

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

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



Ref: SA-633/024/MAN/01/0291

Date: August 24, 2026

DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM KARACHI TO ROHRI (480 KM) (PACKAGE-3)

(SECTION - 1, 2, 3, 4 & 5)

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

Dear Sir,

Bids (Technical and Financial) are invited through EPADS (in accordance with the attached BOQs for five sections i.e. Section-1, Section-2, Section-3, Section-4 & Section-5, separately and qualification criteria uploaded on EPADS) from drilling Contractors/Companies for carrying out the geotechnical investigations for the subject project. The KMZ file showing the alignment of sections from Hyderabad to Rohri is attached for reference.

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 40 m depth below natural surface level (NSL) by using straight rotary drilling / percussion boring method, execution of augerholes up to 6 m depth below NSL by hand auger / light percussion boring method, core drilling in bedrock, excavation of testpits, performance of SPTs in boreholes, collection of disturbed/undisturbed soil samples, collection of rock core samples, collection of water samples and laboratory testing of selected soil/rock/water samples. The field and laboratory work shall have to be completed according to the following time schedule:

Sr No.	Scope	Package Number	Min. No. of Straight Rotary Drilling Rigs/ Percussion Sets Required	Min. No. of Hand Augers/ Light Percussion Sets Required	Time for Completion of Field Investigations	Time for Completion Laboratory Testing	Total Time
1	Structures	Section - 1	05	-	30 Days	30 Days	60 Days
2		Section - 2	05	-	30 Days	30 Days	60 Days
3		Section - 3	06	-	45 Days	30 Days	75 Days
4		Section - 4	06	-	45 Days	30 Days	75 Days
5	Roads	Section - 5	-	02	40 Days	20 Days	60 Days

Your bid shall be valid for a time period of ninety (90) days after the bid opening. If a Contractor is the most advantageous bidder for more than one section, he may be awarded not more than two sections related to structure works, subject to his demonstrated capability to undertake the workload within the stipulated and tight completion schedule. However, this limitation shall not apply to Section 5 related to road works. 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 three (03) days' notice after issuance of Letter of Award/Acceptance.

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 coordinates and ground elevations of all the boreholes, augerholes and testpits by total station / high-precision differential GPS 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. The successful bidder shall be responsible for providing the factual geotechnical investigation report (including borehole and testpit logs, summary of samples recovered, summary of laboratory test results and detailed laboratory test result sheets) to NESPAK, within the contract period. A premium of up to 25 % will be admissible on the official rates of the laboratory, selected for testing of soil / rock / water 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 basis of payment shall be the actual work carried out and approved by the Engineer, as measured by the Contractor and certified by the Engineer and valued at the rate and prices as quoted by you in your bid. The stages of payment for each section shall be as under:

First (1 st) Payment	Payment upon completion of minimum 50% field work and submission of an invoice
Final Payment	Payment upon completion of 100% work and submission of an invoice

The bidders shall submit a separate Bid Security for each section at the time of bid submission in the form of a Pay Order or Bank Draft in favor of M/s NESPAK. The amount of the Bid Security for each section shall be as specified in the table below:

Sr No.	Scope	Package Number	Bid Security (Rs.)
1	Structures	Section - 1	250,000/-
2		Section - 2	250,000/-
3		Section - 3	350,000/-
4		Section - 4	400,000/-
5	Roads	Section - 5	150,000/-

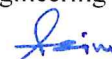
Your most competitive sealed bids (inclusive of all taxes) in accordance with the BOQs and qualification criteria, should reach the office of the undersigned by 1100 hours on or before September 16, 2026. Technical bids would be opened on the same day at 1130 hours after their receipt in the presence 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).

