Shaheed Benazir Bhutto
University of Veterinary and Animal Sciences Sakran
Chartered By Government of Sindh Act No. XV of 2012

No. SBBUVAS/P.D/230/2017

Dated: 17-03-2017

"SAY NO TO CORRUPTION"

The Director (A&F), Govt. of Sindh
Sindh Public Procurement Regulatory
Authority, (SPPRA), Services, General
Administration & Coordination Department, Karachi.

SUBJECT: REOI No.: SBBUVAS/ NIT/PD /03 /2017 & Dated 17/03/2017

Find enclosed herewith the documents of the Notice Inviting Tender for ADP scheme " Establishment of Shaheed Benazir Bhutto University of Veterinary and Animal Sciences Sakrand (Phase-1)" for uploading / hosting on SPPRA website before March 22, 2017.

Sr. No.	Description	Annexure
1.	Notice Inviting Tender	Annexure-1
2.	Notification of Procurement Committee	Annexure-2
3.	Notification of the Complaint Redressal Committee.	Annexure-3
4.	Bidding Documents	Annexure-4
5.	Annual Procurement Plan 2016-17	Annexure-5
6.	Hosting Charges an Amount Rs.2000/-	Annexure-6
7.	Soft Copy-USB	Annexure-7

Engr. Muhammad Khan Bhangwar
Project Director

Enclosed :- Hard Copy & Soft Copy

C.C to:

1. PS to Vice Chancellor, SBBUVAS Sakrand.
2. File.

2319 20-03-17

Shaheed Benazir Bhutto

University of Veterinary and Animal Sciences Sakrand

Chartered By Government of Sindh Act No. XV of 2012

Main Campus, Nawabshah Road, Sakrand Tel: 0244-323151, 0244-322150

Email: info@sbbuvas.edu.pk

No. & Dated: *SBBUVAS/ NIT /PD /03/2017 & 17/03/2017*

NOTICE INVITING TENDER

"SAY NO TO CORRUPTION"

Sealed item rate tenders are invited from the reputed and well experienced Contractors / Firms/Companies meeting eligibility criteria, viz. having registration with Income Tax and Sales Tax Departments and fulfilling eligibility criteria under the SPPRA Rules and meeting the requirement mentioned in bidding documents for the following works as per SPPRA Rules 2010 (amended -2013) :

Name of Work: Conducting /Performing Geotechnical Investigation of Land for Establishment Shaheed Benazir Bhutto University of Veterinary and Animal Sciences (SBBUVAS) - Sakrand				
Tender No. *SBBUVAS/ NIT /PD /03/2017*				
Date of issuance /purchase	Submission Date/Time(on/before)	Opening Date/Time	Venue of Bid Submission & Opening	Tender Fee
From 22-03-2017 to 06-04-2017	07-04-2017 11.00 A.M	07-04-2017 11:45 A.M	Office of P.D, SBBUVAS, Sakrand	2,000/-

The terms and conditions are given as under:-

1. The tender documents can be obtained from office of the Project Director or can be downloaded from SPPRA website i.e. http://www.pprasindh.gov.pk/activetenders.php and University website www.sbbuvas.edu.pk on the payment noted above (non-refundable) on any working day except the day of opening of tenders. The sealed tender on prescribed Performa along with 3% bid security of total offered bid amount in the form of Pay Order in favour of the Director Finance, SBBUVAS, Sakrand shall be submitted at the under mentioned address and will be opened on the same day according to above mentioned schedule in the same place, in presence of the Contractors / Firm /Company representatives, who so ever will be present at that time. In case of any disturbance, the tenders will be opened on next working day as per schedule.

2. Documentary evidence of similar assignment and experience in respect of Personal/Equipment with cost under taken over the past 5 years and certificate of satisfactory completion showing date of start and completion from employer. Interested bidders are required to submit the minimum mandatory information/document mentioned in bidding documents to meet the project requirement.

3. The Method of Procurement is Single Stage Single Envelop.

4. Any Conditional or un-accompanied of the Bid Security, partial and incomplete Bids will not be considered. Bid received after the prescribed time and dates shall be rejected.

5. Bid validity Period-60 days as per SPPRA.

6. The Procuring Agency reject any or all bids subject to relevant provision SPPA Rule 2010 (amended 2013) and may cancel the bidding process at any time prior to acceptance of a bid or proposal under rule – 25 of the said rule.

Project Director

Shaheed Benazir Bhutto University of Veterinary & Animal Sciences at Main Campus, Nawabshah Road, Sakrand, Sindh. Tel: 0244-323151, 0244-322152

Shaheed Benazir Bhutto
University of Veterinary and Animal Sciences Sakrand
District: Shaheed Benazirabad

Dr. Muhammad Hussain Shaikh
Registrar Ph. D

No. SBBUVAS/Reg. /309/2017
Dated: 21/02/2017
"SAY NO TO CORRUPTION"

NOTIFICATION

Pursuant to Rule – 7 of Sindh Public Procurement Rules, 2010 (Amended 2013), the Vice Chancellor SBBUVAS is pleased to constitute the Procurement Committee for under taking works of the ADP Scheme 514 **"Establishment Shaheed Benazir Bhutto University Of Veterinary And Animal Sciences Sakrand"** consisting of following to ensure that Public Procurement are conducted in a fair and transparent manner.

1. Prof. Dr. Fateh Muhammad Soomro — Chairman Deans Committee / Convener
2. Engr. Shabbir Momanai — Project Director QUEST / Member
3. Engr. Khizer Hayat — Project Director SBBU-SBA/ Member
4. Dr. Muhammad Hussain Shaikh — Director (P & D) / Member.
5. Engr. Muhammad Khan Bhangwar — Project Director, SBBUVAS / Secretary

TOR's of the Committee:

i. Prepare bidding documents.
ii. To open tenders.
iii. Carrying out technical as well as financial evaluation of the bids.
iv. Prepare evaluation report as provided in Rule 45.
v. To recommend the eligible tenders to Vice Chancellor for decision.
vi. Perform any other function ancillary and incidental to the above.

By the Order of Vice Chancellor

Dr. Muhammad Hussain Shaikh

C.C to:

1. PS to Vice Chancellor, SBBUVAS Sakrand.
2. File

Nawabshah Road, Sakrand, District Shaheed Benazirabad, Sindh. 67210
Phone No.0244-322154 |Fax No. 0244-322151, Email: info @ sbbuvas.edu.pk
Website: www.sbbuvas.edu.pk

Shaheed Benazir Bhutto
University of Veterinary and Animal Sciences Sakrand
District: Shaheed Benazirabad

Dr. Muhammad Hussain Shaikh
Registrar **Ph. D**

No. SBBUVAS/Reg. 3125 /2017
Dated: 21 / 02 / 2017
"SAY NO TO CORRUPTION".

NOTIFICATION

Pursuant to Rule – 31 of Sindh Public Procurement Rules, 2010 (Amended 2013), the Vice Chancellor SBBUVAS is pleased to constitute the Redressal Committee for Complaint Redressal of Grievances and settlement of disputes for the ADP Scheme 514 **"Establishment Shaheed Benazir Bhutto University Of Veterinary And Animal Sciences Sakrand"** consisting of following:

1.	Vice Chancellor SBBUVAS, Sakrand.	Chairman
2.	District Account Officer Shaheed Benazirabad Representative of Finance Department Government of Sindh	Member
3.	Director Finance. QUEST, Nawabshah	Member
4.	Director Works QUEST, Nawabshah	Member
5.	Assistant Executive Engineer SBBUVAS, Sakrand.	Member

TOR's of the Committee:

1. To receive grievance applications.
2. To resolve the grievance issue.

By the Order of Vice Chancellor

Dr. Muhammad Hussain Shaikh

C.C to:

1. PS to Vice Chancellor, SBBUVAS Sakrand.
2. File

Shaheed Benazir Bhutto
University of Veterinary and Animal Sciences Sakrand
Chartered By Government of Sindh Act No. XV of 2012

OFFICE OF THE PROJECT DIRECTOR SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY & ANIMAL SCIENCES AT SAKRAND

Bidding Documents
For
Geo Technical Investigation

TENDER DOCUMENT

- NOTICE INVITING TENDER
- INSTRUCTION TO BIDDERS
- BIDDING DATA
- CONDITIONS OF CONTRACT
- TECHNICAL SPECIFICATIONS FOR GEO TECH SOIL INVESTIGATION
- BILL OF QUANTITIES
- DRAWING SHOWING BORE HOLES

