

Water levels recover to less than 5 % of the total drawdown during the constant discharge test

At least three readings taken in succession are identical

A time equal to the total time taken for the Constant Discharge Test has elapsed

The data that needs to be collected includes:

- Data and time at commencement of Test ø
- The Static Water level at the start of the test

The depth of the borehole

The distance from the borehole to observation boreholes (if applicable)

Pump installation depth

Water strike depths (if known from drilling/landowner)

Borehole diameter

Rainfall (if it rains during the test)

Drawdown of the water level

Rate of discharge (for Steps and constant Tests)

- Attached spreadsheets show measurement intervals and required info.
- Draw the graph as to form part of the report

Borchole maintenance

The life of a production well will be limited unless it is constructed in a manner which permits both, a high initial efficiency and the possibility of periodical redevelopment, and only if it is pumped at the proper design rate. Some production wells under continuous heavy pumping eventually become partially clogged. With the use of appropriate materials and with careful maintenance, a borehole may be productive for 50 years or more. Well production may decline as a response to:

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i) Lowering of water table levels;

ii) Inefficient pump operation caused by worn, corroded or plugged parts;

ili) Deposits of scale, corrosion products or micro-organism growth on the screens and casing;

iv) Clogging of the screens by mud, silt or sand.

Well maintenance and rehabilitation actions help in recovering lost production if the decline is due to any of the last three causes. As important as assessing specific capacities and water levels and drawdowns in a new well, continuous data collection should be a normal action when operating water supply wells in order to compile their operating history.

By comparison of such data, collected over a period of time, it is possible to detect a loss of

production efficiency and, in many cases, to determine the cause of such loss.

With this forewarning, repair and maintenance work can be accomplished at opportune times and complete breakdowns avoided.

Most groundwaters are only mildly corrosive, if at all; corrosion may be offset by using protective coatings or corrosion resistant materials for the screens and casing.

- Incrustation results from the deposit of extraneous material in and around the screen openings and is mainly made up of Calcium, Magnesium, Sodium, Manganese or Iron bicarbonates or sulfates; silt and clays may add to the problem as do some "iron bacteria" or "slime forming" micro-organisms.
- When a well is being pumped the pressure around it (static head) is reduced as an effect of the drawdown; water velocity is increased in the immediate vicinity of the well and carbon dioxide may be released as gas; water loses part of its ability to carry salts in solution and

therefore minerals such as Iron hydroxide or Calcium and Magnesium carbonates are

Serious mineral deposition will occur at the top of screens which are exposed to the air due to

overpumping.

Slime production by iron bacteria is a result of the life cycle of these organisms, which live in groundwater by feeding on ammonia, methane and carbon dioxide; through their metabolism iron is changed to insoluble salts thus augmenting incrustation.

Although there is no wholly effective safeguard against incrustation or corrosion, their effects can be retarded by periodic cleaning of the wells, by installing screens with maximum

possible inlet areas to reduce water velocities and by reducing pumping rates.

Once a well falls victim to incrustation or corrosion problems it needs to be rehabilitated or treated by mechanical, chemical or other means (surging, blasting, hydrofracturing, etc.) to

recover its lost production capacity.

No single treatment is suitable for all wells: as it is usually difficult (if not impossible) to pull the screens to the surface to manually clean them, the most widely used method of well rehabilitation is to treat the screens and water yielding part of the aquifer with acid or other chemicals without pulling the screens and producing mechanical agitation within the well by surging (moving water back and forth through the screen openings with a piston or, sometimes with compressed air or dry ice).

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
140.	BILL NO.1					
	ANNUAL SERVICE OF A BOREHOLE AT NOKWEJA CLINIC)					
1.	 Submersible pump and motor Removal of sludge Check and loose bolts and nuts on the submersible pump and tighten them. Check the condition of the safety rope and the cable that is feeding the pump (all loose connection to be tightened). Note: the pump need to removed and re-installed from the borehole 		01.			
2.	Check the functioning including rust of float or ball valves, gate valves,	item	01.			
3.	Check water leaks on the HDPE pipe from the borehole to the tank	item	01.		1	
4.	Check the water level and provide the suitable report	item	01.		3	
5.	Collect water samples and carry out water quality analysis	no.	01.			
6.	Check the borehole casing (provide the report)	item	01.			
7.	Electrical check-up using the attached schedule for Electrical	item	01.			
	Carried to final summary Annual Service of a borehole at Nokweja Clinic)				R	

ITUTION: N			
	lokweja Clinic)	and the second s	
OF SERV	ICE: Borehole pump control panel		
EDULE FOI	R: Electrical		
QUENCY: A	Annual		
M INSTRU	UCTION	СНЕСК	COMMENTS
ıal			
Contro	l panel		
Blow or	ut panel. (Do not use compressed air)		
Check t	ightness of all connections (wires)		
Replace	e defective indicator lamps in the panel		
Replac	e defective fuses in the panel.	,	
:			
ne:			
nature :			
Blow of Check to Replace Replace	at panel. (Do not use compressed air) ightness of all connections (wires) defective indicator lamps in the panel defective fuses in the panel.		

Item No	Description	Page No	Amount
	<u>Final summary</u>		
1.	Annual Service of a borehole at Nokweja Clinic).	10.	
	Total		R

The following documents must be returned with the quotation:

CIDB Registration certificate under CE

Valid Tax Clearance

COMPILED BY: C.B. Ngcobo CHIEF WORKS INSPECTOR AT HARRY SWALA HEALTH DISTRICT

CHECKED BY: B.J ZINDELA GOL A 69/22 DISTRICT ENGINEER AT HARRY GWALA HEALTH DISTRICT

IMPORTANT

THIS FORM IS ONLY TO BE INCLUDED AND COMPLETED WHEN APPLICABLE TO THE QUOTATION.

OFFICIAL BRIEFING SESSION / SITE INSPECTION CERTIFICATE

Site/building/institution involved:	NOKWEJA CLINIC.
Quotation No.:	ZNQ –
Service:	SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.
******	· **********
	OF (STATE NAME OF TENDERER) VISITED AND INSPECTED THE SITE ON
) AND IS THEREFORE FAMILIAR WITH THE CIRCUMSTANCES
AND THE SCOPE OF THE SERV	
	,
SIGNATURE OF TENDERER	OR AUTHORISED REPRESENTATIVE
DATE :	······································
SIGNATURE OF DEPARTME	 NTAL REPRESENTATIVE
DEPARTMENTAL STAMP:	
DATE :	



Physical Address: 111 main road ixopo 3276

Tel: 039 8348271Fax: 039 8341746 Email: cyprian.ngcobo@kznhealth.gov.za www.kznhealth.gov.za

PROJECT: SERVICE OF A BOREHOLE AT NOKWEJA CLINIC.

