



KAMARAJAR PORT LIMITED

**(A Company of Chennai Port Authority)
(Ministry of Ports, Shipping & Waterways, Govt of India)
2nd Floor, Jawahar Building,
Rajaji Salai,
Chennai – 600 001.
Ph: 044-25251666**

TENDER No. KPL / PPD /GEO/ 2026

TENDER FOR

**“CONDUCTING GEOTECHNICAL INVESTIGATION WORKS FOR DEVELOPMENT OF 2ND
CONTAINER TERMINAL, BULK TERMINALS, MULTI CARGO TERMINAL-II AND GENERAL
CARGO BERTH-III AREAS AT KAMARAJAR PORT”**

**THROUGH
E-Procurement Portal**

Due Date of Submission: 17.00 hrs on 16.09.2026

Date & Time of opening: 17.30 hrs on 17.09.2026

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KAMARAJAR PORT LIMITED
(A Company of Chennai Port Authority)
(Ministry of Ports, Shipping & Waterways) Govt of India

NOTICE INVITING TENDER

Tender No. KPL/ PPD/GEO/2026

- 1.1 Kamarajar Port Limited invites tenders under two cover system through E-Procurement Portal to carry out the work of **“Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port”** at an estimated cost of **Rs. 47,24,500/-excluding GST for a period of 3 Months.**
- 1.2 The complete tender document shall be downloaded on website: www.kamarajarport.gov.in / <https://eprocure.gov.in> and bidders may upload their bid/tender on or before the due date of submission in E-Procurement Portal.**i.e.16.09.2026 upto 17.00 Hrs.**
- 1.3 **Bid Security/ Earnest Money Deposit (EMD)**
- The bidder shall have to submit the earnest Money Deposit of **Rs 47,245/-** (Rupees Forty Seven Thousand Two Hundred and Forty Five only) in the form of Demand Draft in favour of “Kamarajar Port Limited” from any Nationalized /Schedule Bank (Except Cooperative Banks) encashable at Chennai.
- i. EMD of unsuccessful bidders other than L1, and L2 will be refunded immediately after ranking of price bids. Earnest Money of L2 will be refunded immediately after issuance of work order.
 - ii. EMD is refunded suo-motto without any application from the bidders.
 - iii. The Bid security of the successful bidder will be discharged after he has signed the Agreement and furnished the required Performance Security.
 - iv. The Bid Security may be forfeited, if
 - a) The Bidder withdraws the Bid after Bid opening during the period of Bid Validity
 - b) The Bidder does not accept the correction of the Bid price, or
 - c) The successful bidder fails within the specified time limit to
 - i) Sign the Agreement or
 - ii) Furnish the required Performance Security.
- 1.4 The offer must be valid for a minimum of 90 days from the last date of submission of offer; otherwise, the offer shall be rejected as non-responsive.

- 1.5 The Employer/Board do not bind themselves to accept the lowest or any tender and reserve the right to accept any tender in part or to reject any tender without assigning any reason there for.
- 1.6 The due date of submission of bids will be 16.09.2026@1700 Hrs, unless otherwise notified.
- 1.7 For more details, visit KPL website: www.kamarajarport.in / E-Procurement Portal or contact Manager (Projects) at pushpalatha@kplmail.in

**General Manager (CS &BD)
Kamarajar Port Limited,
Chennai-600 001**

SECTION – 1
INSTRUCTION TO BIDDERS
(ITB)

KAMARAJAR PORT LIMITED
(A Company of Chennai Port Authority)
(Ministry of Ports, Shipping & Waterways) Govt of India
SECTION 1: INSTRUCTIONS TO BIDDERS

A. General

1. Scope of Work

1.1 Kamarajar Port Limited hereinafter termed “the Employer” invites bids for “Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port”

The bidders may submit bids for the works detailed in the table given in NIT.