Main Consultants
For Structure, Infrastructure and Plumbing works:
Global Consulting Engineering Services
H.No.NE 122/F, St.No.7
Chaman Zar Colony
Rawalpindi
Ph:5765514

Associate Consultants for
Architectural, Electrical, HVAC and Fire Fighting Works:
Naqvi & Siddiquie
Architects – Engineers
1st Floor, Block No. 18
F-6, Super Market
Islamabad.
Ph: 2270268, 2876769
Fax: 2270815

Shaheed Benazir Bhutto

University of Veterinary and Animal Sciences Sakrand

Chartered By Government of Sindh Act No. XV of 2012

Main Campus, Nawabshah Road, Sakrand Tel: 0244-323151, 0244-322150

Email: info@sbbuvas.edu.pk

No. & Dated: *SBBUVAS/ NIT /PD /03/2017 & 17/03/2017*

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1. The tender documents can be obtained from office of the Project Director or can be downloaded from SPPRA website i.e. http://www.pprasindh.gov.pk/activetenders.php and University website www.sbbuvas.edu.pk on the payment noted above (non-refundable) on any working day except the day of opening of tenders. The sealed tender on prescribed Performa along with 3% bid security of total offered bid amount in the form of Pay Order in favour of the Director Finance, SBBUVAS, Sakrand shall be submitted at the under mentioned address and will be opened on the same day according to above mentioned schedule in the same place, in presence of the Contractors / Firm /Company representatives, who so ever will be present at that time. In case of any disturbance, the tenders will be opened on next working day as per schedule.

2. Documentary evidence of similar assignment and experience in respect of Personal/Equipment with cost under taken over the past 5 years and certificate of satisfactory completion showing date of start and completion from employer. Interested bidders are required to submit the minimum mandatory information/document mentioned in bidding documents to meet the project requirement.

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Project Director

Shaheed Benazir Bhutto University of Veterinary & Animal Sciences at Main Campus, Nawabshah Road, Sakrand, Sindh. Tel: 0244-323151, 0244-322152

TABLE OF CONTENTS

INSTRUCTIONS TO BIDDER

General Rules and Directions for the Guidance of Contractors.

This section of the bidding documents provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Agency. It also gives information on bid submission, opening and evaluation, and on the award of contract.

Matters governing the performance of the Contract or payments under the Contract, or matters affecting the risks, rights, and obligations of the parties under the Contract are included as Conditions of Contract and *Contract Data*.

The *Instructions to Bidders* will not be part of the Contract and will cease to have effect once the contract is signed.

1. All work proposed to be executed by contract are notified in a form of Notice Inviting Tender (NIT)/Invitation for Bid (IFB) hoisted on website of Authority and Procuring Agency and also in printed media where ever required as per rules.

   NIT states the description of the work, dates, time and place of issuing, submission, opening of bids, completion time, cost of bidding document and bid security either in lump sum or percentage of Estimated Cost/Bid Cost. The interested bidder must have valid NTN also.

2. Content of Bidding Documents includes but not limited to: Conditions of contract, Contract Data, specifications or its reference, Bill of Quantities containing description of items with scheduled/item rates with premium to be filled in form of percentage above/ below or on item rates to be quoted, Form of Agreement and drawings.

3. **Fixed Price Contracts:** The Bid prices and rates are fixed during currency of contract and under no circumstance shall any contractor be entitled to claim enhanced rates for any item in this contract.

4. The Procuring Agency shall have right of rejecting all or any of the tenders as per provisions of SPP Rules 2010.

5. **Conditional Offer**: Any person who submits a tender shall fill up the usual printed form stating at what percentage above or below on the rates specified in Bill of Quantities for items of work to be carried out: he is willing to undertake the work and also quote the rates for those items which are based on market rates. Only one rate of such percentage, on all the Scheduled Rates shall be framed. Tenders, which propose any alternative in the works specified in the said form of invitation to tender or in the time for carrying out the work, or which contain any other conditions, will be liable to rejection. No printed form of tender shall include a tender for more than

one work, but if contractor wish to tender for two or more works, they shall submit a separate tender for each.

The envelope containing the tender documents shall refer the name and number of the work.

6. All works shall be measured by standard instruments according to the rules.
7. Bidders shall provide evidence of their eligibility as and when requested by the Procuring Agency.
8. Any bid received by the Agency after the deadline for submission of bids shall be rejected and returned unopened to the bidder.
9. Prior to the detailed evaluation of bids, the Procuring Agency will determine whether the bidder fulfills all codal requirements of eligibility criteria given in the tender notice such as registration with tax authorities, registration with PEC (where applicable), turnover statement, experience statement, and any other condition mentioned in the NIT and bidding document. If the bidder does not fulfill any of these conditions, it shall not be evaluated further.
10. Bid without bid security of required amount and prescribed form shall be rejected.
11. The bidder are advised to visit and examine the Site of works and its surrounding and obtain all information that may be necessary for preparing the bid and entering into contract for works.
12. Bids determined to be substantially responsive shall be checked for any arithmetic errors. Arithmetical errors shall be rectified on the following basis;

    (A) **In case of schedule rates**, the amount of percentage quoted above or below will be checked and added or subtracted from amount of bill of quantities to arrive the final bid cost.

    (B) **In case of item rates,** .If there is a discrepancy between the unit rate and the total cost that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost will be corrected unless in the opinion of the Agency there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of total costs, the sum of the total costs shall prevail and the total bid amount shall be corrected.

    (C) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

BIDDING DATA

(This section should be filled in by the Engineer/Procuring Agency before issuance of the Bidding Documents).

(a) **Name of Procuring Agency:** Shaheed Benazir Bhutto University of Veterinary and Animal Sciences (SBBUVAS), Sakrand

(b) **Brief Description of Works** Geo-Technical Investigation

(c) **Procuring Agency's address:** Project Director, Shaheed Benazir Bhutto University of Veterinary and Animal Sciences (SBBUVAS), Sakrand.

(d) **Estimated Cost:** Approximately 2 million

(e) **Amount of Bid Security:** 3% of total offered bid amount

(f) **Period of Bid Validity:** 60 (Sixty days)

(g) **Security Deposit:-(including bid security):** 10% of the Contract Price

(h) **Percentage, if any, to be deducted from bills**
:_____

(i) **Deadline for Submission of Bids along with time :**
07-04-2017, 11.00 A.M

(j) **Venue, Time, and Date of Bid Opening:** Office of P.D, SBBUVAS, Sakrand on 07-04-2017, 11:45 A.M

(k) **Time for Completion from written order of commence:** 4-1/2 months

(L) **Liquidity damages:-** 0.05 of Bid cost per day of delay, but total not exceeding 10%).

(m) **Deposit Receipt No: Date: Amount:**(in words and figures)

CHECK LIST FOR SUBMISSION OF BID

(bidders shall be screened out from bidding process)

The Contractor is required to submit the following minimum mandatory documentary information with financial bid for evaluation. The Contractor should check the attachment along with proper index/separators before submission of the bid.

Sr. No.	Description	Yes	No.
1.	Complete Profile of Firm		
2.	Income Tax department FBR registration.		
3.	Sales Tax registration.		
4.	Net worth Rs.2 million. Audit report (Financial capability)/Tax return for the last three years.		
5.	Financial stability certificate issued from the recognized banks.		
6.	Related experience with no of minimum 5 Jobs (last three years).		
7.	Details of works of similar nature already completed and in hand with cost, and performance certificate from the employer 5 Nos (last five years).		
8.	Detail of equipment and machinery along with proof of its ownership		

1. Location of availability of aforementioned equipment along with proof of its ownership is required to be attached.
2. The Contractors meeting the above requirement will be eligible.
3. The PA will verify the above information during evaluation.

Note:

The Bidder while preparing his methodology for performing and executing the works and listing out Major Equipment and Machinery (required to complete the Works in the specified Time Schedule) in this Appendix shall consider the above mentioned minimum requirement of Construction Equipment, Machinery etc. to be brought/installed/erected at site.

CONDITIONS OF CONTRACT

Clause 1: Commencement & Completion Dates of work.

The contractor shall not enter upon or commence any portion or work except with the written authority and instructions of the Engineer-in-charge or of in subordinate-in-charge of the work. Failing such authority the contractor shall have no claim to ask for measurements of or payment for work.