CRITERIA	POINT ALLOCATION	CONTRACTOR POINTS OBTAINED	COMMENTS
One verifiable order of similar work with completion certificates.	10.		
Director /shareholder with relevant qualifications in the construction industry or the qualification of the Artisan who is going to execute the job. He / She has to be present on site during construction work	30.		
Attach, the letter of good standing	10.		
Attach, active CIDB	10.		
Attach, EPWP attendance register and payment certificate.	10.		·
Locality 0 to100 km = 20 points 101 to 300km 10 points	30.		
Total points	100		

Minimum points required is 50

PROVINCE OF KWAZULU-NATAL

DEPARTMENT OF HEALTH

ZNQ -

JOLIVET CLINIC - SERVICE OF A BOREHOLE AT JOLIVET CLINIC.

1.1 SCOPE OF CONTRACT

This Contract is for the execution of the project indicated above.

1.2 CONTRACT DRAWINGS

No drawings

1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES

1.3.1 PERIOD OF CONTRACT

One (01) Week as the Contract Period for the completion of the Work from date of Site handover.

1.3.2 CONTRACT GUARANTEE:

The Successful Bidder will **NOT** be required to submit a contract guarantee.

1.3.3 GUARANTEE PERIOD

The guarantee period for the completion of the Structural work and all materials must be a minimum of <u>Three (3) Calendar Months</u> from the date of first delivery.

1.3.4 SITE AND MODE OF PROCEDURE

The work contained in this contract will be carried out on the site of the existing at **Jolivet Clinic**.

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance. Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder. The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-

Natal and can be obtained on request.

1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNO -

JOLIVET CLINIC – SERVICE OF A BOREHOLE AT JOLIVET CLINIC.

TECHNICAL SPECIFICATIONS

- TECHNICAL SPECIFICATION 2.
- **GENERAL** 2.1

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

Standard Preambles 2.2

This is available from the department on request.

Health and Safety Specification 2.3

Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.

Grading: 1 CE and above

CIDB COMPLIANCE

Amendments: Functionality in different contracting strategies in line with regulations 4.3.3 of the CIDB regulations, where functionality is evaluated, at least three Persons 2.4 who are fully conversant with the Technical aspects of the scope of works shall undertake such evaluation.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

JOLIVET CLINIC - SERVICE OF A BOREHOLE AT JOLIVET CLINIC.

3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

- 3.1. The work comprises of
 - (a) Service of a borehole.

ROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

JOLIVET CLINIC - SERVICE OF A BOREHOLE AT JOLIVET CLINIC.

SCHEDULE OF RATES

4.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

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- Contractors to have their own water and electricity.
- No Contractor will be allowed to sleep on site.
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BOREHOLE DEVELOPMENT STEPS

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The hydrogeological services required during project implementation are as follows:

- Assessment of existing groundwater sources. This may require the test pumping of existing boreholes, rehabilitation or re-drilling of boreholes, chemical analysis of water samples from existing boreholes and an examination of documentation relating to the reliability and sustained discharge rate of existing boreholes.
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Borehole pump testing. The pump testing contractor is required to test drilled boreholes. The type of borehole test methods required include:

Slug Test
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- The rest and pumping water levels in a borehole may vary considerably during drought and above average rainfall sequences. Choice of type of borehole pumping plant must take this into account.
- The ability of the pumping plant to commence operation under the full static head conditions of the pump unit.

The ability of the pump to start operation with the riser pipe empty.

The level at which the pumping unit has to be placed in the borehole must be as specified by the hydrogeologist or based on reliable information known to the engineer should a hydrogeologist not be available.

2 BOREHOLE MONITORING AND OTHER EQUIPMENT

All boreholes and borehole pumping plant must be provided with equipment to monitor pump, borehole and aquifer performance. The main components required are:

- Water meters
- Hour meters
- Water level depth measuring devices —a conduit pipe (20-25mm diameter) next to the riser in the borehole through which a measuring cable can be lowered is preferred; however an electrical transducer or pressure pipe is an alternative.
- Operational equipment

The following operational equipment is required:

Non return valve, to prevent backflow into borehole.

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Valves placed to enable removal/replacement of meter in exceptional circumstances.

Pressure release valve upstream of all isolating valves.

 Pressure cut out switch with manual control and pressure cut out switch with 1 to 2 hour timed reset in auto control (if electrically operated).

Delivery pressure gauge.

- Low water level in borehole cut out relay with manual control and low water level in borehole cut out relay with 1 to 2 hr. timed reset in auto control (if electrically operated).
- 3. Recovery Test:

Immediately after the pump is turned off after the pumping test, start measuring water levels. Measure Recovery until:

Water levels recover to less than 5 % of the total drawdown during the constant discharge test

At least three readings taken in succession are identical

A time equal to the total time taken for the Constant Discharge Test has elapsed

The data that needs to be collected includes:

Data and time at commencement of Test

The Static Water level at the start of the test

The depth of the borehole

The distance from the borehole to observation boreholes (if applicable)

Pump installation depth

Water strike depths (if known from drilling/landowner)

Borchole diameter

Rainfall (if it rains during the test)

Drawdown of the water level

Rate of discharge (for Steps and constant Tests)

Attached spreadsheets show measurement intervals and required info.

Draw the graph as to form part of the report

Borchole maintenance 4.

The life of a production well will be limited unless it is constructed in a manner which permits both, a high initial efficiency and the possibility of periodical redevelopment, and only if it is pumped at the proper design rate. Some production wells under continuous heavy pumping eventually become partially clogged. With the use of appropriate materials and with careful maintenance, a borehole may be productive for 50 years or more. Well production may decline as a response to:

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ii) Inefficient pump operation caused by worn, corroded or plugged parts;

ili) Deposits of scale, convosion products or micro-organism growth on the screens and casing;

; 4:

iv) Clogging of the screens by mud, silt or sand.

Well maintenance and rehabilitation actions help in recovering lost production if the decline is due to any of the last three causes. As important as assessing specific capacities and water levels and drawdowns in a new well, continuous data collection should be a normal action when operating water supply wells in order to compile their operating history.

By comparison of such data, collected over a period of time, it is possible to detect a loss of

production efficiency and, in many cases, to determine the cause of such loss.

With this forewarning, repair and maintenance work can be accomplished at opportune times and complete breakdowns avoided.

Most groundwaters are only mildly corrosive, if at all; corrosion may be offset by using

protective coatings or corrosion resistant materials for the screens and casing.

Incrustation results from the deposit of extraneous material in and around the screen openings and is mainly made up of Calcium, Magnesium, Sodium, Manganese or Iron bicarbonates or sulfates; silt and clays may add to the problem as do some "iron bacteria" or "slime forming" micro-organisms.

