



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
Topographic Survey**

TENDER DOCUMENT

- NOTICE INVITING TENDER
- INSTRUCTION TO BIDDERS
- BIDDING DATA
- CONDITIONS OF CONTRACT
- TECHNICAL SPECIFICATIONS SURVEY
- BILL OF QUANTITIES
- DRAWING

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

No. & Dated:

SBBUVAS/ NIT /PD /04/2017 & 22/03/2017

Email: info@sbbuvas.edu.pk

NOTICE INVITING TENDER "SAY NO TO CORRUPTION"

Sealed tenders are invited from the reputed and well experienced contractor firms meeting eligibility criteria, viz. having registration with Income Tax and Sales Tax Departments, registration with survey of Pakistan and meeting the requirement mentioned in bidding documents for the following works as per SPPRA Rules 2010 (amended -2013) :

Name of Work:				
Hiring of Survey Firm for Topographic Survey at Shaheed Benazir Bhutto University of Veterinary and Animal Sciences (SBBUVAS)- Sakrand				
Tender No. SBBUVAS/ NIT /PD /04/2017				
Date of issuance /purchase	Submission Date/Time(on/before)	Opening Date/Time	Venue of Bid Submission & Opening	Tender Fee
From 24-03-2017 to 10-04-2017	11-04-2017 11.00 A.M	11-04-2017 11:45 A.M	Office of P.D, SBBUVAS, Sakrand	free

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 Rs.50,000/- (fifty thousand) as bid security of total offered bid amount in the form of Pay Order in favour of the Director Finance 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 / 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 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



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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. 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
Veterinary and Animal Sciences (SBBUVAS), Sakrand
- (b) **Brief Description of Works:** Topographic Survey
- (c) **Procuring Agency's address:** Project Director, Shaheed Benazir Bhutto
University Veterinary and Animal Sciences
(SBBUVAS), Sakrand
- (d) **Estimated Cost:** Approximately 0.96 million
- (e) **Amount of Bid Security:** Rs.50,000/- (Rupees fifty thousand)
- (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 :**
11-04-2017, 11.00 A.M
- (j) **Venue, Time, and Date of Bid Opening:** Office of P.D, SBBUVAS,
Sakrand on 11-04-2017, 11:45 A.M
- (k) **Time for Completion from written order of commence:** 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/firm 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.1 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.	Total Stations and GPS Equipment 2 Each		
9.	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 far 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.

Clause 15: 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.



SPECIFICATIONS for Topographic Survey

General description

- I. **Sketch and/or Description Notes** - The main purpose of sketch notes is to clarify information shown in other types of notes to prevent misinterpretation thereof. Sketches increase the efficiency with which notes are taken and subsequently interpreted in the office. Description notes are a *written narration of the survey procedure and of the measurement to clarify information shown in other types of notes.*
- II. **Electronic Notes (Data Collection)** - A data collector is a device on which *traditional survey data may be recorded electronically. This data is usually horizontal angle, zenith angle, slope distance and descriptive survey data such as feature identification or comments.*

A system of codes needs to be developed that will identify topographic and terrain features, such as a road, stream, tree, power pole, etc. Codes are also needed for computer drafting instructions, such as the start of a linear feature and the placement of topographic feature. Note sheets with point number, feature code, specific description and an occasional sketch, for unusually hard to define situations, could save a return trip to the field.

1. **Establishing of survey camp**

The contractor shall establish a survey camp to provide all instruments, equipment's and facility for the survey team. The survey team shall traverse and Topo graphic survey with due care execute and complete as per the contract. The Contractor shall be responsible for electricity, water and other arrangement.

2. **Shifting Control point**

Control point shall be shifted with systematic method of data collection for close traverse. Measurements are the only required field entries, except for perimeter information and point names. These values represent the heart of the survey. Record each required field value in its proper place. Error/ tolerance in measurement of angles and distance $\pm 2''$ for closing traverse.

After the shifting of MCP as shown in drawing to make a concrete pillar over steel Peg and mark Northing Easting and zenith on top surface of pillar with permanent paint Instrument set at Main control point and back sight from reference point to mark all Control point make pillar as above cited.



3. Traverse

Always record the full raw value as called out by the instrument operator. Do not set the instrument to compute reduced measurements. Instrument operator set instrument at main control point after back sight to mark point's 50' c/c and the turning points of compound wall with steel pegs. The contract shall make proper arrangement for concreting of pillars. The Accuracy of The traverse with original entries will stand up and assure maximum accuracy.

