

# NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

NESPAK HOUSE: 1-C, Block-N, Model Town Extension, Lahore - 54700, Pakistan



Ref: 4322/024/KY/01 /2110

Date: June 20, 2024

## ENGINEERING DESIGN AND CONSTRUCTION SUPERVISION (EDCS) FOR CONSTRUCTION OF ELECTRIC BUSES DEPOT UNDER PROJECT TITLED "INDUCTION OF ECO-FRIENDLY BUSES IN CITIES OF PUNJAB"

### Invitation of Bids for Geotechnical Investigations (Field and Laboratory Works)

Dear Sir,

Sealed bid (Technical and Financial in separate sealed envelopes) is invited in accordance with the attached BOQ and qualification criteria from drilling Contractors/Companies for carrying out the geotechnical investigations for the subject project.

The companies capable of carrying out subject work are requested to provide their Company's Profile and the following documents along with their sealed bids:

1. PEC Registration Certificate
2. FBR & PRA Registration Certificates
3. List of Similar Projects completed during last three years
4. Financial Capability
5. Equipment Capability
6. Personnel Capability
7. Litigation History
8. HSE Policies

The work comprises; execution of boreholes up to 30 m depth below existing ground level (EGL) in overburden soils by Straight Rotary drilling method, excavation of testpits, performance of SPTs in boreholes, performance of field density tests, collection of disturbed/undisturbed soil samples, collection of water samples and laboratory testing of selected soil/water samples. The field and laboratory work shall have to be completed according to the following time schedule:

Sr No.	Minimum No. of Straight Rotary Rig Required	Time for Completion of Field Investigations	Time for Completion of Laboratory Testing	Total Time for Completion of Field & Laboratory Investigations
1	1	10 days	15 days	25 days

Your bid shall be valid for a time period of ninety (90) days after the bid opening. The work shall be executed under the instructions and full-time supervision of NESPAK engineers/geologists and the successful bidder shall mobilize to the site on one day' notice after issuance of Letter of Award/Acceptance

The coordinates and ground elevations of all the investigation points by total station shall have to be provided to NESPAK before completion of investigation at site by the Contractor. The approved laboratory, where testing is to be carried out, shall be pursued by the successful bidder for timely completion of the assigned laboratory testing.

Telephone : +92-42-99090000  
E-mail : info@nespak.com.pk  
Website: www.nespak.com.pk

Fax : +92-42-99231950  
P.O.Box: 1351, Lahore, Pakistan



The successful bidder shall be responsible for providing the field borehole logs, summary of laboratory test results and detailed laboratory test results to NESPAK, within the contract period. A premium of up to 25 % will be admissible on the official rates of the soil laboratory, selected for testing of samples. This premium has been allowed as compensation to the Contractor for making advance payment to the laboratory and later following-up for obtaining test results in time. The name of the laboratory should be provided on page 2 of 2 (Annexure-1).

The bidders shall submit a bid security amounting to Rs. 15,000/- at the time of submission of bids in the form of pay order or bank draft in favor of M/s NESPAK.

Your most competitive sealed bids (inclusive of all taxes) in accordance with the BOQ and qualification criteria, should reach the office of the undersigned by 1400 hours on or before July 08, 2024. Technical bids would be opened on the same day at 1430 hours after their receipt in the presence of those bidders who wish to be present.

Financial bids would be opened after evaluation of Technical bids, at a time, date and venue announced and communicated to the technically responsive bidders in advance. However, the final decision to accept/reject any or all the bids as per PPRA rules solely lies with the undersigned. The entire work shall be carried out in accordance with the requirements of the General Bidding Documents for Geotechnical Investigations available at NESPAK website ([www.nespak.com.pk](http://www.nespak.com.pk)).

for National Engineering Services Pakistan (Pvt.) Limited

  
(KAMRAN YOUSAF)  
General Manager/ Head  
Geotechnical & Geoenvironmental Engineering Division



ENGINEERING DESIGN AND CONSTRUCTION SUPERVISION (EDCS) FOR CONSTRUCTION OF ELECTRIC BUSES DEPOT  
UNDER PROJECT TITLED "INDUCTION OF ECO-FRIENDLY BUSES IN CITIES OF PUNJAB"

