

**EDFC FIELD UNIT-KOLKATA-CIVIL/EDFC
TENDER DOCUMENT**

Tender No: KKK-EN-Geotech-QQR-Ph-I

Closing Date/Time: 21/04/2023 15:00

CGM/DFCCIL/Kolkata acting for and on behalf of The President of India invites E-Tenders against Tender No **KKK-EN-Geotech-QQR-Ph-I** Closing Date/Time 21/04/2023 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

1. NIT HEADER

Name of Work	Geotechnical Investigation work for Tunnels, Viaducts, Major Bridges, Minor Bridges, ROBs, RUBs, and Other structures at Koderma Detour section along DFCCIL Alignment under jurisdiction of GM/Co-Ordination Kolkata		
Bidding type	Normal Tender		
Tender Type	Open	Bidding System	Single Packet System
Tender Closing Date Time	21/04/2023 15:00	Date Time Of Uploading Tender	30/03/2023 15:42
Pre-Bid Conference Required	No	Pre-Bid Conference Date Time	Not Applicable
Advertised Value	45895500.20	Tendering Section	BIHAR
Bidding Style	Single Rate for Each Schedule	Bidding Unit	
Earnest Money (Rs.)	917900.00	Validity of Offer (Days)	60
Tender Doc. Cost (Rs.)	11800.00	Period of Completion	4 Months
Contract Type	Works	Contract Category	Expenditure
Bidding Start Date	07/04/2023	Are Joint Venture (JV) firms allowed to bid	No
Ranking Order For Bids	Lowest to Highest	Expenditure Type	Capital (Works)

2. SCHEDULE

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A-Geological and Geotechnical Investigation for Tunnels							14950639.34	Above/ Below/Par
1	Please see Item Breakup for details.				14950639.34	AT Par	14950639.34	
Description:- Geological and Geotechnical Investigation for Tunnels								

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B-Chemical Analysis of water and soil sample for Tunnel							124501.68	Above/ Below/Par
1	Please see Item Breakup for details.				124501.68	AT Par	124501.68	
Description:- Chemical Analysis of water and soil sample for Tunnel								

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C-Common Item for Geotechnical Investigation for Tunnel, Bridges, Viaduct etc.							2345185.00	Above/ Below/Par
1	Please see Item Breakup for details.				2345185.00	AT Par	2345185.00	
Description:- Common Item for Geotechnical Investigation for Tunnel, Bridges, Viaduct etc.								

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule D-Geotechnical Investigation for Bridges, Viaducts etc.							28475174.18	Above/ Below/Par
1	Please see Item Breakup for details.				28475174.18	AT Par	28475174.18	
Description:- Geotechnical Investigation for Bridges, Viaducts etc.								

3. ITEM BREAKUP

Schedule	Schedule A-Geological and Geotechnical Investigation for Tunnels								
Item- 1	Geological and Geotechnical Investigation for Tunnels								
S No.	Item No	Description of Item				Unit	Qty	Rate	Amount