When a well is being pumped the pressure around it (static head) is reduced as an effect of the drawdown; water velocity is increased in the immediate vicinity of the well and carbon dioxide may be released as gas; water loses part of its ability to carry salts in solution and

therefore minerals such as Iron hydroxide or Calcium and Magnesium carbonates are deposited.

Serious mineral deposition will occur at the top of screens which are exposed to the air due to

overpumping.

Slime production by iron bacteria is a result of the life cycle of these organisms, which live in groundwater by feeding on ammonia, methane and carbon dioxide; through their metabolism iron is changed to insoluble salts thus augmenting incrustation.

Although there is no wholly effective safeguard against incrustation or corrosion, their effects can be retarded by periodic cleaning of the wells, by installing screens with maximum

possible inlet areas to reduce water velocities and by reducing pumping rates.

Once a well falls victim to incrustation or corrosion problems it needs to be rehabilitated or treated by mechanical, chemical or other means (surging, blasting, hydrofracturing, etc.) to

recover its lost production capacity.

No single treatment is suitable for all wells: as it is usually difficult (if not impossible) to pull the screens to the surface to manually clean them, the most widely used method of well rehabilitation is to treat the screens and water yielding part of the aquifer with acid or other chemicals without pulling the screens and producing mechanical agitation within the well by surging (moving water back and forth through the screen openings with a piston or, sometimes with compressed air or dry ice).

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ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1,00	BILL NO.1				
	ANNUAL SERVICE OF A BOREHOLE AT JOLIVET CLINIC				
1.	 Submersible pump and motor Removal of sludge Check and loose bolts and nuts on the submersible pump and tighten them. Check the condition of the safety rope and the cable that is feeding the pump (all loose connection to be tightened). Note: the pump need to removed and re-installed from the borehole 		01.		
2.	Check the functioning including rust of float or ball valves, gate valves,	item	01.		
3.	Check water leaks on the HDPE pipe from the borehole to the tank	item	01.		
4.	Check the water level and provide the suitable report	item	01.		
5.	Collect water samples and carry out water quality analysis	no.	01.		
6.	Check the borehole casing (provide the report)	item	01.	Ę	
7.	Electrical check-up using the attached schedule for Electrical	item	01.		
	Carried to final summary Annual Service of borehole at Jolivet Clinic				R

INSTITU	JTION: JOLIVET CLINIC			
TYPE O	F SERVICE: Borehole pump control panel			
SCHED	ULE FOR: Electrical			
FREQU	ENCY: Annual			
ITEM	INSTRUCTION	СНЕСК	COMMENTS	
Annual				
1.	Control panel			
1.1	Blow out panel. (Do not use compressed air)			
1.2	Check tightness of all connections (wires)			
1.3	Replace defective indicator lamps in the panel			
1.4	Replace defective fuses in the panel.			
Date:			e	
Name:			•	
Signatu	re:			

ltem No	Description	Page No	Amount
	<u>Final summary</u>		
1.	Annual Service of a borehole at Jolivet Clinic.	10.	
		1	AT THE TOTAL PROPERTY OF THE TOTAL PROPERTY
		· v	
š.	Total		R

The following documents must be returned with the quotation:

• CIDB Registration certificate under CE

Valid Tax Clearance

COMPILED BY: C.B. Ngcobo CHIEF WORKS INSPECTOR AT HARRY GWALA HEALTH DISTRICT

CHECKED BY: B.J ZINDELA BOLL 6/9/22 DISTRICT ENGINEER AT HARRY GWALA HEALTH DISTRIC

IMPORTANT

THIS FORM IS ONLY TO BE INCLUDED AND COMPLETED WHEN APPLICABLE TO THE QUOTATION.

OFFICIAL BRIEFING SESSION / SITE INSPECTION CERTIFICATE

Site/building/institution involved:	JOLIVET CLINIC.
Quotation No.:	ZNQ –
Service:	SERVICE OF A BOREHOLE AT JOLIVET CLINIC.
******	*********
	OF (STATE NAME OF TENDERER) VISITED AND INSPECTED THE SITE ON
) AND IS THEREFORE FAMILIAR WITH THE CIRCUMSTANCES
AND THE SCOPE OF THE SERV	
SIGNATURE OF TENDERER	OR AUTHORISED REPRESENTATIVE
TO A UTIFFE .	
DATE :	· · · · · · · · · · · · · · · · · · ·
•	
SIGNATURE OF DEPARTME	NTAL REPRESENTATIVE
DEPARTMENTAL STAMP:	
DATE :	



Physical Address: 111 main road ixopo 3276

Tel: 039 8348271Fax: 039 8341746 Email: cyprian.ngcobo@kznhealth.gov.za www.kznhealth.gov.za

PROJECT: SERVICE OF A BOREHOLE AT JOLIVET CLINIC.

CRITERIA	POINT ALLOCATION	CONTRACTOR POINTS OBTAINED	COMMENTS
One verifiable order of similar work with completion certificates.	10.		
Director /shareholder with relevant qualifications in the construction industry or the qualification of the Artisan who is going to execute the job. He / She has to be present on site during construction work	30.	,	
Attach, the letter of good standing	10.		
Attach, active CIDB	10.		
Attach, EPWP attendance register and payment certificate.	10.		·
Locality 0 to100 km = 20 points 101 to 300km 10 points	30.		
Total points	100		

Minimum points required is 50

PROVINCE OF KWAZULU-NATAL

DEPARTMENT OF HEALTH

ZNQ -

MNTUNGWANA CLINIC - SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC.

1.1 SCOPE OF CONTRACT

This Contract is for the execution of the project indicated above.

1.2 CONTRACT DRAWINGS

No drawings

1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES

1.3.1 PERIOD OF CONTRACT

One (01) Week as the Contract Period for the completion of the Work from date of Site handover.

1.3.2 CONTRACT GUARANTEE:

The Successful Bidder will **NOT** be required to submit a contract guarantee.

1.3.3 GUARANTEE PERIOD

The guarantee period for the completion of the Structural work and all materials must be a minimum of <u>Three (3) Calendar Months</u> from the date of first delivery.

1.3.4 SITE AND MODE OF PROCEDURE

The work contained in this contract will be carried out on the site of the existing at Mntungwana Clinic

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance. Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder. The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-

Natal and can be obtained on request.

1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

MNTUNGWANA CLINIC - SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC.

TECHNICAL SPECIFICATIONS

2. TECHNICAL SPECIFICATION

2.1 GENERAL

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

2.2 Standard Preambles

This is available from the department on request.

2.3 Health and Safety Specification

Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.