## GEOTECHNICAL INVESTIGATIONS

## BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	<b>FIELD INVESTIGATIONS</b>				
A1	Mobilization and demobilization of at least one (1) straight rotary drilling rig alongwith allied accessories and testpit excavation and testing equipment complete in all aspects at site including shifting from one investigation point to another. The equipment shall be sufficient to complete the investigations within the time schedule.	L.S.	Job		
A2	Execution of one (1) borehole up to maximum depth of 30 m, two (2) boreholes up to maximum depth of 12 m, two (2) boreholes up to maximum depth of 10 m and two (2) boreholes up to maximum depth of 8 m in soils below existing ground level by straight rotary drilling method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	90		
A3	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m interval in general, or as directed by Engineer, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	82		
A4	Collection of undisturbed soil samples from boreholes through Shelby/Denison/Pitcher samplers, including their waxing, labelling, packing, storage & transportation to an approved testing laboratory.	No.	8		
A5	Excavation of two (2) testpits up to maximum depth of 3.0 m at structure location in overburden soils below existing ground level including backfilling of pits to original condition.	L.M.	6		
A6	Extraction of hand-cut Block samples (30cm*30cm*30cm) from testpits including their preservation, labelling, packing, storage and transportation to an approved testing laboratory.	No.	2		
A7	Excavation of four (4) testpits upto a maximum depth of 1.5 m at internal road / parking locations in overburden soils below existing ground level including backfilling of pits to original condition.	L.M.	6		
A8	Performance of field density tests by sand replacement method in testpits generally @ 1 test/pit at selected horizons, including determination of in-situ bulk and dry density and collection of small disturbed samples in moisture tins for moisture content determination in laboratory by oven drying method as well as labelling, packing, storage & transportation to an approved testing laboratory.	No.	4		
A9	Collection of composite bulk soil samples from testpits (minimum weight 60-120 kg) including their labelling, packing, storage & transportation to an approved laboratory.	No.	4		
A10	Collection of borrow area samples (minimum weight 50-100 kg.) for earthwork including their labelling, packing, storage & transportation to an approved laboratory.	No.	2		
A11	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	2		
	<b>Sub-Total A</b>	<b>Rs.</b>			
<p>Establishment of coordinates and ground elevations of all the investigation points using Total Station are included in the scope of work. The coordinates should be provided with reference to a permanent local bench mark.</p> <p>All soil samples must be labelled, stored and transported as per ASTM. The area ratio and clearance ratio of the thin walled tube, should be in strict compliance with relevant ASTM standard.</p> <p><b>Pick and Drop (NESPAC House to site and site to NESPAC House) of consultant's staff via car shall be arranged by the contractor.</b></p>					



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OF ELECTRIC BUSES DEPOT UNDER PROJECT TITLED "INDUCTION OF ECO-FRIENDLY  
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**GEOTECHNICAL INVESTIGATIONS**

**BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
<b>B.</b>	<b>LABORATORY TESTING</b>				
B1	Sieve analysis	No.	25		
B2	Hydrometer analysis	No.	3		
B3	Liquid and plastic limits	No.	12		
B4	Natural Moisture Content	No.	4		
B5	Bulk density & dry density	No.	10		
B6	Direct Shear (Soil Samples)	No.	4		
B7	Unconfined Compression (Soil Samples)	No.	6		
B8	Consolidation with Swell Pressure Measurements	No.	4		
B9	Modified AASHTO Compaction Test	No.	6		
B10	3-Point Soaked CBR Test	No.	6		
B11	Sulphate content of soil	No.	3		
B12	Chloride content of soil	No.	3		
B13	Organic matter content of soil	No.	3		
B14	Complete chemical analysis of water samples i/c TDS, Cl, SO <sub>4</sub> & pH	No.	2		
<b>Sub- Total B</b>				<b>Rs.</b>	

Name of Laboratory:

Total (A+B)=

Rs. 

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**1. Qualification Criteria**

Qualification will be based on the criteria given in the following paras regarding the Applicant's experience, personnel and equipment capabilities, financial position and litigation history, as demonstrated by the Applicant's responses in the Forms attached as Annex-A to this Document. The Employer reserves the right to waive minor deviations, if these do not materially affect the capability of an Applicant to perform the contract by the Applicant.

Experience and resources of the Company intended to be employed as sub-contractor shall not be taken into account in determining the Applicant's compliance with the qualifying criteria. However, for joint venture, collective experience, resources and financial soundness of all partners shall be considered.

**1.1 General Information**

The Applicant shall provide general information of his firm as per the format specified in the Application Form A-1 attached in Annex-A.

**1.2 Experience of the Firm**

The Applicant shall meet the following minimum criteria:

- 1) Successful experience as contractor in the execution of at least five (5) projects involving bulk of geotechnical investigations within the last three (03) years. This experience should specifically be of geotechnical investigations of similar nature. The Applicant will supply information as per the format specified in the Application Form A-2 attached in Annex-A.