4. Topographic Data

In most projects, cross sections at all 20 meter stations should be sufficient. Closer spacing may be required for street sections, uneven terrain or in areas where there are special drainage problems. The general criteria for taking extra cross sections should be determined prior to commencement of the work.

Topography for the preliminary survey is defined as all man-made or physical objects in or adjacent to the highway corridor that would normally be shown on plans. Cross sections should be taken far enough on either side of the centerline to assure that all of the proposed construction zone will be included.

The survey should include such items as existing fencing, roads, buildings, power lines, land features, waterways, railroads, pipes, utilities, etc. If the plan sheets are to be made from aerial photography, much of the information listed below can be identified and located by annotation of enlarged aerial photos. When the plans are to be developed solely from field notes and electronic data collection, the following is a list of minimum requirements for location and identification of topographic features.

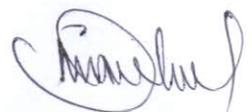
FENCES include the fence type and location of existing gates.

Gas and Petroleum Pipelines

Identify the location of the centerline crossing by station or surveyed coordinates at

Water and sewer Line.

Location of manholes, valve boxes, meter pits, crosses and tees and bends.



Elevation on top of the waterline, sewer invert elevation, and manhole ring elevations Power Lines

All buildings should be shown with dimensions and type of construction, as well as appurtenances.

Show irrigation ditches, rivers, creeks, canals, and streams, sim nala /Drain giving the direction of flow.

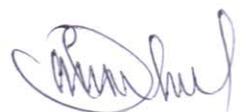
The contractor get checked by the Engineer (Consultant) or the Project Director for all the activities during the course of survey

5. Equipment

The shall use latest model equipment Total Station and GPS instrument for survey in order to ensure the accuracy.

6. Data Collection

The contractor shall collect all data of topographic and traverse survey to provide to the employer in shape of soft and hard copies 3 set (drawings & USB).



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



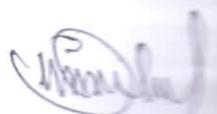
shall be considered complete for Contract purpose and tendering Contractors shall quote all their rates on this basis. No claim for rate adjustments on the basis of an incomplete breakdown and/or incomplete descriptions or on the basis of misunderstanding or incomplete understanding of the breakdown 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

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**SHAHEED BENAZIR BHUTTO UNIVERSITY OF VETERINARY
AND ANIMAL SCIENCES, SAKRAND**

BILL OF QUANTITIES FOR SURVEY

Schedule Itmes & non schedule item

S.No	DESCRIPTION	QTY.	UNIT	RATE(RS)	AMOUNT(RS)
Item-01 N.S	<u>Survey Camp</u> Upon establishing of survey camp at project site with all required instrument and equipment shall at site for execution of survey works etc. This includes mobilization of tools, plant, equipment and personnels.	1	No.		
Item-02 N.S	<u>Control point and shifting</u> Marking ground control points and permanant bench marks for traverse /topo graphi survey including drawing of Northing, Easting (Coordinates) including cost of 3/4" dia steel Pegs 2 feet deep placed in centre of concrete pillar and 1.5 embaded in elevated concrete pillar etc complete in all respect (excluding cost of MS Steel Bar a) From Pillar of Suvey of Pakistan/Sindh b) From Point to Point	1 9	No. No.		
Item-03 N.S	<u>Topo graphi Survey</u> providing,making and laying topo graphic survey for horizational and vertical accurate possition data for support Or control of subordinate survey Or for mapping 100' c/c Rd Distance ,consisting complete topo Graphi survey drawing where as shown Earth surface data in hard and soft copy . Complete in all respect	223	Acre		