Grading: 1 CE and above

CIDB COMPLIANCE

2.4 Amendments: Functionality in different contracting strategies in line with regulations 4.3.3 of the CIDB regulations, where functionality is evaluated, at least three Persons who are fully conversant with the Technical aspects of the scope of works shall undertake such evaluation.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ-

MNTUNGWANA CLINIC - SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC.

3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

- 3.1. The work comprises of
 - (a) Service of a borehole.

ROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ-

MNTUNGWANA CLINIC - SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC.

SCHEDULE OF RATES

4.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

4.2 TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable to the current rate).

4.3 RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labor, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

4.4 CIDB grading ME or SO.

- Contractors to have their own water and electricity.
- No Contractor will be allowed to sleep on site.
- Contractors to comply with Health and Safety act for the duration of the contract.
- Contractor to have the qualified hydrologist.

PROPRIETARY ARTICLES:

All equipment and material used in this contract shall be that which is specified or other approved.

Borehoues

The objective of an efficient operation and maintenance of a water supply system is to provide safe drinking water as per designed quality and quantity, with adequate pressure at convenient location and time at competitive cost on a sustainable basis

Annual servicing of borehole Technical Specification

The most important legislation and polloy documents governing the development and operation of water services are:

Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

Water Services Act, 1997 (Act 108 of 1997).

National Water Act, 1998 (Act 36 of 1998)

Public Finance Management Act, 1999 (Act 1 of 1999)

Strategie Framework for Water Services, September 2003

White Paper on Sanitation, September 2001

Regulations under 89 of the Water Services Act, 1997

Regulations under \$10 of the Water Services Act, 1997

e Regulations under S 19 of the Water Services Act, 1997

Model Water Services Bylaws. Section 21(1) of the Water Services Act, 1997

'Guidelines For Human Settlements Planning and Design (Red Book). Obtainable from the CSIR.

BOREHOLE DEVELOPMENT STEPS

:

The hydrogeological services required during project implementation are as follows:

- & Assessment of existing groundwater sources. This may require the test pumping of existing boreholes, rehabilitation or re-drilling of boreholes, chemical analysis of water samples from existing boreholes and an examination of documentation relating to the reliability and sustained discharge rate of existing boreholes.
- Groundwater quality assessment. In areas with marginal water quality, testing of newly drilled boreholes or equipped existing boreholes should not commence prior to availability of chemical analysis results of TDS, NO3 and F.
- Borchole yield recommendations. Motorized borehole pumps are generally warranted only in instances where a discharge rate in excess of 0,51/s can be maintained for a continuous pumping period of eight hours or more per day. Borehole yields must always be determined on the basis of 24 hour per day pumping.
- Reporting. A technical report documenting all data and information is required on completion of investigations. The project hydrogeologist is required to ensure that data requirements from the hydrogeologist and contractors are documented on appropriate data recording forms and submitted to Department of Health KZN officials.

Borehole pump testing. The pump testing contractor is required to test drilled boreholes. The type of borehole test methods required include;

> Slug Test Calibration Discharge Test Stepped Discharge Test Constant Discharge Test Recovery Test

- The rest and pumping water levels in a borehole may vary considerably during drought and above average rainfall sequences. Choice of type of borehole pumping plant must take this into account.
- The ability of the pumping plant to commence operation under the full static head conditions of the pump unit.

The ability of the pump to start operation with the riser pipe empty.

The level at which the pumping unit has to be placed in the borehole must be as specified by the hydrogeologist or based on reliable information known to the engineer should a hydrogeologist not be available.

2 BOREHOLE MONITORING AND OTHER EQUIPMENT

All boreholes and borehole pumping plant must be provided with equipment to monitor pump, borehole and aquifer performance. The main components required are:

Water meters

Hoùr meters

- Water level depth measuring devices —a conduit pipe (20-25mm diameter), next to the riser in the boxehole through which a measuring cable can be lowered is preferred; however an electrical transducer or pressure pipe is an alternative.
- Operational equipment

The following operational equipment is required:

Non return valve, to prevent backflow into borehole.

Soluting valve, to prevent backflow into the borehole. Only allowed for positive displacement pumps if a pressure relief valve is installed upstream of the valve.

Scour valve.

Valves placed to enable removal/replacement of meter in exceptional circumstances.

Pressure release valve upstream of all isolating valves.

 Pressure cut out switch with manual control and pressure cut out switch with 1 to 2 hour timed reset in auto control (if electrically operated).

Delivery pressure gauge.

- Low water level in borehole cut out relay with manual control and low water level in borehole cut out relay with 1 to 2 hr. timed reset in auto control (if electrically operated).
- 3. Recovery Test:

Immediately after the pump is turned off after the pumping test, start measuring water levels. Measure Recovery until:

Water levels recover to less than 5 % of the total drawdown during the constant discharge test

At least three readings taken in succession are identical

A time equal to the total time taken for the Constant Discharge Test has elapsed

The data that needs to be collected includes:

Data and time at commencement of Test

The Static Water level at the start of the test

The depth of the borehole

The distance from the borehole to observation boreholes (if applicable)

Pump installation depth

Water strike depths (if known from drilling/landowner)

Borehole diameter

Rainfall (if it rains during the test)

Drawdown of the water level

Rate of discharge (for Steps and constant Tests)

Attached spreadsheets show measurement intervals and required info.

Draw the graph as to form part of the report

Borchole maintenance

The life of a production well will be limited unless it is constructed in a manner which permits both, a high initial efficiency and the possibility of periodical redevelopment, and only if it is pumped at the proper design rate. Some production wells under continuous heavy pumping eventually become partially clogged. With the use of appropriate materials and with careful maintenance, a borehole may be productive for 50 years or more. Well production may decline as a response to:

i) Lowering of water table levels;

ii) Inefficient pump operation caused by worn, corroded or plugged parts;

ili) Deposits of scale, corrosion products or micro-organism growth on the screens and casing;

; ;

iv) Clogging of the screens by mud, silt or sand.

Well maintenance and rehabilitation actions help in recovering lost production if the decline is due to any of the last three causes. As important as assessing specific capacities and water levels and drawdowns in a new well, continuous data collection should be a normal action when operating water supply wells in order to compile their operating history.

By comparison of such data, collected over a period of time, it is possible to detect a loss of

production efficiency and, in many cases, to determine the cause of such loss.

With this forewarning, repair and maintenance work can be accomplished at opportune times and complete breakdowns avoided.

Most groundwaters are only mildly corrosive, if at all; corrosion may be offset by using protective coatings or corrosion resistant materials for the screens and casing.

Incrustation results from the deposit of extraneous material in and around the screen openings and is mainly made up of Calcium, Magnesium, Sodium, Manganese or Iron bicarbonates or sulfates; silt and clays may add to the problem as do some "iron bacteria" or "slime forming"

micro-organisms.