**1.3 Personnel Capabilities**

The Applicant must have in his employment, suitably qualified and experience personnel to fulfill the positions tabulated below. The Applicant will supply information as per the format specified in the Application Form A-3 attached in Annex-A.

Sr. No.	Position	Qualification*	No.	Minimum Experience (Years)
1	Technical Manager	B.Sc. Civil Engg.	1	5
2	Site Geologist/ Supervisor / Engineer	M. Sc. Geology/ B.Sc. Civil Engg. / B.Sc. Geological Engg.	1	2
3	HSE Supervisor	HSE Certification course	1	1
4	Driller	Literate	1	3
5	Skilled Labor	-	As Required	-



#### 1.4 *Equipment Capabilities*

The Applicant should own, or have assured access to the following key items of equipment in full working order, and must demonstrate that, based on known commitments, these will be available for deployment on the proposed works.

Sr. No.	Equipment Type & Characteristics	Minimum Number Required
1	Straight Rotary Drilling rig complete in all respects including drilling rods, bits, mud pumps etc. along with at least one stand-by rig. The equipment shall be capable to complete the investigations within the time schedule.	1
2	Casing set having various diameters for all types of boring at least 30 m in length with casing bits.	1
3	Standard penetration test equipment complete in all respects including all rods, split spoon sampler, hammer and containers etc.	1
4	Shelby/Denison/Pitcher samplers	1
5	UDS tubes & Split Spoon Samplers	As Required
6	Hydraulic jacks with all accessories for the extraction of casings	1
7	Electrically operated sounder for groundwater level measurement	1
8	Test pit excavation equipment complete in all respect	As Required
9	Field Density Test Apparatus complete in all respect	1
10	Wooden box for the preservation of undisturbed soil samples	As required
11	Transport for mobilization of equipment	As required

The Applicant will supply information as per the format specified in the Application Form A-4 attached in Annex-A.

#### 1.5 *Financial Capabilities*

The Applicant shall meet the following minimum criteria:

- 1) Average annual turnover which is also termed as income from contracting for procurement of geotechnical investigations and is defined as billing for works completed during the last three (3) years of at least Rs. 2 million or the said figure has been achieved in any year during the last three (3) years.

The Applicant shall also provide evidence of financial health such as bank account statements, available line of credits, etc., to show the soundness of the Applicant's financial position for procurement of geotechnical investigations works. The Applicant will provide annual turnover of the geotechnical investigation works carried out by him during the last three years. The Applicant will supply annual turnover information as per the format specified in the Application Form A-5 attached in Annex-A.



### ***1.6 Litigation History***

The Applicant should provide accurate information on any litigation or arbitration resulting from Contracts completed or under execution over the last three (03) years. The Applicant will supply information as per the format specified in the Application Form A-6 attached in Annex-A. A consistent/ overwhelming history of litigation against the Applicant may result in rejection of the application. In case an Applicant claims Nil litigation, he shall submit the same statement on the letter head of his company.

### ***1.7 Application of Health, Safety and Environmental Standards***

The Applicant should provide the HSE Policies and supporting documentary evidence for the following:

- i) First Aid Box
- ii) Personnel Protective Equipments (PPEs)
- iii) Standard Operating Procedures (SOPs)
- iv) Health, Safety and Environmental (HSE) Policies
- v) HSE staff

The Applicant will supply information as per the format specified in the Application Form A-7 attached in Annex-A.



**General Information**

All individual Applicants applying for qualification are requested to complete the information in this form. Nationality information (if applicable) is also to be provided for foreign owners as required under the PEC Bye-Laws as a Partnership.

1.	Name of Firm	
2.	Head Office Address	
3.	Telephone	Contact Person: Name: Title: Cell No.
4.	Fax	E-mail
5.	Place of Incorporation/Registration Certificates of the firm*	Year of incorporation/registration

**\* Registration certificates must include:**

- Valid registration with Pakistan Engineering Council (PEC)
- Valid registration with Federal Board of Revenue (FBR)
- Valid registration with concerned Provincial Revenue Authority (PRA)
- Proof of active taxpayer of FBR & PRA









**Financial Capabilities***Name of Applicant:* \_\_\_\_\_

<b>Year</b>	<b>Annual Turnover (in PKR)</b>
2022 – 2023	
2021 – 2022	
2020 – 2021	

*Note: Financial soundness certificate from the bank(s) as specified in section 1.5 must be provided by the Applicant*