1.2. The detailed scope of work is as follows:

- i. Mobilisation and demobilisation of manpower, machinery, equipment and other resources required for the investigation.
- ii. Setting out and positioning of borehole/investigation locations as per the approved investigation plan.
- iii. Drilling of boreholes through soil and rock strata to the required depths.
- iv. Conducting Standard Penetration Tests (SPT) at specified intervals and wherever required.
- v. Collection of disturbed and undisturbed soil samples, wherever feasible.
- vi. Collection of rock core samples and determination of rock quality parameters, wherever rock strata are encountered.
- vii. Conducting relevant in-situ tests and field investigations as specified in the approved scope.
- viii. Conducting laboratory tests on representative soil and rock samples.
- ix. Determination of relevant geotechnical parameters required for structural and foundation design.
- x. Recording of borehole logs, strata descriptions, groundwater levels and other field observations.
- xi. Preparation of borehole logs, test results, interpreted geological sections and geotechnical profiles.
- xii. Submission of a comprehensive Geotechnical Investigation Report with investigation results and recommendations for the proposed development.
- xiii. 40 Numbers of boreholes to a depth of 30m /40m, testing requirements and locations shall be as specified in the Bill of Quantities (BoQ)/Technical Specifications.

Note: The quantities indicated in the BoQ are tentative and may vary depending on the actual site conditions encountered during the Geotechnical Investigation works or as directed by the KPL representatives.

- 1.3 The successful bidder will be expected to complete the works by intended completion date specified in the Contract data.
- 1.4 The bids should be submitted by Sole bidder only. Consortium bidding is not allowed for this tender.

2. Qualification Criteria for the bidder

2.1 Qualification Information to be provided by the Bidder

The bidder shall provide information on his qualification which shall meet the following criteria:

1. Average Annual financial turnover during the last 3 (Three) consecutive financial years, ending 31/03/2026 shall be at least 30% **(Rs.14,17,350/-)** of the estimated cost supported by the audited annual accounts of each year. (Must enclose supporting documents which are certified true copies like balance sheet/ profit and loss A/C /Auditor certificate, a proof for IT filing, otherwise liable for rejection of tender.)
2. The bidder must have successfully executed/completed similar works, over the last three years i.e. the current financial year and the last three financial years: -
 - a. Three similar completed works costing not less than the amount equal to 40% **(Rs.18,89,800/- excl. GST)** of the estimated cost;
 - or
 - b. Two similar completed works costing not less than the amount equal to 50% **(Rs.23,62,250/- excl. GST)** of the estimated cost;
 - or
 - c. One similar completed works costing not less than the amount equal to 80% **(Rs.37,79,600/- excl. GST)** of the estimated cost.
3. Bidders must attach Work Order and Work done certificate/Completion Certificate mentioning executed amount and date of completion.

The copy of the above mentioned documentary proofs submitted to substantiate the eligibility criteria of the firm such as Work orders & Completion Certificates, Balance Sheets and Profit & Loss account sheet / Form 26 AS etc., should be duly notarized by a Notary Public /Self Attested, failing which the tender will be summarily rejected.

4. Similar works means having experience in ***“Carrying out Geotechnical investigation at land including submission of lab test reports, foundation design etc. carried out in Central/State Government/ PSUs/Other Reputed Government/Private Organizations”.***
5. **The bidder must have an office in Chennai or Tiruvallur District that has been functioning for at least three (3) consecutive years up to the previous financial year of the tender notification (i.e., since April 2023). Compliance with this requirement shall be duly substantiated by submission of GST Certificates reflecting the office address in Chennai or Tiruvallur Districts for the last three (3) years.**

2.2 Source of Funds

The Employer has arranged the funds from internal resources and will have sufficient funds in Indian Currency for execution of the works.

3. One Bid per Bidder

Each bidder shall submit only one bid in E-Procurement portal. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

4. Cost of Bidding

The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

5. Site Visit

The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for execution of the Works. The costs of visiting the site shall be at the Bidders own expense. Bids submitted without duly signed Pro-forma (Annexure -VI) by KPL official certifying the visit made by the bidder, shall be summarily rejected.

B. BIDDING DOCUMENTS

6. Content of Bidding Documents

6.1 The set of bidding documents comprises this tender document and addenda/corrigendum issued in accordance with **Clause 10:**

7 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, and technical specifications, bill of quantities, drawings, and annexure in the bid document. Failure to comply with the requirements of the bid document shall be at the bidder's own risk. Pursuant to Clause 15 here of, bids which are not substantially responsive to the requirements of the bid documents shall be rejected.

8 Clarification of Bidding documents

A Prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by electronic form and be confirmed by hard copy at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 2 days prior to the deadline for submission of bids. Any effort by a bidder to influence the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of bid.