When a well is being pumped the pressure around it (static head) is reduced as an effect of the drawdown; water velocity is increased in the immediate vicinity of the well and carbon dioxide may be released as gas; water loses part of its ability to carry salts in solution and

therefore minerals such as Iron hydroxide or Calcium and Magnesium carbonates are

Serious mineral deposition will occur at the top of screens which are exposed to the air due to

Slime production by iron bacteria is a result of the life cycle of these organisms, which live in groundwater by feeding on ammonia, methane and carbon dioxide; through their metabolism iron is changed to insoluble salts thus augmenting inorustation.

Although there is no wholly effective safeguard against incrustation or corrosion, their effects can be retarded by periodic cleaning of the wells, by installing screens with maximum

possible inlet areas to reduce water velocities and by reducing pumping rates,

Once a well falls victim to incrustation or corrosion problems it needs to be rehabilitated or treated by mechanical, chemical or other means (surging, blasting, hydrofracturing, etc.) to

recover its lost production capacity.

No single treatment is suitable for all wells: as it is usually difficult (if not impossible) to pull the screens to the surface to manually clean them, the most widely used method of well rehabilitation is to treat the screens and water yielding part of the aquifer with acid or other chemicals without pulling the screens and producing mechanical agitation within the well by surging (moving water back and forth through the screen openings with a piston or, sometimes with compressed air or dry ice).

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AWOUNT	ļ
140.	BILL NO.1					
	ANNUAL SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC					
1.	 Submersible pump and motor Removal of sludge Check and loose bolts and nuts on the submersible pump and tighten them. Check the condition of the safety rope and the cable that is feeding the pump (all loose connection to be tightened). Note: the pump need to removed and re-installed from the borehole 		01.			
2.	Check the functioning including rust of float or ball valves, gate valves,	item	01.			
3.	Check water leaks on the HDPE pipe from the borehole to the tank	item	01.			
4.	Check the water level and provide the suitable report	item	01.			
5.	Collect water samples and carry out water quality analysis	no.	01.			
6.	Check the borehole casing (provide the report)	item	01.			
7.	Electrical check-up using the attached schedule for Electrical	item	01.			
	Carried to Final Summary Annual Service of a borehole at Mntungwana Clinic				R	

INSTITU	UTION: Mntungwana Clinic			_
TYPE C	OF SERVICE: Borehole pump control panel			
SCHED	OULE FOR: Electrical			
FREQU	JENCY: Annual			
ITEM	INSTRUCTION	СНЕСК	COMMENTS	
Annual				
1.	Control panel			
1.1	Blow out panel. (Do not use compressed air)			
1.2	Check tightness of all connections (wires)			
1.3	Replace defective indicator lamps in the panel			
1.4	Replace defective fuses in the panel.			
Date:				{(:::::)}.
Name :				
Signate	ure:		•	

Item No	Description	Page No	Amount
	<u>Final summary</u>		
1.	Annual Service of a borehole at Mntungwana Clinic.	10.	
			i i
	Total		R

The following documents must be returned with the quotation:

CIDB Registration certificate under CE

Valid Tax Clearance

COMPILED BY: C.B. Ngcobo Church Chief WORKS INSPECTOR AT HARRY GWALA HEALTH DISTRICT

CHECKED BY: B.J ZINDELA 6/9/22
DISTRICT ENGINEER AT HARRY GWALA HEALTH DISTRICT



Physical Address: 111 main road ixopo 3276

Tel: 039 8348271Fax: 039 8341746 Email: cyprian.ngcobo@kznhealth.gov.za www.kznhealth.gov.za

PROJECT: SERVICE OF A BOREHOLE AT MNTUNGWANA CLINIC.

CRITERIA	POINT ALLOCATION	CONTRACTOR POINTS OBTAINED	COMMENTS
One verifiable order of similar work with completion certificates.	10.		
Director /shareholder with relevant qualifications in the construction industry or the qualification of the Artisan who is going to execute the job. He / She has to be present on site during construction work	30.		
Attach, the letter of good standing	10.		
Attach, active CIDB	10.		
Attach, EPWP attendance register and payment certificate.	10.		
Locality 0 to100 km = 20 points 101 to 300km 10 points	30.		
Total points	100		

Minimum points required is 50

PROVINCE OF KWAZULU-NATAL

DEPARTMENT OF HEALTH

ZNQ -

MASHUMI CLINIC - SERVICE OF A BOREHOLE AT MASHUMI CLINIC.

1.1 SCOPE OF CONTRACT

This Contract is for the execution of the project indicated above.

1.2 CONTRACT DRAWINGS

No drawings

1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES

1.3.1 PERIOD OF CONTRACT

One (01) Week as the Contract Period for the completion of the Work from date of Site handover.

1.3.2 CONTRACT GUARANTEE:

The Successful Bidder will **NOT** be required to submit a contract guarantee.

1.3.3 GUARANTEE PERIOD

The guarantee period for the completion of the Structural work and all materials must be a minimum of <u>Three (3) Calendar Months</u> from the date of first delivery.

1.3.4 SITE AND MODE OF PROCEDURE

The work contained in this contract will be carried out on the site of the existing at Mashumi Clinic

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance. Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder. The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-Natal and can be obtained on request.

1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

MASHUMI CLINIC - SERVICE OF A BOREHOLE AT MASHUMI CLINIC.

TECHNICAL SPECIFICATIONS

2. TECHNICAL SPECIFICATION

2.1 GENERAL

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

2.2 Standard Preambles

This is available from the department on request.

2.3 Health and Safety Specification

Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.

Grading: 1CE and above

CIDB COMPLIANCE

2.4 Amendments: Functionality in different contracting strategies in line with regulations 4.3.3 of the CIDB regulations, where functionality is evaluated, at least three Persons who are fully conversant with the Technical aspects of the scope of works shall undertake such evaluation.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

MASHUMI CLINIC - SERVICE OF A BOREHOLE AT MASHUMI CLINIC.

3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

- **3.1.** The work comprises of
 - (a) Service of a borehole.

ROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ --

MASHUMI CLINIC - SERVICE OF A BOREHOLE AT MASHUMI CLINIC.

SCHEDULE OF RATES

4.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

4.2 TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable to the current rate).

4.3 RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labor, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

4.4 CIDB grading ME or SO.

- Contractors to have their own water and electricity.
- No Contractor will be allowed to sleep on site.
- Contractors to comply with Health and Safety act for the duration of the contract.
- Contractor to have the qualified hydrologist.

PROPRIETARY ARTICLES:

All equipment and material used in this contract shall be that which is specified or other approved.