The contractor shall proceed with the works with due expedition and without delay and complete the works in the time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall reckoned from the date on which the order to commence work is given to the contractor. And further to ensure good progress during the execution of the wok, contractor shall be bound, in all in which the time allowed for completion of any work exceeds one month, to achieve progress on the prorate basis.

Clause 2: Liquidated Damages.

The contractor shall pay liquidated damages to the Agency at the rate per day stated in the bidding data for each day that the completion date is later than the Intended completion date; the amount of liquidated damage paid by the contractor to the Agency shall not exceed 10 per cent of the contract price. Agency may deduct liquidated damages from payments due to the contractor. Payment of liquidated damages does not affect the contractor's liabilities.

Clause 3: Termination of the Contract.

(A) Procuring Agency may terminate the contract if either of the following conditions exits:-

(i) contractor causes a breach of any clause of the Contract;

(ii) the progress of any particular portion of the work is unsatisfactory and notice of 10 days has expired;

(iii) in the case of abandonment of the work owing to the serious illness or death of the contractor or any other cause.

(iv) contractor can also request for termination of contract if a payment certified by the Engineer is not paid to the contractor within 60 days of the date of the submission of the bill;

(B) The Procuring Agency has power to adopt any of the following courses as may deem fit:-

(i) to forfeit the security deposit available except conditions mentioned at A (iii) and (iv) above;

(ii) to finalize the work by measuring the work done by the contractor.

(C) In the event of any of the above courses being adopted by the Procuring Agency, the contractor shall have:-

(i) no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials, or entered into any engagements, or made any advances on account of, or with a view to the execution of the work or the performance of the contract,

(ii) however, the contractor can claim for the work done at site duly certified by the Engineer in writing regarding the performance of such work and has not been paid.
Procuring Agency/Engineer may invite fresh bids for remaining work.

Clause 4: Possession of the site and claims for compensation for delay.

The Engineer shall give possession of all parts of the site to the contractor. If possession of site is not given by the date stated in the contract data, no compensation shall be allowed for any delay caused in starting of the work on account of any acquisition of land, water standing in borrow pits/ compartments or in according sanction to estimates. In such case, either date of commencement will be changed or period of completion is to be extended accordingly.

Clause 5: Extension of Intended Completion Date.

The Procuring Agency either at its own initiatives before the date of completion or on desire of the contractor may extend the intended completion date, if an event (which hinders the execution of contract) occurs or a variation order is issued which makes it impossible to complete the work by the intended completion date for such period as he may think necessary or proper. The decision of the Engineer in

this matter shall be final; where time has been extended under this or any other clause of this agreement, the date for completion of the work shall be the date fixed by the order giving the extension or by the aggregate of all such orders, made under this agreement.
When time has been extended as aforesaid, it shall continue to be the essence of the contract and all clauses of the contract shall continue to be operative during the extended period.

Clause 6: Specifications.

The contractor shall execute the whole and every part of the work in the most substantial and work-man-like manner and both as regards materials and all other matters in strict accordance with the specifications lodged in the office of the Engineer and initialed by the parties, the said specification being a part of the contract. The contractor shall also confirm exactly, fully and faithfully to the designs, drawing, and instructions in writing relating to the work signed by the Engineer-in-charge and lodge in his office and to which the contractor shall be entitled to have access at such office or on the site of work for the purpose of inspection during office hours and the contractor shall, if he so requires, be entitled at his own expense to make or cause to be made copies of the specifications, and of all such designs, drawings, and instructions as aforesaid.

Clause 7: Payments.

(A) Interim/Running Bill.

A bill shall be submitted by the contractor as frequently as the progress of the work may justify for all work executed and not included in any previous bill at least once in a month and the Engineer-in-charge shall take or cause to be taken the requisite measurements for the purpose of having the same verified and the claim, as for as admissible, adjusted, if possible before the expiry of ten days from the presentation of the bill, at any time depute a subordinate to measure up the said work in the presence of the contractor or his authorized agent, whose countersignature to the measurement list will be sufficient to warrant and the Engineer-in-charge may prepare a bill from such list which shall be binding on the contractor in all respects.

The Engineer /Procuring Agency shall pass/certify the amount to be paid to the contractor, which he considers due and payable in respect thereof, subject to deduction of security deposit, advance payment if any made to him and taxes.
All such intermediate payment shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude the Engineer-in-charge from recoveries from final bill and rectification of defects and unsatisfactory items of works pointed out to him during defect liability period.

(B) The Final Bill.

A bill shall be submitted by the contractor within one month of the date fixed for the completion of the work otherwise Engineer-in-charge's certificate of the measurements and of the total amount payable for the works shall be final and binding on all parties.

Clause 8: Reduced Rates.

In cases where the items of work are not accepted as so completed, the Engineer-in-charge may make payment on account of such items at such reduced rates as he may consider reasonable in the preparation of final or on running account bills with reasons recorded in writing.

Clause 9: Issuance of Variation and Repeat Orders.

(A) Agency may issue a Variation Order for procurement of works, physical services from the original contractor to cover any increase or decrease in quantities, including the introduction of new work items that are either due to change of plans, design or alignment to suit actual field conditions, within the general scope and physical boundaries of the contract.

(B) Contractor shall not perform a variation until the Procuring Agency has authorized the variation in writing subject to the limit not exceeding the contract cost by of 15% on the same conditions in all respects on which he agreed to do them in the work, and at the same rates, as are specified in the tender for the main work. The contractor has no right to claim for

compensation by reason of alterations or curtailment of the work.

(C) In case the nature of the work in the variation does not correspond with items in the Bill of Quantities, the quotation by the contractor is to be in the form of new rates for the relevant items of work, and if the Engineer-in-charge is satisfied that the rate quoted is within the rate worked out by him on detailed rate analysis, and then only he shall allow him that rate after approval from higher authority.

(D) The time for the completion of the work shall be extended in the proportion that the additional work bear to the original contact work.

(E) In case of quantities of work executed result the Initial Contract Price to be exceeded by more than 15%, and then Engineer can adjust the rates for those quantities causing excess the cost of contract beyond 15% after approval of Engineer.

(F) **Repeat Order:** Any cumulative variation, beyond the 15% of initial contract amount, shall be subject of another contract to be tendered out if the works are separable from the original contract.

Clause10: Quality Control.

(A) **Identifying Defects:** If at any time before the security deposit is refunded to the contractor/during defect liability period mentioned in bid data, the Engineer-in-charge or his subordinate-in-charge of the work may instruct the contractor to uncover and test any part of the works which he considers may have a defect due to use of unsound materials or unskillful workmanship and the contractor has to carry out a test at his own cost irrespective of work already approved or paid.

(B) **Correction of Defects:** The contractor shall be bound forthwith to rectify or remove and reconstruct the work so specified in whole or in part, as the case may require. The contractor shall correct the notified defect within the Defects Correction Period mentioned in notice.

(C) **Uncorrected Defects:**

(i) In the case of any such failure, the Engineer-in-charge shall give the contractor at least 14 days notice of his intention to use a third party to correct a defect. He may

rectify or remove, and re-execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor.

Clause 11:

(A) **Inspection of Operations.** The Engineer and his subordinates, shall at all reasonable times have access to the site for supervision and inspection of works under or in course of execution in pursuance of the contract and the contractor shall afford every facility for and every assistance in obtaining the right to such access.

(B) **Dates for Inspection and Testing.** The Engineer shall give the contractor reasonable notice of the intention of the Engineer-in-charge or his subordinate to visit the work shall have been given to the contractor, then he either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose, orders given to the contractor's duly authorized agent shall be considered to have the same force an effect as if they had been given to the contractor himself.

Clause 12: Examination of work before covering up.

(A) No part of the works shall be covered up or put out of view/beyond the reach without giving notice of not less than five days to the Engineer whenever any such part of the works or foundations is or are ready or about to be ready for examination and the Engineer shall, without delay, unless he considers it unnecessary and advises the contractor accordingly, attend for the purpose of examining and measuring such part of the works or of examining such foundations;

(B) If any work is covered up or placed beyond the reach of measurement without such notice having been given, the same shall be uncovered at the contractor's expense, and in default thereof no payment or allowance shall be made for such work, or for the materials with which the same was executed.

Clause 13: Risks.