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1	NS-1	Geological mapping of the proposed Tunnels alignment for a corridor width of 200m (100m on either side) in scale 1:50,000 of critical area and submission of longitudinal details in relevant areas (1:5000H and 1:500V) and cross section across the valley/ nallah /streams and across other important geological features including survey work required (by total station and DGPS) for geological mapping and geo-physical survey. The survey work also includes establishment of control points, reference points & bench marks (with coordinates) on ground by constructing RCC pillars for verification of the design alignment on map in field.	Kilometre	2.11	252194.00	532129.34
2	NS-2	Mobilization and de-mobilization charges of seismic refraction survey and 2D resistivity image mapping equipment and manpower (50% of payment each after mobilization and demobilization) (Unit to be read as each tunnel)	Each	6.00	366669.00	2200014.00
3	NS-3	Seismic Refraction Survey including data acquisition, data processing and interpretation of alignment	Metre	2110.00	500.00	1055000.00
4	NS-4	Mobilization and demobilization charges of drilling equipment and manpower (50% payment each after mobilization and de mobilization) (unit to be read as each tunnel)	Each	6.00	572961.00	3437766.00
5	NS-5	Erection and shifting of drilling equipment from one bore site to another bore hole site and construction of working platform drilling machine including making of approaches.	Each	18.00	112070.00	2017260.00
6	NS-6	Drilling of NX size bore holes (75mm dia.) in all types of rock (weathered and fresh rock) and collection of rock core samples from bore holes at Tunnel sites upto required depth	Metre	361.00	12622.00	4556542.00
7	NS-7	In-situ permeability test in bore hole at Tunnel sites	Numbers	18.00	12601.00	226818.00
8	NS-8(a)	Conducting tests on samples collected: Rock Sample: i) density ii) Specific Gravity iii) Water Absorption iv) Uniaxial compressive v) RQD vi) Soil swelling index	Each	18.00	30239.00	544302.00
9	NS-8(b)	Deformability of Rock materials (young's modulus, modulus of deformability, stress strain curve, failure energy)	Each	18.00	8755.00	157590.00
10	NS-8(c)	Tensile strength of rock materials (indirect tensile strength, 'Brazilian test') IS 10082 for rock sample	Each	18.00	5030.00	90540.00
11	NS-8(d)	Conducting of laboratory tests on Rock samples i) Petrographic Description of Rock ii) Grainsize iii) Mineral content iv) Texture	Each	18.00	4300.00	77400.00
12	NS-8(e)	Conducting of laboratory tests on Rock samples IS-10082 for Rock Samples: Hardness and abrasiveness of rock (together with CAI index abrasivity test)	Each	18.00	3071.00	55278.00
					Total	14950639.34
Schedule	Schedule B-Chemical Analysis of water and soil sample for Tunnel					
Item- 1	Chemical Analysis of water and soil sample for Tunnel					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	021170	Conducting chemical analysis of ground water samples to determine suitability for concreting and aggressiveness in relation to attack on concrete / reinforcement including determination of pH value.	Each	36.00	1940.57	69860.52
2	021180	Conducting chemical analysis of soil samples to determine aggressiveness in relation to attack on concrete / reinforcement including determination of pH value	Each	36.00	1517.81	54641.16
					Total	124501.68
Schedule	Schedule C-Common Item for Geotechnical Investigation for Tunnel, Bridges, Viaduct etc.					
Item- 1	Common Item for Geotechnical Investigation for Tunnel, Bridges, Viaduct etc.					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount

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1	NS-1	Conducting standard penetration test as per IS:2131 at approximate 1.5m intervals in bore holes, as directed by the Engineer in charge	Each	3427.00	646.00	2213842.00
2	NS-2	Preparation and submission of Final report giving complete and Comprehensive record of investigations, laboratory test reports and calculations in approved format including recommendation of bearing capacity, founding level etc including type of foundation by qualified geotech engineer and vetting of report from NIT/IIT/ Reputed Govt. Engineering college.	Each	3.00	43781.00	131343.00
					Total	2345185.00
Schedule	Schedule D-Geotechnical Investigation for Bridges, Viaducts etc.					
Item- 1	Geotechnical Investigation for Bridges, Viaducts etc.					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
		Exploratory drilling of boreholes down to required depth, drilling of 150mm dia. boreholes in all type of soils except hard rock & large boulders (boulder core more than 30cm) including refilling, reinstating surface and disposing off surplus material including use of mechanical rigs with power operated winches as well as percussion/chiselling tool for advancing through occasional seams of hard strata to be employed, where necessary in Dry area.				
1	021011	0m to 10m	Metre	4879.00	1182.96	5771661.84
2	021012	10m to 20m	Metre	836.00	1352.44	1130639.84
3	021013	20m to 30m	Metre	574.00	1433.27	822696.98
4	021014	30m to 40m	Metre	574.00	1539.07	883426.18
5	021030	Extra for 150mm dia. bore in hard Rock/large Boulder at all levels	Metre	10.00	2155.19	21551.90
6	021040	Erection of temporary working platform to drill bore hole through flowing/standing water through river bed up to water depth of 1.5m, and dismantling after completing work and removing from the site to clear the water way.	cum	50.00	2529.45	126472.50
		Drilling of NX size borehole (75mm dia.) in all types of hard rock and collection of rock core samples from boreholes and preserving in boxes.				
7	021051	0m to 10m	Metre	2870.00	3267.54	9377839.80
8	021110	Taking out 100mm dia. & 450mm long undisturbed samples of soil from bore holes, including provision of air tight containers for packing and, labeling incl. transporting the samples to laboratory. Piston sampler shall be used for extracting undisturbed samples where necessary. Samples shall be collected as per IS:2720.	Each	1148.00	172.01	197467.48
9	021120	Taking out 100mm dia. & 450mm long disturbed samples of soil from bore holes, including provision of air tight containers for packing, labeling and transporting the samples to laboratory. Samples shall be collected as per IS:2720.	Each	574.00	177.05	101626.70
		Conducting laboratory Tests on collected soil samples as per relevant IS code				
10	021151	Moisture Content/Dry Density	Each	1206.00	264.24	318673.44
11	021152	Atterberg Limits	Each	1206.00	532.94	642725.64
12	021153	Specific Gravity	Each	1206.00	883.04	1064946.24
13	021154	Grain size analysis including Hydrometer analysis	Each	1206.00	1237.59	1492533.54
14	021155	Direct Shear Test	Each	402.00	3121.85	1254983.70
15	021156	Natural Density	Each	402.00	1443.49	580282.98
16	021157	Consolidation Test	Each	10.00	10101.43	101014.30
17	021158	Unconfined Compression Test	Each	402.00	3328.12	1337904.24
18	021159	Tri-axial Test	Each	402.00	3050.50	1226301.00