PART

The objective of an efficient operation and maintenance of a water supply system is to provide safe drinking water as per designed quality and quantity, with adequate pressure at convenient location and time at competitive cost on a sustainable basis

Annual servicing of borehole Technical Specification

The most important legislation and polloy documents governing the development and operation of water services are:

Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

Water Services Act, 1997 (Act 108 of 1997)

National Water Act, 1998 (Act 36 of 1998)

Public Finance Management Act, 1999 (Act 1 of 1999)

Strategie Framework for Water Services, September 2003

White Paper on Sanitation, September 2001

e Regulations under \$9 of the Water Services Act, 1997

e Regulations under S10 of the Water Services Act, 1997

e. Regulations under S 19 of the Water Services Act, 1997

Model Water Services Bylaws. Section 21(1) of the Water Services Act, 1997

Guidelines For Human Settlements Planning and Design (Red Book). Obtainable from the CSIR.

BOREHOLE DEVELOPMENT STEPS

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The hydrogeological services required during project implementation are as follows:

Assessment of existing groundwater sources. This may require the test pumping of existing boreholes, rehabilitation or re-drilling of boreholes, chemical analysis of water samples from existing boreholes and an examination of documentation relating to the reliability and sustained discharge rate of existing boreholes.

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- Groundwater quality assessment. In areas with marginal water quality, testing of newly drilled boreholes or equipped existing boreholes should not commence prior to availability of chemical analysis results of TDS, NO₃ and F.
- Borehole yield recommendations. Motorized borehole pumps are generally warranted only in instances where a discharge rate in excess of 0,51/s can be maintained for a continuous pumping period of eight hours or more per day. Borehole yields must always be determined on the basis of 24 hour per day pumping.
- Reporting. A technical report documenting all data and information is required on completion of investigations. The project hydrogeologist is required to ensure that data requirements from the hydrogeologist and contractors are documented on appropriate data recording forms and submitted to Department of Health KZN officials.

• Borehole pump testing. The pump testing contractor is required to test drilled boreholes. The type of borehole test methods required include:

Slug Test Calibration Discharge Test Stepped Discharge Test

Constant Discharge Test

Recovery Test

- The rest and pumping water levels in a borehole may vary considerably during drought and above average rainfall sequences. Choice of type of borehole pumping plant must take this into account.
- The ability of the pumping plant to commence operation under the full static head conditions of the pump unit.

The ability of the pump to start operation with the riser pipe empty.

The level at which the pumping unit has to be placed in the borehole must be as specified by the hydrogeologist or based on reliable information known to the engineer should a hydrogeologist not be available.

2 BOREHOLE WONITORING AND OTHER EQUIPMENT

All boreholes and borehole pumping plant must be provided with equipment to monitor pump, borehole and aquifer performance. The main components required are:

Water meters

Hour meters

- Water level depth measuring devices—a conduit pipe (20-25mm diameter) next to the riser in the borehole through which a measuring cable can be lowered is preferred; however an electrical transducer or pressure pipe is an alternative.
- Operational equipment

The following operational equipment is required:

Non return valve, to prevent backflow into borehole.

Isolating valve, to prevent backflow into the borehole. Only allowed for positive displacement pumps if a pressure relief valve is installed upstream of the valve.

Scour valve.

Valves placed to enable removal/replacement of meter in exceptional circumstances.

Pressure release valve upstream of all isolating valves.

 Pressure cut out switch with manual control and pressure cut out switch with 1 to 2 hour timed reset in auto control (if electrically operated).

Delivery pressure gauge.

- Low water level in borehole cut out relay with manual control and low water level in borehole cut out relay with 1 to 2 hr. timed reset in auto control (if electrically operated).
- 3. Recovery Test:

Immediately after the pump is turned off after the pumping test, start measuring water levels. Measure Recovery until:

Water levels recover to less than 5 % of the total drawdown during the constant discharge test

At least three readings taken in succession are identical

A time equal to the total time taken for the Constant Discharge Test has elapsed

The data that needs to be collected includes:

Data and time at commencement of Test

The Static Water level at the start of the test

The depth of the borehole

The distance from the borehole to observation bereholes (if applicable)

Pump installation depth

Water strike depths (if known from drilling/landowner)

Borchole diameter

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Rainfall (if it rains during the test)

Drawdown of the water level

Rate of discharge (for Steps and constant Tests)

Attached spreadsheets show measurement intervals and required info.

Draw the graph as to form part of the report

Borchole maintenance

The life of a production well will be limited unless it is constructed in a manner which permits both, a high initial efficiency and the possibility of periodical redevelopment, and only if it is pumped at the proper design rate. Some production wells under continuous heavy pumping eventually become partially clogged. With the use of appropriate materials and with careful maintenance, a borehole may be productive for 50 years or more. Well production ... may decline as a response to:

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i) Lowering of water table levels;

ii) Inefficient pump operation caused by worn, corroded or plugged parts;

ili) Deposits of scale, corrosion products or micro-organism growth on the screens and casing;

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iv) Clogging of the screens by mud, silt or sand.

Well maintenance and rehabilitation actions help in recovering lost production if the decline is due to any of the last three causes. As important as assessing specific capacities and water levels and drawdowns in a new well, continuous data collection should be a normal action when operating water supply wells in order to compile their operating history.

By comparison of such data, collected over a period of time, it is possible to detect a loss of

production efficiency and, in many cases, to determine the cause of such loss.

With this forewarning, repair and maintenance work can be accomplished at opportune times and complete breakdowns avoided.

Most groundwaters are only mildly corrosive, if at all; corrosion may be offset by using protective coatings or corrosion resistant materials for the screens and casing.

Incrustation results from the deposit of extraneous material in and around the screen openings and is mainly made up of Calcium, Magnesium, Sodium, Manganese or Iron bicarbonates or sulfates; silt and clays may add to the problem as do some "iron bacteria" or "slime forming" micro-organisms.

When a well is being pumped the pressure around it (static head) is reduced as an effect of the drawdown; water velocity is increased in the immediate vicinity of the well and carbon dioxide may be released as gas; water loses part of its ability to carry salts in solution and

therefore minerals such as Iron hydroxide or Calcium and Magnesium carbonates are

Serious mineral deposition will occur at the top of screens which are exposed to the air due to

overpumping.

Slime production by iron bacteria is a result of the life cycle of these organisms, which live in groundwater by feeding on ammonia, methane and carbon dioxide; through their metabolism iron is changed to insoluble salts thus augmenting incrustation.

Although there is no wholly effective safeguard against incrustation or corrosion, their effects can be retarded by periodic cleaning of the wells, by installing screens with maximum

possible inlet areas to reduce water velocities and by reducing pumping rates.

Once a well fails victim to incrustation or corrosion problems it needs to be rehabilitated or treated by mechanical, chemical or other means (surging, blasting, hydrofracturing, etc.) to

recover its lost production capacity.