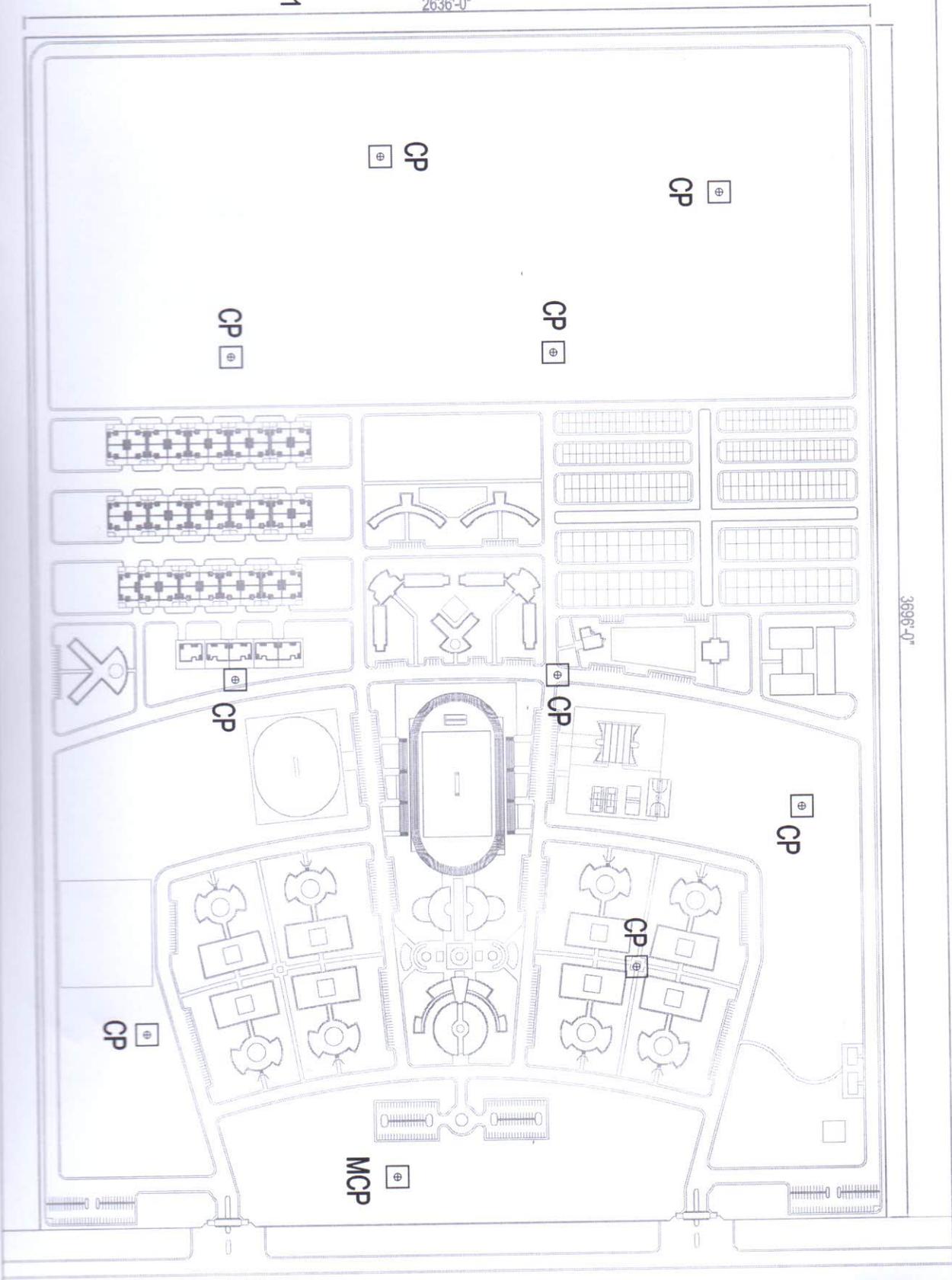
Item-04 N.S	Traverse Survey providing ,making and laying traverse survey for accurate position of boundry wall and fixing of 3/4" dia steel pegs 2' deep and 12" elevated from NSL 50' c/c for lay out of boudry wall consisting complete traverse survey drawing in hard and soft copy . Complete in all respect(Excluding cost of MS Steel Bar)	223	Acre	
Total Amount		A		-
Item-05	REINFORCED CEMENT CONCRETE (S.R Cement) Reinforced cement concrete (1:2:4) using sulphate resistant cement type (v) or more rich to provide 6"x12" cylinder strength of 3000 psi at 28 days age (equivalent cube strength = 3750 psi) including all labour and material except the cost of steel reforecment and its labour for bending and binding which will be paid separately. This rate also includes all kinds of forms, moulds, lifting, shuttering, curing, rendering and finishing exposed surface including screening and washing of stone aggregate. Item 6(a)(I) Page-17 Pillar 1.5' x1.5' x 2.5'	80	per cft	337.00 26,960
TOTAL				26,960
At Par				
TOTAL FOR SCHEDULE ITEMS		B		26,960
Item-06	Reinforcemennt Fabrication of mild steel reinforcement for cement concrete including cutting, bending, laying in position, making joints fastenings, including cost of binding wire also includes removal of rust from bars. Item 8(a) page-17 a) Grade 40	14.50	per Cwt	5,002.70 72,539
TOTAL				72,539
% above /Below				-
TOTAL FOR SCHEDULE ITEMS		C		
TOTAL A+ B+ C				



2636'-0"

3696'-0"

MAIN CONTROL POINT # 1
CONTROL POINT # 9



Handwritten signature or initials.