for National Engineering Services Pakistan (Pvt.) Limited


(MUHAMMAD ABDUL NASIR)
General Manager / Head

Geotechnical & Geo-Environmental Engineering Division



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD - NAWABSHAH SECTION
STRUCTURES: SECTION - 1 (RD 181+400 KM TO RD 221+000 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least five (5) straight rotary drilling rig / percussion boring equipment at site including making temporary access to investigation points (where required) and setting-up & shifting of equipment from one investigation point to another. The equipment should be sufficient to meet the time schedule. Minimum diameter of borehole will be 125 mm for rotary drilling and 200 mm for percussion boring.	L.S.	Job		
A2	Execution of: i) twenty one (21) boreholes of 20 m depth and twenty one (21) boreholes of 30 m depth at 21 Nos. Underpasses locations in overburden soils below NSL or up to rock strike level, whichever is met earlier, by straight rotary drilling / percussion boring method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	950		
A3	Continuous core drilling (NX / NQ size in general) in bedrock up to a maximum depth of 15 m below rock strike level or as directed by the Engineer, including preservation of core samples in core boxes, waxing of core samples, photography of rock cores and transportation of core samples to the laboratory.	L.M.	100		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m depth interval in general, or as necessary, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	865		
A5	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.	85		
A6	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	25		
	Sub-Total A	Rs.			
1) Establishment of coordinates and ground elevations of all the boreholes using total station or high-precision differential GPS is included in the scope of work. The coordinates and elevations should be provided with reference to a permanent local bench mark. 2) 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. 3) Straight rotary will be used for drilling in sandy / clayey soil & bedrock . However, Percussion boring will be required in case of presence of gravels/cobbles boulders in the substrata. 4) The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DEC'ON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate). 5) Payment shall be made as per actual quantity of work executed at site.					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD - NAWABSHAH SECTION
STRUCTURES: SECTION - 1 (RD 181+400 KM TO RD 221+000 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve Analysis	No.	180		
B2	Hydrometer Analysis	No.	30		
B3	Liquid & Plastic Limits	No.	100		
B4	Natural Moisture Content	No.	50		
B5	Bulk Density & Dry Density	No.	120		
B6	Consolidation with Swell Potential Measurements	No.	30		
B7	Direct Shear	No.	45		
B8	Unconfined Compression	No.	45		
B9	Uniaxial Compression	No.	50		
B10	Point Load Strength Index	No.	20		
B11	Sulphate Content of Soil	No.	42		
B12	Chloride Content of Soil	No.	42		
B13	Organic Matter Content of Soil	No.	42		
B14	Complete Chemical Analysis of Water Samples i/c TDS, Cl, SO4 & pH	No.	25		
Sub-Total B		Rs.			
Name of Laboratory:					
Total (A+B)=				Rs.	
The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD - NAWABSHAH SECTION
STRUCTURES: SECTION - 2 (RD 221+000 KM TO RD 296+200 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least five (5) straight rotary drilling rig / percussion boring equipment at site including making temporary access to investigation points (where required) and setting-up & shifting of equipment from one investigation point to another. The equipment should be sufficient to meet the time schedule. Minimum diameter of borehole will be 125 mm for rotary drilling and 200 mm for percussion boring.	L.S.	Job		
A2	Execution of: i) twenty one (21) boreholes of 20 m depth and twenty one (21) boreholes of 30 m depth at 21 Nos. Underpasses locations in overburden soils below NSL or up to rock strike level, whichever is met earlier, by straight rotary drilling / percussion boring method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	950		
A3	Continuous core drilling (NX / NQ size in general) in bedrock up to a maximum depth of 15 m below rock strike level or as directed by the Engineer, including preservation of core samples in core boxes, waxing of core samples, photography of rock cores and transportation of core samples to the laboratory.	L.M.	100		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m depth interval in general, or as necessary, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	865		
A5	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.	85		
A6	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	25		
	Sub-Total A	Rs.			
1) Establishment of coordinates and ground elevations of all the boreholes using total station or high-precision differential GPS is included in the scope of work. The coordinates and elevations should be provided with reference to a permanent local bench mark. 2) 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. 3) Straight rotary will be used for drilling in sandy / clayey soil & bedrock. However, Percussion boring will be required in case of presence of gravels/cobbles/boulders in the substrata. 4) The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate). 5) Payment shall be made as per actual quantity of work executed at site.					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD - NAWABSHAH SECTION
STRUCTURES: SECTION - 2 (RD 221+000 KM TO RD 296+200 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve Analysis	No.	180		
B2	Hydrometer Analysis	No.	30		
B3	Liquid & Plastic Limits	No.	100		
B4	Natural Moisture Content	No.	50		
B5	Bulk Density & Dry Density	No.	120		
B6	Consolidation with Swell Potential Measurements	No.	30		
B7	Direct Shear	No.	45		
B8	Unconfined Compression	No.	45		
B9	Uniaxial Compression	No.	50		
B10	Point Load Strength Index	No.	20		
B11	Sulphate Content of Soil	No.	42		
B12	Chloride Content of Soil	No.	42		
B13	Organic Matter Content of Soil	No.	42		
B14	Complete Chemical Analysis of Water Samples i/c TDS, Cl, SO ₄ & pH	No.	25		
Sub-Total B		Rs.			
Name of Laboratory:					
Total (A+B)=				Rs.	
The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3**