No single treatment is suitable for all wells: as it is usually difficult (if not impossible) to pull the screens to the surface to manually clean them, the most widely used method of well rehabilitation is to treat the screens and water yielding part of the aquifer with acid or other chemicals without pulling the screens and producing mechanical agitation within the well by surging (moving water back and forth through the screen openings with a piston or, sometimes with compressed air or dry ice).

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
140.	BILL NO.1		· · · · · · · · · · · · · · · · · · ·			
į	ANNUAL SERVICE OF A BOREHOLE AT MASHUMI CLINIC					
1.	 Submersible pump and motor Removal of sludge Check and loose bolts and nuts on the submersible pump and tighten them. Check the condition of the safety rope and the cable that is feeding the pump (all loose connection to be tightened). Note: the pump need to removed and re-installed from the borehole 		01.			The state of the s
2.	Check the functioning including rust of float or ball valves, gate valves,	item	01.			
3.	Check water leaks on the HDPE pipe from the borehole to the tank	item	01.			
4.	Check the water level and provide the suitable report	item	01.			
5.	Collect water samples and carry out water quality analysis	no.	01.			
6.	Check the borehole casing (provide the report)	item	01.			
7	Electrical check-up using the attached schedule for Electrical	item	01.			 }
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	Carried to final summary Annual Service of a borehole at Mashumi Clinic				R	

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TYPE C	OF SERVICE: Borehole pump control panel			<u></u> <u>-</u>
SCHED	OULE FOR: Electrical	· ·		
FREQU	JENCY: Annual			
ITEM	INSTRUCTION	СНЕСК	COMMENTS	
Annual				
1.	Control panel			200
1.1	Blow out panel. (Do not use compressed air)	·	. •	
1.2	Check tightness of all connections (wires)			
1.3	Replace defective indicator lamps in the panel			
1.4	Replace defective fuses in the panel.			
Date:				(
Name	;			
Name Signat				

Item No	Description	Page No	Amount
	Final summary		
1.	Annual Service of a borehole at Mashumi Clinic.	10.	
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	Total		R

The following documents must be returned with the quotation:

CIDB Registration certificate under CE

Valid Tax Clearance

COMPILED BY: C.B. Ngcobo CHIEF WORKS INSPECTOR AT HARRY WALA HEALTH DISTRICT

CHECKED BY: B.J ZINDELA POLL 6/9/22 DISTRICT ENGINEER AT HARRY GWALA HEALTH DISTRICT



Physical Address: 111 main road ixopo 3276

Tel: 039 8348271Fax: 039 8341746 Email: cyprian.ngcobo@kznhealth.gov.za www.kznhealth.gov.za

PROJECT: SERVICE OF A BOREHOLE AT MASHUMI CLINIC.

CRITERIA	POINT ALLOCATION	CONTRACTOR POINTS OBTAINED	COMMENTS
One verifiable order of similar work with completion certificates.	10.		
Director /shareholder with relevant qualifications in the construction industry or the qualification of the Artisan who is going to execute the job. He / She has to be present on site during construction work	30.		
Attach, the letter of good standing	10.		
Attach, active CIDB	10.		
Attach, EPWP attendance register and payment certificate.	10.		
Locality 0 to100 km = 20 points 101 to 300km 10 points	30.		
Total points	100		

Minimum points required is 50

PROVINCE OF KWAZULU-NATAL

DEPARTMENT OF HEALTH

ZNQ -

SANGCWABA CLINIC - SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.

1.1 SCOPE OF CONTRACT

This Contract is for the execution of the project indicated above.

1.2 CONTRACT DRAWINGS

No drawings

1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES

1.3.1 PERIOD OF CONTRACT

One (01) Week as the Contract Period for the completion of the Work from date of Site handover.

1.3.2 CONTRACT GUARANTEE:

The Successful Bidder will NOT be required to submit a contract guarantee.

1.3.3 GUARANTEE PERIOD

The guarantee period for the completion of the Structural work and all materials must be a minimum of <u>Three (3) Calendar Months</u> from the date of first delivery.

1.3.4 SITE AND MODE OF PROCEDURE

The work contained in this contract will be carried out on the site of the existing at Sangcwaba Clinic

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance. Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder. The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-Natal and can be obtained on request.

1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

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SANGCWABA CLINIC – SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATION 2.

GENERAL 2.1

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

Standard Preambles 2.2

This is available from the department on request.

Health and Safety Specification 2.3

Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.

Grading: 1 CE and above

CIDB COMPLIANCE

Amendments: Functionality in different contracting strategies in line with regulations 4.3.3 of the CIDB regulations, where functionality is evaluated, at least three Persons 2.4 who are fully conversant with the Technical aspects of the scope of works shall undertake such evaluation.

PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

SANGCWABA CLINIC - SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.

3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

- 3.1. The work comprises of
 - (a) Service of a borehole.

ROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH

ZNQ -

SANGCWABA CLINIC - SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.

SCHEDULE OF RATES

4.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

4.2 TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable to the current rate).

4.3 RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labor, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

4.4 CIDB grading ME or SO.

- Contractors to have their own water and electricity.
- No Contractor will be allowed to sleep on site.
- Contractors to comply with Health and Safety act for the duration of the contract.
- Contractor to have the qualified hydrologist.

PROPRIETARY ARTICLES:

All equipment and material used in this contract shall be that which is specified or other approved.

PARTY

The objective of an efficient operation and maintenance of a water supply system is to provide safe drinking water as per designed quality and quantity, with adequate pressure at convenient location and time at competitive cost on a sustainable basis

Annual servicing of borehole Technical Specification

The most important legislation and polloy documents governing the development and operation of water services are:

Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

Water Services Act, 1997 (Act 108 of 1997)

National Water Act, 1998 (Act 36 of 1998)

Public Finance Management Act, 1999 (Act 1 of 1999)

Strategic Framework for Water Services, September 2003

White Paper on Sanitation, September 2001

Regulations under 89 of the Water Services Act, 1997

Regulations under 810 of the Water Services Act, 1997

Regulations under S 19 of the Water Services Act, 1997

Model Water Services Bylaws. Section 21(1) of the Water Services Act, 1997

Guidelines For Human Settlements Planning and Design (Red Book). Obtainable from the CSIR.

1 BOREHOLE DEVELOPMENT STEPS

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The hydrogeological services required during project implementation are as follows:

- Assessment of existing groundwater sources. This may require the test pumping of existing boreholes, rehabilitation or re-drilling of boreholes, chemical analysis of water samples from existing boreholes and an examination of documentation relating to the reliability and sustained discharge rate of existing boreholes.
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Slug Test Calibration Discharge Test Stepped Discharge Test Constant Discharge Test Recovery Test

- The rest and pumping water levels in a borehole may vary considerably during drought and above average rainfall sequences. Choice of type of borehole pumping plant must take this into account.
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The level at which the pumping unit has to be placed in the borehole must be as specified by the hydrogeologist or based on reliable information known to the engineer should a hydrogeologist not be available.