The contractor shall be responsible for all risks of loss of or damage to physical property or facilities or related services at the premises and of personal injury and death which arise during and in consequence of its performance of the contract. if any damage is caused while the work is in progress or become apparent within three months of the grant of the certificate of completion, final or otherwise, the contractor shall make good the same at his own expense, or in default the Engineer may cause the same to be made good by other workmen, and deduct the expenses from retention money lying with the Engineer.

Clause 14: Measures for prevention of fire and safety measures.

The contractor shall not set fire to any standing jungle, trees, bush-wood or grass without a written permit from the Engineer. When such permit is given, and also in all cases when destroying, cutting or uprooting trees, bush-wood, grass, etc by fire, the contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property. The contractor is responsible for the safety of all its activities including protection of the environment on and off the site. Compensation of all damage done intentionally or unintentionally on or off the site by the contractor's labour shall be paid by him.

Clause15: Sub-contracting. The contractor shall not subcontract the whole of the works, except where otherwise provided by the contract. The contractor shall not subcontract any part of the works without the prior consent of the Engineer. Any such consent shall not relieve the contractor from any liability or obligation under the contract and he shall be responsible for the acts, defaults and neglects of any subcontractor, his agents, servants or workmen as if these acts, defaults or neglects were those of the contractor, his agents' servants or workmen. The provisions of this contract shall apply to such subcontractor or his employees as if he or it were employees of the contractor.

Clause 16: Disputes. All disputes arising in connection with the present contract, and which cannot be amicably settled between the parties, the decision of the Superintending Engineer of the circle/officer/one grade higher to awarding authority shall be final, conclusive and binding on all parties to the contract upon all questions relating to the meaning of the specifications, designs drawings, and instructions, hereinbefore

mentioned and as to the quality of workmanship, or materials used on the work or as to any other questions, claim, right, matter, or thing whatsoever in any way arising out of, or relating to the contract design, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution, of failure to execute the same, whether arising, during the progress of the work, or after the completion or abandonment thereof.

Clause –17: Site Clearance. On completion of the work, the contractor shall be furnished with a certificate by the Engineer (hereinafter called the Engineer in-charge) of such completion, but neither such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed all temporary structures and materials brought at site either for use or for operation facilities including cleaning debris and dirt at the site. If the contractor fails to comply with the requirements of this clause then Engineer-in-charge, may at the expense of the contractor remove and dispose of the same as he thinks fit and shall deduct the amount of all expenses so incurred from the contractor's retention money. The contractor shall have no claim in respect of any surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Clause 18:Financial Assistance /Advance Payment.

(A) **Mobilization advance** is not allowed.

(B) **Secured Advance against materials brought at site.**

(i) Secured Advance may be permitted only against imperishable materials/quantities anticipated to be consumed/utilized on the work within a period of three months from the date of issue of secured advance and definitely not for full quantities of materials for the entire work/contract. The sum payable for such materials on site shall not exceed 75% of the market price of materials;

(ii) Recovery of Secured Advance paid to the contractor under the above provisions shall be affected from the monthly payments on actual consumption basis, but not later than period more than three months (even if unutilized).

Clause 19: Recovery as arrears of Land Revenue. Any sum due to the Government by the contractor shall be liable for recovery as arrears of Land Revenue.

Clause –20: Refund of Security Deposit/Retention Money. On completion of the whole of the works (a work should be considered as complete for the purpose of refund of security deposit to a contractor from the last date on which its final measurements are checked by a competent authority, if such check is necessary otherwise from the last date of recording the final measurements), the defects notice period has also passed and the Engineer has certified that all defects notified to the contractor before the end of this period have been corrected, the security deposit lodged by a contractor (in cash or recovered in installments from his bills) shall be refunded to him after the expiry of three months from the date on which the work is completed.

TECHNICAL SPECIFICATIONS
FOR
SUBSOIL INVESTIGATION

1. SCOPE OF WORK

1.1 Scope

The Contractor is required to carry out subsurface soil investigation including but not limited to boring, sampling, core drilling, field and laboratory testing. The location of drill holes shall be as shown in drawings or as directed by the Engineer.

1.2 Boring/Drilling

Investigations of sub-surface conditions at the site of the proposed land shall be as specified below:

- **Boreholes** — At locations shown on the drawings. From ground surface to 15 m in silt, Clay, sand or alluvial mixture 1.5 m into the rock wherever rock is encountered at upper horizon.
  (The approximate locations of boreholes are shown on the drawings. The actual locations will be established in the field by the Engineer prior to the start of work)
- **Standard penetration tests** — At every 1.5m interval or change of strata in alluvial soils except gravels, boulders.
- **Collection of undisturbed samples** — From cohesive soils or as directed by the Engineer's Representative.
- **Laboratory testing** — Tests as per the Bill of Quantities.
- **Consolidated Test etc.**

1.2. Introduction

The Project Director, Shaheed Benazir Bhutto University of Veterinary and Animal Sciences, Sakrand has invited the tender for Geotechnical Investigation to Establish the Shaheed Benazir Bhutto University of Veterinary and Animal Sciences, Sakrand The site plan shows the foot print of the proposed construction and the layout of the boreholes.

The proposed geotechnical investigations, which are the subject of the Contract, comprise the following:

a. Five 15 m deep boreholes at tentative locations shown on the site plan. The Engineer before commencement of the field work shall determine the exact locations.

b. Consolidation Test 2 Nos. Details on provided in BOQ.

1.3 Project Area

The project area at which the investigations are to be performed is at Sakrand, District Shaheed Benazirabad Sindh, Pakistan.

The site does not have water and electricity connections; the Contractor shall obtain water and electricity for his requirements from the offsite sources at his own expense.

2. ORDER OF WORK

The Engineer will determine the order in which the work is to be accomplished. The contractor shall furnish his detailed working proposal for approval before commencement.

3. SITE FACILITIES AND SET UP

3.1 The Contractor shall make his own arrangements for Electricity, water, housing of his personnel and storage of the equipment and supplies at the site.

3.2 The Contractor shall bring to site suitable plant and equipment capable of efficiently performing all the work and field tests. The plant shall be in satisfactory operating condition.

3.3 The Contractor shall furnish jars, tubes, boxes, bags and crates, meeting the requirements for storage of samples as specified elsewhere in these specifications.

4. CARE AND DELIVERY OF SAMPLES

4.1 The Contractor shall preserve and protect all samples from undue exposure to the weather. Descriptive labels and designations shall be written with indelible black marker on sample jars, tubes and boxes which should remain clearly legible until delivery of samples to the approved laboratory. The Contractor shall comply with instructions of the Engineer concerning the care, protection and labeling of the samples.

4.2 The Engineer shall inspect the soil samples and select those which are to be tested in the laboratory.

5. BILL OF QUANTITIES

5.1 The quantities shown in the "Bill of Quantities" are approximate. The payment shall be made on the basis of actual work performed according to Clause 19 "Measurement and Payment" of these specifications.

5.2 The rates and prices quoted by the Contractor are all inclusive of all expenses, charges, costs, taxes, insurance, tolls, taxes, overheads, profits.

6. DRILLERS AND SUPERVISORY STAFF

6.1 The Contractor shall deploy at site, experienced drillers and competent qualified Geologist and/or Soil Engineer and who shall conduct and supervise drilling operations, sampling, logging and in-situ testing.

6.2 The Contractor shall remove from the site any employee who, in the opinion of the Engineer, is inexperienced, and/or unqualified or otherwise undesirable.

7. MOBILIZATION

Mobilization shall consist of the delivery at the site of all plant, equipment, material and supplies including the drilling rigs with

sampling and test equipment to correctly and timely carryout the field tests and collect appropriate soil samples for laboratory testing.

The contractor shall assemble all plant and equipment in satisfactory working order and shall ensure the satisfactory storage at the site of all samples.

8. DRILLING

8.1 Drilling shall be done by rotary drilling or percussion boring methods. Continuous rock core samples shall be obtained by means of rotary drilling with double barrel bit.

8.2 Drilling techniques adopted shall be such that little disturbance is caused to the soil in boreholes where undisturbed samples are required. Water shall not be added to the boreholes in cohesive soils and silts.

8.3 The equipment used by the Contractor shall be subject to the approval of the Engineer.

8.4 In deep boring, casing sizes shall be selected such that telescoping of casing shall not prevent the carrying out of undisturbed sampling and in-situ testing. Casing shall not be driven in advance in the borehole, except when specifically approved by the Engineer.