NAWABSHAH - ROHRI SECTION

STRUCTURES: SECTION - 3 (RD 296+200 KM TO RD 393+000 KM)

GEOTECHNICAL INVESTIGATIONS

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least six (6) straight rotary drilling rig / percussion boring equipment at site including making temporary access to investigation points (where required) and setting-up & shifting of equipment from one investigation point to another. The equipment should be sufficient to meet the time schedule. Minimum diameter of borehole will be 125 mm for rotary drilling and 200 mm for percussion boring.	L.S.	Job		
A2	Execution of: i) forty four (44) boreholes of 20 m depth and fourteen (14) boreholes of 30 m depth at 29 Nos. Underpasses locations ii) eight (8) boreholes of 30 m depth and four (4) boreholes of 40 m depth at 4 Nos. Flyovers locations in overburden soils below NSL or up to rock strike level, whichever is met earlier, by straight rotary drilling / percussion boring method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	1530		
A3	Continuous core drilling (NX / NQ size in general) in bedrock up to a maximum depth of 15 m below rock strike level or as directed by the Engineer, including preservation of core samples in core boxes, waxing of core samples, photography of rock cores and transportation of core samples to the laboratory.	L.M.	170		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m depth interval in general, or as necessary, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	1390		
A5	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.	140		
A6	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	35		
	Sub-Total A	Rs.			
1) Establishment of coordinates and ground elevations of all the boreholes using total station or high-precision differential GPS is included in the scope of work. The coordinates and elevations should be provided with reference to a permanent local bench mark. 2) 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. 3) Straight rotary will be used for drilling in sandy / clayey soil & bedrock. However, Percussion boring will be required in case of presence of gravels/cobbles/boulders in the substrata. 4) The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate). 5) Payment shall be made as per actual quantity of work executed at site.					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
NAWABSHAH - ROHRI SECTION
STRUCTURES: SECTION - 3 (RD 296+200 KM TO RD 393+000 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve Analysis	No.	300		
B2	Hydrometer Analysis	No.	50		
B3	Liquid & Plastic Limits	No.	150		
B4	Natural Moisture Content	No.	100		
B5	Bulk Density & Dry Density	No.	200		
B6	Consolidation with Swell Potential Measurements	No.	40		
B7	Direct Shear	No.	70		
B8	Unconfined Compression	No.	70		
B9	Uniaxial Compression	No.	50		
B10	Point Load Strength Index	No.	30		
B11	Sulphate Content of Soil	No.	66		
B12	Chloride Content of Soil	No.	66		
B13	Organic Matter Content of Soil	No.	66		
B14	Complete Chemical Analysis of Water Samples i/e TDS, Cl, SO4 & pH	No.	35		
Sub-Total B		Rs.			
Name of Laboratory:					
Total (A+B)=				Rs.	
The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-I (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3
NAWABSHAH - ROHRI SECTION
STRUCTURES: SECTION - 4 (RD 393+000 KM TO RD 480+000 KM)
GEOTECHNICAL INVESTIGATIONS
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least six (6) straight rotary drilling rig / percussion boring equipment at site including making temporary access to investigation points (where required) and setting-up & shifting of equipment from one investigation point to another. The equipment should be sufficient to meet the time schedule. Minimum diameter of borehole will be 125 mm for rotary drilling and 200 mm for percussion boring.	L.S.	Job		
A2	Execution of: i) forty two (42) boreholes of 20 m depth and twelve (12) boreholes of 30 m depth at 27 Nos. Underpasses locations ii) ten (10) boreholes of 30 m depth and five (5) boreholes of 40 m depth at 5 Nos. Flyovers locations in overburden soils below NSL or up to rock strike level, whichever is met earlier, by straight rotary drilling / percussion boring method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	1360		
A3	Continuous core drilling (NX / NQ size in general) in bedrock up to a maximum depth of 15 m below rock strike level or as directed by the Engineer. including preservation of core samples in core boxes, waxing of core samples, photography of rock cores and transportation of core samples to the laboratory.	L.M.	340		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m depth interval in general, or as necessary, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	1220		
A5	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.	140		
A6	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	35		
	Sub-Total A	Rs.			
1) Establishment of coordinates and ground elevations of all the boreholes using total station or high-precision differential GPS is included in the scope of work. The coordinates and elevations should be provided with reference to a permanent local bench mark. 2) 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. 3) Straight rotary will be used for drilling in sandy / clayey soil & bedrock . However, Percussion boring will be required in case of presence of gravels/cobbles/boulders in the substrata. 4) The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate). 5) Payment shall be made as per actual quantity of work executed at site.					