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All boreholes and borehole pumping plant must be provided with equipment to monitor pump, borehole and aquifer performance. The main components required are:

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Hour meters

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Delivery pressure gauge.

- Low water level in borehole cut out relay with manual control and low water level in borehole cut out relay with 1 to 2 hr. timed reset in auto control (if electrically operated).
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Immediately after the pump is turned off after the pumping test, start measuring water levels. Measure Recovery until:

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Data and time at commencement of Test

The Static Water level at the start of the test

The depth of the borehole

The distance from the borehole to observation boreholes (if applicable)

Pump installation depth

Water strike depths (if known from drilling/landowner)

Borehole diameter

Rainfall (if it rains during the test)

Drawdown of the water level

Rate of discharge (for Steps and constant Tests)

Attached spreadsheets show measurement intervals and required info.

Draw the graph as to form part of the report

Borehole maintenance

The life of a production well will be limited unless it is constructed in a manner which permits both, a high initial efficiency and the possibility of periodical redevelopment, and only if it is pumped at the proper design rate. Some production wells under continuous heavy pumping eventually become partially clogged. With the use of appropriate materials and with careful maintenance, a borehole may be productive for 50 years or more. Well production may decline as a response to:

i) Lowering of water table levels;

- ii) Inefficient pump operation caused by worn, corroded or plugged parts;
- ili) Deposits of scale, corrosion products or micro-organism growth on the screens and casing;

1:

iv) Clogging of the screens by mud, silt or sand.

Well maintenance and rehabilitation actions help in recovering lost production if the decline is due to any of the last three causes. As important as assessing specific capacities and water levels and drawdowns in a new well, continuous data collection should be a normal action when operating water supply wells in order to compile their operating history.

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When a well is being pumped the pressure around it (static head) is reduced as an effect of the drawdown; water velocity is increased in the immediate vicinity of the well and carbon dioxide may be released as gas; water loses part of its ability to carry salts in solution and

therefore minerals such as Iron hydroxide or Calcium and Magnesium carbonates are deposited.

Serious mineral deposition will occur at the top of screens which are exposed to the air due to

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possible inlet areas to reduce water velocities and by reducing pumping rates.

Once a well falls victim to incrustation or corrosion problems it needs to be rehabilitated or treated by mechanical, chemical or other means (surging, blasting, hydrofracturing, etc.) to recover its lost production capacity.

No single treatment is suitable for all wells: as it is usually difficult (if not impossible) to pull the screens to the surface to manually clean them, the most widely used method of well rehabilitation is to treat the screens and water yielding part of the aquifer with acid or other chemicals without pulling the screens and producing mechanical agitation within the well by surging (moving water back and forth through the screen openings with a piston or,

sometimes with compressed air or dry ice).

ITEM NO.	DESCRIPTION	TINU	QTY	RATE	AMOUNT	
110.	BILL NO.1					
	ANNUAL SERVICE OF A BOREHOLE AT SANGCWABA CLINIC					
1.	 Submersible pump and motor Removal of sludge Check and loose bolts and nuts on the submersible pump and tighten them. Check the condition of the safety rope and the cable that is feeding the pump (all loose connection to be tightened). Note: the pump need to removed and re-installed from the borehole 		01.			
2.	Check the functioning including rust of float or ball valves, gate valves,	item	01.			
3.	Check water leaks on the HDPE pipe from the borehole to the tank	item	01.			
4.	Check the water level and provide the suitable report	item	01.			
5.	Collect water samples and carry out water quality analysis	no.	01.			
6.	Check the borehole casing (provide the report)	item	01.			
7.	Electrical check-up using the attached schedule for Electrical	item	01.			
	Carried to final summary Annual Service of a borehole at Sangcwaba Clinic				R	

INSTITUTION: Sangcwaba Clinic						
TYPE OF SERVICE: Borehole pump control panel						
SCHED	ULE FOR: Electrical					
FREQU	ENCY: Annual					
ITEM	INSTRUCTION	CHECK	COMMENTS			
Annual						
1.	Control panel					
1.1	Blow out panel. (Do not use compressed air)					
1.2	Check tightness of all connections (wires)					
1.3	Replace defective indicator lamps in the panel					
1.4	Replace defective fuses in the panel.					
Date :						
Name :						
Signatu	re ;					

Item No	Description	Page No	Amount
	<u>Final summary</u>		
1.	Annual Service of a borehole at Sangcwaba Clinic).	10.	
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The following documents must be returned with the quotation:

• CIDB Registration certificate under CE

Valid Tax Clearance

COMPILED BY: C.B. Ngcobo CHIEF WORKS INSPECTOR AT HARRY GWALA HEALTH DISTRIC

CHECKED BY: B.J ZINDELA C/9/22
DISTRICT ENGINEER AT HARRY GWALA HEALTH DISTRICT

IMPORTANT

THIS FORM IS ONLY TO BE INCLUDED AND COMPLETED WHEN APPLICABLE TO THE QUOTATION.

OFFICIAL BRIEFING SESSION / SITE INSPECTION CERTIFICATE

Site/building/institution involved:	SANGCWABA CLINIC.
Quotation No.:	ZNQ –
Service:	SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.
******	*************
	OF (STATE NAME OF TENDERER) VISITED AND INSPECTED THE SITE ON AND IS THEREFORE FAMILIAR WITH THE CIRCUMSTANCES
AND THE SCOPE OF THE SERV	/ICE TO BE RENDERED.
SIGNATURE OF TENDERER	OR AUTHORISED REPRESENTATIVE
DATE :	••••••••••••••••••••••••••••••••••••••
SIGNATURE OF DEPARTMENT	 NTAL REPRESENTATIVE
DEPARTMENTAL STAMP:	
DATE :	



Physical Address: 111 main road ixopo 3276

Tel: 039 8348271Fax: 039 8341746 Email: cyprian.ngcobo@kznhealth.gov.za www.kznhealth.gov.za

PROJECT: SERVICE OF A BOREHOLE AT SANGCWABA CLINIC.

CRITERIA	POINT ALLOCATION	CONTRACTOR POINTS OBTAINED	COMMENTS
One verifiable order of similar work with completion certificates.	10.		
Director /shareholder with relevant qualifications in the construction industry or the qualification of the Artisan who is going to execute the job. He / She has to be present on site during construction work	30.		
Attach, the letter of good standing	10.		
Attach, active CIDB	10.		
Attach, EPWP attendance register and payment certificate.	10.		
Locality 0 to 100 km = 20 points 101 to 300km 10 points	30.		
Total points	100		

Minimum points required is 50