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		Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code				
19	021161	Density Test	Each	172.00	1058.64	182086.08
20	021162	Water Absorption & Porosity	Each	172.00	455.49	78344.28
21	021163	Hardness	Each	172.00	295.10	50757.20
22	021164	Unconfined Compression Test	Each	172.00	2220.98	382008.56
23	021165	Point Load Test	Each	172.00	2311.66	397605.52
24	021166	Modulus of Elasticity	Each	172.00	4667.17	802753.24
25	021167	Abrasion Testing	Each	172.00	749.25	128871.00
					Total	28475174.18

4. ELIGIBILITY CONDITIONS

Standard Technical Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer / JV firm (as per clause no. 65.15.1 of GCC) must have satisfactorily completed any of the following during last 7 years, ending last day of month previous to the one in which tender is invited: (a)Three similar works each costing not less than the amount equal to 30% of advertised value of subject work, or (b)Two similar works each costing not less than the amount equal to 40% of advertised value of subject work, or (c)One similar works each costing not less than the amount equal to 60% of advertised value of subject work; Submission Requirement: Thetenderer shall submit the completion certificates/ certified completion certificates from the client(s) and or Photocopies of original certificates of client.	No	No	Allowed (Mandatory)
1.1	Defination of Similar Work :- A Geotechnical Investigation work for a Railway/Road project which includes geotechnical investigation of tunnel	No	No	Not Allowed

Standard Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have minimum average annual contractual turnover of V/N or V whichever is less; where, V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover. The tenderers shall submit requisite information as per Form 2B, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.	No	No	Allowed (Mandatory)

5. COMPLIANCE

Commercial-Compliance

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	Yes	Allowed (Optional)

Custom

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Documents to be enclosed with the TECHNICAL BID as per Clause1.3.2(b) of Part-I of Chapter-III of Tender Document	No	No	Not Allowed
1.1	Offer letter complete as per Form-1 of Tender Document	No	No	Allowed (Mandatory)

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1.2	Tenderer's Technical credentials in accordance with Para 1.3.13 (i)(A) of Part-I, Chapter-III (Preamble & General Instructions to Tenderers): As per Form No. 2A of Tender Document	Yes	Yes	Allowed (Mandatory)
1.3	Tenderer's Financial credentials in accordance with Para 1.3.13 (i)(B) of Part-I, Chapter-III (Preamble & General Instructions to Tenderers): As per Form No. 2B of Tender Document	Yes	Yes	Allowed (Mandatory)
1.4	Applicant's Party Information Form: As per Form 2C of tender Document	No	No	Allowed (Mandatory)
1.5	Certificates for authenticity of documents/ Format for Affidavit: As per Form 22 of Tender Document	Yes	Yes	Allowed (Mandatory)
1.6	Format of Integrity pact: As per Form 20 of Tender Document	Yes	Yes	Allowed (Mandatory)
1.7	Details of Earnest money in accordance with Para 1.3.8 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	Yes	Yes	Allowed (Mandatory)
1.8	An undertaking that he is not blacklisted or debarred by Railways or any other Ministry or Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was or is a partner/member. Concealment or wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.: As per Clause 1.3.6 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	Yes	Yes	Allowed (Mandatory)
1.9	Documents to be Submitted Along with Tender as per Clause 1.3.6.2 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	No	No	Allowed (Optional)
1.10	A copy of the tender papers including amendments duly signed and scanned or digitally signed by the tenderer on each and every page in token of his having studied the tender papers carefully shall be attached with the tender	No	Yes	Allowed (Mandatory)

6. Documents attached with tender

S.No.	Document Name	Document Description
1	TenderDocumentforGeotechKoderma_2.pdf	Tender Document
2	Annexure-ACL DGPS Coordinate Koderma Detour.pdf	Annexure A CL DGPS Coordinate KQR D

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

Signed By: JOY KARMAKAR

Designation : DYPM/Civil/Kolkata