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF PAKISTAN RAILWAY FROM
KARACHI TO ROHRI (480 KM) - PACKAGE-3**

NAWABSHAH - ROHRI SECTION

STRUCTURES: SECTION - 4 (RD 393+000 KM TO RD 480+000 KM)

GEOTECHNICAL INVESTIGATIONS

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve Analysis	No.	300		
B2	Hydrometer Analysis	No.	50		
B3	Liquid & Plastic Limits	No.	150		
B4	Natural Moisture Content	No.	100		
B5	Bulk Density & Dry Density	No.	200		
B6	Consolidation with Swell Potential Measurements	No.	40		
B7	Direct Shear	No.	70		
B8	Unconfined Compression	No.	70		
B9	Uniaxial Compression	No.	80		
B10	Point Load Strength Index	No.	30		
B11	Sulphate Content of Soil	No.	66		
B12	Chloride Content of Soil	No.	66		
B13	Organic Matter Content of Soil	No.	66		
B14	Complete Chemical Analysis of Water Samples i/c TDS, Cl, SO4 & pH	No.	35		
Sub-Total B		Rs.			

Name of Laboratory:

Total (A+B)=

Rs.

The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1) OF
PAKISTAN RAILWAYS FROM KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD TO ROHRI SECTION
ROADS: SECTION-5 (RD 181+400 TO 480+000 KM)**

GEOTECHNICAL INVESTIGATIONS

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and Demobilization of of at least Two hand auger /light percussion equipment alongwith allied accessories at site including shifting from one investigation point to another. The equipment shall be sufficient to complete the investigation within the timeme schedule. Two (2) teams will work simultaneously and should have one (1) auger equipment complete by all means along with test pit manpower and tools arrangements from digging/drilling to sample preservations.	Lumsum	-		
A2	Execution of One Hundred Twenty Five (125) augerholes with target depth up to 6m maximum in overburden soils below existing ground level by hand auger boring equipment/light percussion method including backfilling of augerholes to their original position using cement-sand-bentonite mix.	L.M.	500		
A4	Excavation of One Hundred (100) testpits upto a maximum depth of 3.0 m along the proposed strutures in overburden soils below existing ground level including backfilling of pits to original condition.	L.M.	300		
A5	Collection of composite bulk soil samples from test pits (minimum weight 60kg maximum) including their labelling, packing, storage & transportation to a NESPAK approved laboratory.	No.	180		
	Sub-Total A =				

Establishment of coordinates and ground elevations of all the augerholes and testpits using total station or high-precision differential GPS is included in the scope of work. The coordinates and elevations should be provided with reference to a permanent local bench mark.
Contractor will be responsible for arrangement of Personnel Protective Equipments (PPEs) such as safety helmets and jackets for NESPAK site supervisory / visiting staff.

Considering the scope of work, number of Test pits and Auger holes and lab testing are mentioned in BOQ. This SOW may be changed keeping in view actual ground conditions.

All soil / aggregate / water samples must be labelled, sealed, and transported to Engineer's approved labs, is the responsibility of the contractor.

The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1)
OF PAKISTAN RAILWAYS FROM KARACHI TO ROHRI (480 KM) - PACKAGE-3
HYDERABAD TO ROHRI SECTION
ROADS: SECTION-5 (RD 181+400 TO 480+000 KM)**

GEOTECHNICAL INCESTIGATIONS

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Soil Classification	No.	180		
B4	Atterberg Limits	No.	180		
B3	Moisture Density Relationship (Modified AASHTO T-180)	No.	180		
B4	CBR (Modified)	No.	180		
	Sub-Total B =				
	Total (A+B)=				
Name of Laboratory: _____					

The Laboratory testing must be carried out from NESPAK's approved Laboratory (SOILCON, DECON, UET Lahore, CMTL WAPDA, NUST and Berkeley Associate).