8.5 Should alternating layers of rock and soil be found then the full depth of borehole shall be achieved by a combination of soft boring and sampling together with rock coring techniques.

8.6 The Contractor shall take care to ensure that the boreholes are vertical.

8.7 The Contractor shall only use equipment which is in good operating condition and shall replace all damaged and unsuitable equipment as instructed by the Engineer's Representative.

8.8 If a borehole is lost or abandoned by the Contractor before the required depth has been achieved the Contractor shall at his own expense commence a new borehole in such location as may be selected by the Engineer's representative and the borehole shall be drilled to the required depth.

9. FIELD TESTING AND SAMPLING

9.1 The Standard penetration Tests shall comply with ASTM D 1586. The test shall only be carried out with an automatic drop hammer which permits a 63.5 kg hammer to freely fall 0.76 meters without friction. The number of blows shall be recorded for each of three successive penetrations of 0.15 meters. Denoting first 0.15 meters of penetration as the seating drive, the test may be terminated where the blow count exceeds 50 exclusive of blows required to achieve the seating drive. If less than 0.3 meters is penetrated after the seating drive, the actual penetration achieved shall be recorded.

9.2 The bottom of borehole shall be cleaned of disturbed material before any testing begins. Standard Penetration Test shall be performed in the borehole at 1.5 meter intervals and at changes of strata, unless otherwise directed by the Engineer's Representative.

9.3 A solid cone penetration test to DIN 4094 (parts 1 and 2) shall be performed in coarse granular soils or very week rock where the use of a standard split-spoon is impractical. When drilling in granular soils below the ground water table the water level in the borehole shall be maintained at or a little above the ground water level to ensure a positive head to prevent blow-in of soil due to hydraulic pressure differences. Should such blow-in (boiling) occur due to unforeseen piezometric conditions no testing shall be carried out until the boiling stopped and the disturbed material is removed.

10. UNDISTURBED SAMPLES

10.1 The undisturbed samples shall be taken in cohesive soils from the boreholes at the depths designated by the Engineer's Representative during the execution of work. Care shall be taken to ensure that the borehole is thoroughly cleaned of cuttings and disturbed materials before any sampling begin.

10.2 Procedures recommended in ASTM D 1587 shall be followed in all undisturbed sampling operation.

10.3 A hydraulically activated tube sampler shall be used in soft clays and silts and the hydraulic pressure recorded at the instant of sampler penetration. A thin walled tube sampler may be used in medium stiff and firm to hard soils. Undisturbed samples shall be a minimum of 75 mm in diameter and a minimum of 400 mm in length.

10.4 If an undisturbed sample cannot be obtained in a cohesive soil or is lost on extraction, the borehole shall be cleaned out to the depth of penetration of the sampler and a new sample taken. This operation shall be repeated until a satisfactory sample is extracted.

10.5 The undisturbed sample obtained by thin walled tube sampler shall be cleaned out to a depth of about 38mm (1.5 inches) and provided with a seal of micro crystalline wax. A metal disc having a diameter slightly less than the inner diameter of the tube shall be inserted into the wax at a distance of 25 mm (1 inch) from the end of the soil sample. The wax plugs shall be flushed with ends of the tube and a final seal consisting of metal cap or tap shall be placed over the ends.

11. DISTURBED SAMPLE

11.1 Disturbed samples shall be taken from the cutting shoe of thin wall tube samplers, from split spoon samplers.

11.2 Where a solid cone is used instead of a split spoon sampler for the Standard Penetration Test and where an undisturbed sample is lost on extraction, a disturbed sample shall be taken when cleaning out the borehole at the depth of the test or sampler penetration.

12. LABELING OF SAMPLES

Tubes and crates for undisturbed samples shall be labeled "Do not Jar or Vibrate" and "Handle, Haul and Transport in a horizontal position". The tubes and crates shall contain a printed or type written label giving the following information.

Project .....
Location .....
Hole No .....
Date .....

Depth of Sample .....
Length of Sample .....
Description of Material .....
Remarks (if any) .....

13. HANDLING OF SAMPLES

13.1 All soil samples and rock cores shall become the property of the Employer and the Contractor shall be responsible for their storage and safe keeping.

13.2 All samples and cores shall be examined, described and labeled immediately upon recovery from the borehole. Labels shall include the borehole number sample number or core run, sample depth, starting and finishing depth of core runs and date.

13.3 Rock cores shall be wrapped in polythene and stored in correctly fitting core boxes packed with excelsior or other suitable material. Sections of rock core selected for laboratory testing shall be separately wrapped and waxed at the time of logging.

13.4 All samples and cores shall be kept in such a manner at the site and in the laboratory as to permit their convenient examination.

13.5 Samples shall be sheltered from the weather and protected from extremes of temperature and from solar radiation.

14. GROUND WATER OBSERVATIONS

14.1. Ground water when encountered shall be recorded in all the boreholes. If completing a bore takes more than one day, the ground water level shall be measured each day before starting work and in the evening after completing the borehole. All unusual water conditions and elevations at which such conditions are encountered shall be carefully observed by the Contractor and noted in the borelogs.

14.2. No separate payment shall be made for keeping the record of ground water levels in the boreholes as specified. The costs incurred by the Contractor (if any) shall be deemed to be included in the item rate for the subsoil investigation.

15. LOGS OF BOREHOLES

A continuous log of each borehole shall be completed by the Contractor in the field and shall be submitted in duplicate to Engineer within two days after each borehole is completed. The format of all logs shall be in accordance with AASHTO Manual Foundation Investigation 1978, Part V compiling information subject to the approval of the Engineer.

The logs shall include the following items:

i. Employer's Name and Project Title.
ii. Date and times of boring, drilling and excavation.
iii. Name of drilling and supervising engineer or geologist.
iv. Location of site.
v. Reference number of Borehole.
vi. Location and ground elevation of boreholes.
vii. Name, type and diameter of plant and boring tools.
viii. Type size diameters and depths of casing and types and size of drilling bit where applicable.
ix. Description and profile diagram of sub surface strata encountered and depths.
x. Depth at which sample were taken and type of sample and sampler.
xi. Depths at which standard penetration tests or other insitu tests were made and their results.
xii. Ground water observations and recorded levels.
xiii. Rate of borehole advance of rotary equipment, drilling fluid pressure and rotational speed where significant.
xiv. Depths of start and finish of all coring runs and core recovery from each run.
xv. Rock quality designation (R.Q.D.) from each run.
xvi. Times of removing and setting up rig.
xvii. Details of any standing time.

xviii. Weather conditions and other relevant remarks, such as evidence of loss of drilling fluid return, boiling, cavities, or unusually soft or hard strata.

16. PLATE LOAD TEST

Plate Load Tests shall be carried out at locations as shown on the drawing and/or as determined by the Engineer. The area where the tests are to be carried out shall be excavated to a depth of 7 m from the proposed ground floor level and the size of pits shall not be less than 2 m x 2 m. The bearing plates shall be 300mm in diameter and 25 mm in thickness. The load shall be applied in increments of 2.0 KN to a max[illegible] 20KN. The load may be in the form of a [illegible] hydraulic or mechanical jack ass[illegible] capacity to provide and main[illegible] together with pressure gauge, elec[illegible] cell and / or proving ring for measuring the force exerted by the jack shall be used. The force measurement devices should be capable of recording the load with an error not exceeding $\pm$ 2 % of the load increment used. In addition settlement recording devices such as dial gauges capable of measuring settlement of the test plate to an accuracy of at least 0.01 mm shall be used.

The loading procedure shall follow ASTM D 1194.

Independently supported beam supporting dial gauges or other settlement-recording services as far as practicable shall be used which shall not be less than 2.4 m from the center of the loaded are. Load shall be applied to the soil in cumulative equal increments of loads as stipulated above. Each load shall be accurately measured and applied in such a manner that all of the load reaches the soil as a static load, without impact, fluctuation, or eccentricity.

After the application of each load increment, cumulative load shall be maintained for a selected time interval of not less than 16 minutes.

A continuous record of all settle[illegible] settlement measurements shall be [illegible] application of each load

increment at 0,1,4,9, and 16 minutes while the load is being held constant.

Each test shall be continued until a peak load is reached settlement measurements shall be recorded at 0,1,24,9,16,25,36,49 and 64 minutes. The maximum test load shall be released in 5 equal decrements and the settlements shall be measured at 0,1,4,9 and 16 minutes except for zero load when rebound shall be measured at 0,1,4,9,16,25,36,46,57 and 69 minutes.

17. LABORATORY TESTS

17.1.1 Laboratory testing should be conducted to estimate the most severe design criteria. Types of tests required are given in Bill of Quantities.

17.1.2 The Laboratories in which the samples are to be tested shall be approved by the Engineer.

17.1.3 The Consultant shall have access to the laboratories to supervise and check the laboratory testing of the samples.

17.1.4 The testing shall be carried out in accordance with ASTM standards.

18. REPORT

The final shall include:

i. A layout plan showing the actual location of boreholes.

ii. General information of site, including a description of the subsurface strata encountered.

iii. Logs of boreholes.

iv. Results of field and laboratory tests, observations and analysis including oil profiles.

v. The Contractor's appreciation of the general subsoil conditions in the area together with comments on specific points where listed and on any points which the Engineer has put to him for enquiry any investigation during the works.

19. PHOTOGRAPHS OF CORE BOXES, FIELD AND LABORTARY TESTING

The Contractor shall provide photographs to the Engineer/Employer of drilling rigs, labeled core boxes for record and reference.

19. MEASUREMENTS AND PAYMENTS

The measurement and payment for the work specified in the contract for drilling of boreholes, collection of disturbed, undisturbed and rock core samples, performing the Standard Penetration/Cone Penetration Tests, laboratory testing and compilation and presentation of report shall be done and paid as per the pay item given in the Bill of Quantities, which payment shall be full compensation for furnishing all labour, material, tools, equipment and incidentals and for performing all the work involved in the work mentioned above in specification of the work.

PART 2 PRODUCTS

2.1 Sample Containers

The Contractor shall furnish at his cost, jars, tubes, and boxes that meet the following requirements. All such containers will become the property of the Procuring Agency and the cost there of shall be included in the contract price for the applicable item for which payment is provided.

2.1.1 Sample Jars

Sample Jars shall be 1.0 L capacity, wide-mouth over 57 mm in diameter plastic Jars with moisture-tight screw tops.

2.1.2 Shipping Boxes

Boxes for shipping sample Jars shall be corrugated cardboard or wooden boxes that have the capacity to hold no more than 12 sample jars and the strength to contain and protect the jars and their contents under ordinary handling and environmental conditions.

2.1.3 Core Boxes

Longitudinally partitioned, hinged top, wooden core boxes constructed of plywood and dressed lumber or other approved materials shall be used for all rock cores. As many core boxes as may be required shall be used to box all core. Core boxes shall be completely equipped with all necessary partitions, hinges, and hasp for holding down the cover. In addition, the Contractor shall provide wood spacers made of surfaced lumber (not plywood) and having dimensions that are 3 mm less than the inside dimension of the individual core box troughs and no less than 19 mm thick for blocking the core in the boxes and for providing a marking space to identify core runs and pull depths/elevations.

The maximum length of a core box shall be 1.2 m for 75 mm or smaller core and shall be dimensioned so that a box will hold 3.6 to 4.9 m of core. The maximum length of a core box for core that is larger than 75 mm shall be 1.5 m.

2.2 Labels

2.2.1 Samples Jar Labels

Printed or type-written, fade resistant and waterproof label shall be affixed to the outside of each jar and shall contain the following information.

PROJECT:_____ LOCATION_____

HOLE NO_____ STATION_____

JAR NO_____ OF _____ DATE_____

TOP ELEV OF HOLE_____ DEPTH OF SAMPLE_____

DESCRIPTION OF MATERIAL_____

(Such as Moist, silty, medium sand)

2.2.2 Shipping Box Labels

Each box of jar samples shall be identified with weatherproof and wear-proof labels indicating the following:

PRJECT:_____

LOCATION:_____

JAR SAMPLES FROM HOLE OF HOLES:_____

2.2.3 Core Box Labels

PROJECT:_____

HOLE NO:_____

BOX NO:_____

TOTAL NUMBER OF BOXES FOR THE HOLE:_____

BILL OF QUANTITIES

1. QUANTITIES APPROXIMATE

All quantities in this Bill of Quantities are shown as "Estimated Quantities" and are approximate. The tender prices quoted by tendering Contractor should nevertheless be calculated, multiplied, extended and added one to another on the basis of these "Estimated Quantities" as shown therein but payment shall be on the basis of actual quantities of materials supplied and/or work performed and the Contractor shall not claim any variation of any prices by reason of variations of quantities. It is upto the Contractor to satisfy himself of the degree of accuracy of the "Estimated Quantities" shown in this Bill of Quantities by comparing these quantities with the Tender Drawings.

2. OMISSIONS

Except if the Engineer specifically instructs the Contractor in writing to perform additional work, the Contractor shall only be paid for the items shown in the Bill of Quantities at the Unit Rates quoted by him for the items. Additional work is defined as work of a description kind or nature which is not shown in this Bill of quantities and the need for which cannot be reasonably inferred from either this Bill of Quantities or from the Tender Drawings or from normal good engineering practice as applied to the works described in this Bill of Quantities or from the Tender Drawings. Work of a description kind or nature the need for which can be reasonably inferred from either this Bill of Quantities or from the Tender Drawings or from normal good engineering practice in reference thereto, shall not be deemed to be additional work and shall not be paid for separately but shall be performed by the Contractor within the framework of this Contract as defined in this Bill of Quantities bearing in mind also the provisions relating to the variation of quantities. It is upto the Contractor to satisfy himself that the breakdown of the total work or he work into items as shown in this Bill of Quantities is a complete breakdown without any omissions and similarly that the description given for each item in this Bill of Quantities is a complete description without any omissions. Should the Contractor discover any real or apparent omissions in the breakdown and/or in the descriptions shown in this Bill of Quantities he may communicate this to the Engineer before submitting his tender and the Engineer may at his discretion issue an amendment which shall then be equally valid and binding for all tendering

Contractor but until and unless the Engineer issues such an amendment or amendments the breakdown and descriptions given in this Bill of Quantities shall be considered complete for Contract purpose and tendering Contractors shall quote all their rates on this basis. No claim for rate adjustments on the basis of an incomplete breakdown and/or incomplete descriptions or on the basis of misunderstanding or incomplete understanding of the breakdown and/ or of the descriptions shown in this Bill of Quantities shall be considered under any circumstances excepts on the basis of the amendments if any referred to above which may be issued by the Engineer prior to the submission of tenders.

3. WASTAGE

No payment shall be made under any circumstances for wastages of materials supplies and/or fixtures. In all cases payment shall be made only on the basis of the net quantities of materials supplies and/or fixtures actually permanently incorporated in the work except as otherwise provided in this Bill of Quantities. It is upto the Contractor to calculate and make allowances for any and all such wastages, for example, cut ends of reinforcement bars, spillage and spoilage of cement wastages and spillages of fill material, crushed aggregate and asphalt and similar in establishing the prices which is quoted for various items as defined in this Bill of Quantities and bearing in mind the provisions stipulated above regarding omissions in the breakdown and/or in the descriptions of items. The wastage of material supplied and fixtures if any supplied by the Employer shall also be at the Contractor's expense in so much as the Contractor shall pay the Employer or shall be charged by the Employer for the gross quantities of materials supplies and fixtures supplied to him by the Employer but the Contractor shall only be paid by the Employer for the net quantities of materials supplies and fixtures actually permanently incorporated in the Works. It is consequently upto the contractor to calculate and make allowance for any and all such wastage in establishing the rates which he quotes in his Tender.

DRAWING SHOWING THE BORE HOLES

SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, SAKRAND

SUMMARY OF COST
FOR GEOTECHNICAL INVESTIGATION

S. #	Description	Amount (Rs.)
1	Phase-1	
2	Phaase-2	
3	Phase-3	
	TOTAL	

Total Price in words _____

Note: The bidders are required to consider in their bids, the rates for execution of geo-techncial investigation in all the three phases at different time periods as desribed below:-

1	First Phase	Within two months from the signing of agreement and issuance of commencement letter.
2	Second Phase	One and half months after submission of geo-techncial report and approval (First Phase) .
3	Third Phase	Two months from the date of commencement letter for geo-technical investigation for 3rd phase.