**DETAILED ENGINEERING DESIGN FOR UPGRADATION OF MAIN LINE-1 (ML-1)
OF PAKISTAN RAILWAY FROM KARACHI TO ROHRI (480 KM)
(PACKAGE-3)
(SECTION – 1, 2, 3, 4 & 5)**

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 Eligibility Based on Past Performance with NESPAK

Firms that have previously undertaken geotechnical investigation assignments for NESPAK and have received an unsatisfactory performance certificate within the past six (06) months shall be disqualified.

1.4 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	Minimum No.					Minimum Experience (Years)
			Section-1	Section-2	Section-3	Section-4	Section-5	
1	Technical Manager	B.Sc. Civil Engg.	1	1	1	1	1	5
2	Site Geologist/ Supervisor / Engineer	M. Sc. Geology/ B.Sc. Civil Engg. / B.Sc. Geological Engg.	5	5	6	6	3	2
3	HSE Supervisor	HSE Certification course	1	1	1	1	1	1

4	Driller	Literate	5	5	6	6	-	3
5	Skilled Labor	-	As required	As required	As required	As required	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				
		Section-1	Section-2	Section-3	Section-4	Section-5
1	Straight Rotary Drilling rigs complete in all respects including drilling rods, bits, mud pumps etc. along with at least one stand-by rig.	5	5	6	6	-
2	Hand Auger Boring Equipment complete in all respects.	-	-	-	-	2
3	Percussion boring set (200 mm diameter) complete in all respects including tripod, chisel/bit etc.	2	2	2	2	-
4	Casing set having various diameters for all types of boring at least 40 m in length with casing bits.	5	5	6	6	-
5	Core barrels (single tube & double tube) including coring and casing bits	5 each	5 each	6 each	6 each	-
6	Standard penetration test (SPT) equipment complete in all respects including all rods, split spoon sampler, hammer, container etc.	5	5	6	6	-
7	Denison/Pitcher/Shelby samplers and tubes	5 each	5 each	6 each	6 each	-
8	Hydraulic jacks with all accessories for the extraction of casings	2	2	2	2	-
9	Electrically operated sounder for groundwater level measurement	2	2	2	2	-
10	Testpit excavation equipment, complete in all respects	-	-	-	-	As required
11	Wooden box for the preservation of undisturbed soil samples and rock cores	As required	As required	As required	As required	-
12	Transport for mobilization of equipment	As required	As required	As required	As required	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) 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. 25 million. Documentary proofs of the same shall be submitted in the form of letter of awards, completion certificates, etc.

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.



Application Form A-1

Page ___ of ___ Pages

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



Experience of the Firm

Name of Applicant: _____

Sr. No.	Name of Project	Value of Geotechnical Contract* (Pak Rs.)	Contract Duration

**Attach copy of Letter of Awards / Project Completion Certificates for any five (5) latest projects involving bulk of geotechnical investigations within the last three (03) years.*



Personnel Capabilities*Name of Applicant:* _____

Sr. No.	Name of Person	Qualification	Designation/ Position*	Total Experience

**Attach CVs of the Key Staff Members.*

Equipment Capabilities*Name of Applicant:* _____

Sr. No.	Equipment Description	Capacity	Number of Equipment	Working Condition a) Very good b) Good c) Satisfactory	Current Location



Financial Capabilities

Name of Applicant: _____

Year	Annual Turnover (in PKR)
2024 - 2025	
2023 - 2024	
2022 - 2023	

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



Litigation History*Name of Applicant:* _____

Year	Award for or against Applicant	Name of Client, cause of litigation, and matter in dispute	Disputed amount (current value Pak Rs. or equivalent)



Health, Safety and Environmental (HSE) Policies Personal Protective Equipment (PPE) and Standard Operating Procedures (SOP) of the Contractor

Name of Applicant: _____

The Applicant should provide the following policies/supporting documentary evidence as required in Para 1.7.

A. HSE Policies

Please attach HSE Policies

B. Details of PPE Available with the Contractor

Sr. No.	Type of PPE	Total Number

C. Details of SOPs of the Contractor

Please attach the copies of SOPs