_____

Singature of Contractor & Seal

_____

Project Director, SBBUVAS

SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, SAKRAND

BILL OF QUANTITIES
FOR GEOTECHNICAL INVESTIGATION
Phase-1

1 Item	2 Description	3 Quantity	4 Unit	5 Rate (Rs.)	6 Amount (Rs.)
1	Upon Mobilization of boring and drilling equipment and plants etc, move boring and drilling equipment from one borehole to other and demobilize from last borehole. This includes mobilization of all tools, plants, equipment & personnel etc complete for Phase-1, 2 & 3.	L.S	1		
2	Boring and drilling in all kinds of strata upto 15 m (50-ft) depth or upto hard rock strata if hard rock strata is intercepted except hard rock, including lowering casing and taking disturbed or undisturbed samples and logging as specified.	261	Lin.m		
3	Drilling through hard rock by rotary drilling method including taking continuous rock core samples, recovery and preservation of cores to any depth (Minimum depth through rock will be 1.5m (5-ft) at bottom of the bore hole if hard rock strata is intercepted.	30	Lin.m		
4	Carry out standard penetration test (SPT) at 1.5m interval or change of strata, which ever applicable depending upon stratigraphy of each bore hole. Minimum for each bore hole Depth 5m = 3 Depth 8m =4 Depth 10m =5 Depth 15m = 8	150	Nos.		
5	Taking undisturbed soil samples. (Minimum 2 for each bore holes)	40	Nos.		
6	Taking water samples and establish depth of water table	5	Nos.		
7	Field Temperature measurement at 1m, 5m,10m and 15m depths for each bore hole.	40	Nos.		
8	**Laboratory Tests:**				
a.	Grain size analysis	40	Nos.		
b.	Hydrometer analysis	27	Nos.		

c.	Atterberg Limits (LL/PL)	27	Nos.		
d.	Natural Moisture Content	40	Nos.		
e.	Direct Shear Test	27	Nos.		
f.	Unconfined Compression test on soil and rock samples	27	Nos.		
g.	Specific Gravity of soil	5	Nos.		
h.	Unit Weight (Bulk density)	40	Nos.		
i.	Consolidation Test	5	Nos.		
j	Triaxial Test				
k.	Permeability Test for Soil	5	Nos.		
l.	Soil Resistivity Survey	2	Nos.		
m.	Water Resistivity Survey	2	Nos.		
n.	Chemical test (Sulphate, Chloride, & PH) on soil samples	3	Nos.		
o.	Chemical test (Sulphate, Chloride, PH & TDS) on water samples	3	Nos.		
9	CBR Test	4	Nos.		
10	**Geotech Report** Preparation & submission of (5 copies) of Geotechnical Investigation report with recommendation w.r.t following.	5	Nos.		
a.	Soil bearing capacity for different building blocks				
b.	Pile load capacity for 18", 24" & 30" dia piles for loose soil areas if pile foundation is required.				
c.	Foundation type such as isolate, strip or mat/raft for different building units.				
d.	Seismic parameters such as soil type, seismic co-efficient values (C_a, C_v) etc.				
e.	Active & Passive co-efficient (K_a, K_p) of soil for lateral pressure				
f.	Modulus of Sub-grade Reaction for soil				
g.	Poisons ratio				
h.	Elastic modulus of soil				
i.	Dynamic shear modulus				
				TOTAL AMOUNT RS.	

SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, SAKRAND

BILL OF QUANTITIES
FOR GEOTECHNICAL INVESTIGATION
Phase-2

1 Item	2 Description	3 Quantity	4 Unit	5 Rate (Rs.)	6 Amount (Rs.)
1	Boring and drilling in all kinds of strata upto 15 m (50-ft) depth or upto hard rock strata if hard rock strata is intercepted except hard rock, including lowering casing and taking disturbed or undisturbed samples and logging as specified.	250	Lin.m		
2	Drilling through hard rock by rotary drilling method including taking continuous rock core samples, recovery and preservation of cores to any depth (Minimum depth through rock will be 1.5m (5-ft) at bottom of the bore hole if hard rock strata is intercepted.	25	Lin.m		
3	Carry out standard penetration test (SPT) at 1.5m interval or change of strata, which ever applicable depending upon stratigraphy of each bore hole. Minimum for each bore hole Depth 5m = 3 Depth 8m =4 Depth 10m =5 Depth 15m = 8	140	Nos.		
4	Taking undisturbed soil samples. (Minimum 2 for each bore holes)	35	Nos.		
5	Taking water samples and establish depth of water table	5	Nos.		
6	Field Temperature measurement at 1m, 5m,10m and 15m depths for each bore hole.	35	Nos.		
7	**Laboratory Tests:**				
a.	Grain size analysis	35	Nos.		
b.	Hydrometer analysis	23	Nos.		
c.	Atterberg Limits (LL/PL)	23	Nos.		
d.	Natural Moisture Content	35	Nos.		
e.	Direct Shear Test	23	Nos.		
f.	Unconfined Compression test on soil and rock samples	23	Nos.		
g.	Specific Gravity of soil	5	Nos.		
h.	Unit Weight (Bulk density)	35	Nos.		

i.	Consolidation Test	5	Nos.		
j	Triaxial Test				
k.	Permeability Test for Soil	5	Nos.		
8	CBR Test	4	Nos.		
9	**Geotech Report** Preparation & submission of (5 copies) of Geotechnical Investigation report with recommendation w.r.t following.	5	Nos.		
a.	Soil bearing capacity for different building blocks				
b.	Pile load capacity for 18", 24" & 30" dia piles for loose soil areas if pile foundation is required.				
c.	Foundation type such as isolate, strip or mat/raft for different building units.				
d.	Seismic parameters such as soil type, seismic co-efficient values (C_a, C_v) etc.				
e.	Active & Passive co-efficient (K_a, K_p) of soil for lateral pressure				
f.	Modulus of Sub-grade Reaction for soil				
g.	Poisons ratio				
h.	Elastic modulus of soil				
i.	Dynamic shear modulus				
				TOTAL AMOUNT RS.	

SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES SAKRAND

BILL OF QUANTITIES
FOR GEOTECHNICAL INVESTIGATION
Phase-3

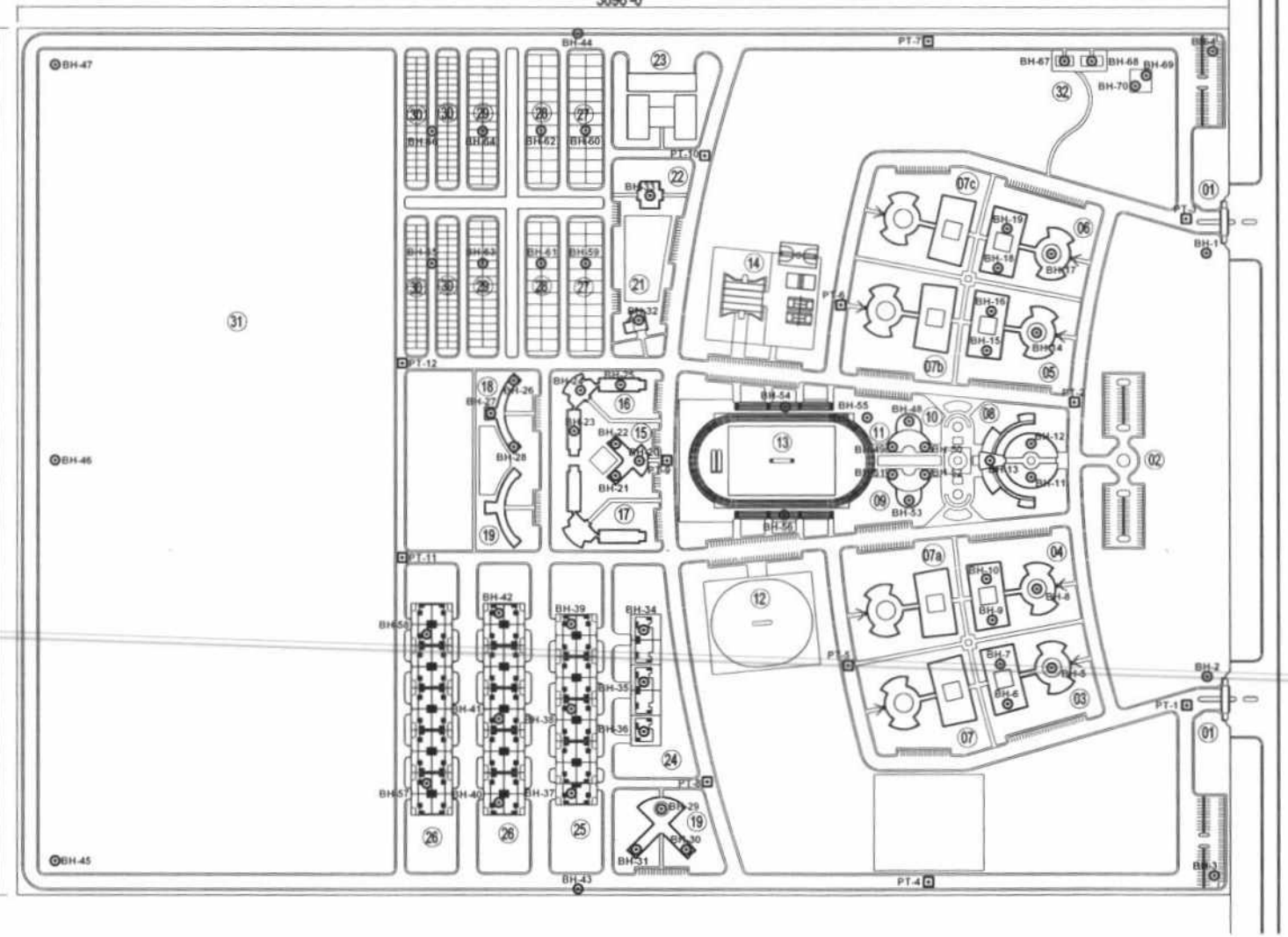
1 Item	2 Description	3 Quantity	4 Unit	5 Rate (Rs.)	6 Amount (Rs.)
1	Boring and drilling in all kinds of strata upto 15 m (50-ft) depth or upto hard rock strata if hard rock strata is intercepted except hard rock, including lowering casing and taking disturbed or undisturbed samples and logging as specified.	160	Lin.m		
2	Drilling through hard rock by rotary drilling method including taking continuous rock core samples, recovery and preservation of cores to any depth (Minimum depth through rock will be 1.5m (5-ft) at bottom of the bore hole if hard rock strata is intercepted.	20	Lin.m		
3	Carry out standard penetration test (SPT) at 1.5m interval or change of strata, which ever applicable depending upon stratigraphy of each bore hole. Minimum for each bore hole Depth 5m = 3 Depth 8m =4 Depth 10m =5 Depth 15m = 8	100	Nos.		
4	Taking undisturbed soil samples. (Minimum 2 for each bore holes)	20	Nos.		
5	Taking water samples and establish depth of water table	3	Nos.		
6	Field Temperature measurement at 1m, 5m,10m and 15m depths for each bore hole.	20	Nos.		
7	**Laboratory Tests:**				
a.	Grain size analysis	20	Nos.		
b.	Hydrometer analysis	20	Nos.		
c.	Atterberg Limits (LL/PL)	20	Nos.		
d.	Natural Moisture Content	20	Nos.		
e.	Direct Shear Test	20	Nos.		
f.	Unconfined Compression test on soil and rock samples	20	Nos.		
g.	Specific Gravity of soil	5	Nos.		
h.	Unit Weight (Bulk density)	20	Nos.		

i.	Consolidation Test	3	Nos.		
j	Triaxial Test				
k.	Permeability Test for Soil	3	Nos.		
8	CBR Test	4	Nos.		
9	**Geotech Report** Preparation & submission of (5 copies) of Geotechnical Investigation report with recommendation w.r.t following.	5	Nos.		
a.	Soil bearing capacity for different building blocks				
b.	Pile load capacity for 18", 24" & 30" dia piles for loose soil areas if pile foundation is required.				
c.	Foundation type such as isolate, strip or mat/raft for different building units.				
d.	Seismic parameters such as soil type, seismic co-efficient values (C_a, C_v) etc.				
e.	Active & Passive co-efficient (K_a, K_p) of soil for lateral pressure				
f.	Modulus of Sub-grade Reaction for soil				
g.	Poisons ratio				
h.	Elastic modulus of soil				
i.	Dynamic shear modulus				
				TOTAL AMOUNT RS.	

TENDER DRAWINGS

LEGEND

S. NO.	BUILDING TYPE	COLOUR
01	GATE / GATE OFFICE	
02	GENERAL PARKING	
03	ACADEMIC BLOCK (BUILDING NO.01)	
04	FACULTY OF BIO-SCIENCES	
05	FACULTY OF VETERINARY-SCIENCES	
06	FACULTY OF ANIMAL PRODUCTION AND TECHNOLOGY	
07	FACULTY OF LIVE STOCK BUSINESS MANAGEMENT	
07a	FACULTY OF INFORMATION TECHNOLOGY	
07b	FACULTY OF INFORMATION TECHNOLOGY	
07c	FACULTY OF FISHERIES AND WILD LIFE	
08	ADMINISTRATION BLOCK	
09	AUDITORIUM	
10	CENTRAL LIBRARY	
11	CAFETERIA	
12	CRICKET GROUND	
13	ATHLETIC TRACK/FOOTBALL GROUND	
14	GYMNASIUM	
15	POSTGRADUATE HOSTEL	
16	UNDERGRADUATE BOY'S HOSTEL	
17	UNDERGRADUATE BOY'S HOSTEL (FUTURE)	
18	BACHELORS TEACHERS HOSTEL	
19	BACHELORS TEACHERS HOSTEL (FUTURE)	
20	UNDERGRADUATE GIRL'S HOSTEL	
21	MASJID	
22	MARKET	
23	SERVICES	
24	VICE CHANCELLOR'S RESIDENCE / PRO VICE CHANCELLOR / GUEST HOUSE	
25	STAFF RESIDENCE GRADE 20 & ABOVE	
26	STAFF RESIDENCE GRADE 18 & 19	
27	STAFF RESIDENCE GRADE 15 TO 17	
28	STAFF RESIDENCE GRADE 10 TO 14	
29	STAFF RESIDENCE GRADE 05 TO 09	
30	STAFF RESIDENCE GRADE 01 TO 04	
31	FIELD	
32	POULTRY AND ANIMAL FARM	



SCHEDULE OF BORE HOLES

S/NO	BH NO	DEPTH				REMARKS
		5 m	8 m	10 m	15 m	
1	3, 4, 43, 44, 45, 46, 47	5 m	-	-	-	
2	1, 2, 32, 33, 37, 34, 35, 36, 37, 38, 39, 40, 41, 42, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70	-	8 m	-	-	
3	6, 7, 9, 10, 11, 12, 15, 16, 18, 19, 21, 22, 23, 25, 26, 28, 30, 31, 48, 49, 51, 52, 54, 55,	-	-	10 m	-	
4	5, 8, 13, 14, 17, 20, 24, 27, 29, 50, 53, 56,	-	-	-	15 m	

SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES SAKRAND

ENGR. MUHAMMAD KHAN SHAHOOKHEL

NAQVI AND SIDDIQUE

PLAN SHOWING LOCATION OF BORE HOLES FOR GEOTECH INVESTIGATION

GLOBAL ENGINEERING SERVICES

ENGR. M.M YOUSAF

S-01

Shaheed Benazir Bhutto
University of Veterinary and Animal Sciences Sakrand
Chartered By Government of Sindh Act No. XV of 2012

ANNUAL PROCUREMENT PLAN

Establishment of Shaheed Benazir Bhutto University of Veterinary and Animal Sciences (SBBUVAS), Sakrand

FINANCIAL YEAR 2016-2017.

Sr. No	Description of Procurement	Quantity (where applicable)	Estimated unit cost(where applicable)	Estimated total cost	Funds allocated	Source of funds (ADP/Non ADP)	Proposed Procurement method	Timing of procurements				Remarks
								1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
a	b	c	d	e	f	g	h	i	j	k	l	M
1.	Establishment of Shaheed Benazir Bhutto University of Veterinary and Animal Sciences , Sakrand (Construction of Boundary Wall and other works, Geotechnical Investigation & Topography Survey)	As per tender	As per tender cost	53 Million	81 Million	ADP-514	Single stage Single envelop procedure	NA	NA	Jan. to March 2017	April to June 2017	

Director P & D
SBBUVAS, Sakrand

Project Director
SBBUVAS, Sakrand

Director Finance
SBBUVAS, Sakrand