9 Pre-bid meeting.

No pre bid meeting will be conducted.

10 Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by using addenda.

10.2 Any addendum / corrigendum thus issued shall be part of the bidding documents and shall be published in the websites www.kamarajarport.gov.in / <https://eprocure.gov.in>

C. PREPARATION OF BIDS

11. Language of the Bid

All documents relating to the bid shall be in the English language.

12. Documents comprising the Bid

The bid submitted by the bidder shall comprise the following:

1. Technical Bid (As per Clause 16.2 of Section-1)
2. Financial Bid (As per Clause 16.3 of Section-1)

The Technical Bid shall not include any financial information related to the quoted price. Where material financial information related to the quoted price is contained in the Technical Bid, the same shall be declared non-responsive.

13. Bid Prices

13.1 The contract shall be for the whole works as described in **Sub-Clause 1.1**, based on the priced Bill of Quantities submitted by the Bidder.

13.2 The Bidder shall fill in rates and prices for all items of the works described in the Bill of Quantities. Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

13.3 All duties, taxes, **including GST**, ESI and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder. The GST will be reimbursed by KPL on production of remittance only on the 25th day of subsequent month provided ITC will be reflected in KPL's GST portal.

13.4 The rates and prices quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.

13.5 The contractor shall bear the cost of entry passes for personnel and equipment into the port premises during the period of contract as per the prevailing KPL Scale of Rates. Action has to be taken well in advance for obtaining permission, passes etc for entry of personnel and equipment so as to avoid delay to the work.

14. Currencies of Bid and payment

The Unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

15. Bid Validity:

15.1 Bids shall remain valid for a period not less than 90 days after the deadline date for bid submission. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder agreeing to the request will not be permitted to modify his bid and also shall submit an extension for EMD.

D. SUBMISSION OF BIDS

16.1 Submission of Tender

- i. Bidders are requested to go through the tender documents in detail, before submitting the tender documents, enclosing relevant supporting documents/information and giving their offer as per the Price Bid. The bids should be strictly as per the tender document and no editing, addition, deletion or modification of the tender document as hosted on website/ as given in the tender is permitted. If such action is observed at any stage, such tender will not be considered and will be rejected.
- ii. By submitting a bid for the work, bidder will be deemed to have satisfied himself by actual inspection of the site and locality of the work, if so required and that the rates quoted by him in the bid will be adequate to complete the work in all respects according to the specifications and other conditions and that he has taken into account all conditions and difficulties that may be encountered during its progress whether or not expressly provided in the tender document but necessary for the execution and completion of this work to the entire satisfaction of the Nodal Officer or his nominee. Site will be handed over to the contractor as it is.
- iii. Bidders shall submit their bid through E-Procurement Portal only (<https://eprocure.gov.in>) not later than 17.00 Hrs on 01.09.2026) under two cover system - Technical Bid and Price Bid as per the conditions stated in the tender document, as specified in E-Procurement Portal
- iv. Addendum, Modification, change of last date, if any etc., will be uploaded on the E-Procurement Portal/KPL Web-site only.
- v. The tender documents received after the closure of the time and date are liable to be rejected. Tenders submitted by e-mail/sealed cover will not be accepted under any circumstances.

16.2 Technical Bid

The following documents are to be furnished by the bidder as soft copies/scanned copies on E-Procurement portal in the following order, failing which the competent authority reserves the right to reject the bid at the bid opening stage itself without entertaining for further process.

- a. Form of Bid (Annexure-I) (To be given on Company Letter Head).
- b. Technical Capacity in the format as per Annexure II
- c. Financial Capacity in the format as per Annexure III
- d. Power of Attorney (Annexure IV)
- e. Copy of DD pertaining to Earnest Money Deposit.
- f. Copy of PAN card issued by Income Tax Department of India.
- g. GST Certificate (As per Clause 2.1 of Section 1)
- h. Valid Registration Certificate.
- i. Last three years Income-tax returns.
- j. Duly signed Site Visit certificate (Annexure VI - As per Clause 5 of Section 1)

16.3 Price Bid

- a. Form of Bid (Annexure-I) (To be given on Company Letter Head).
- b. Schedule of price bid in the BOQ format as provided in E-Procurement portal.
- c. There should not be any deviations from the Price bid template that been uploaded with this e-tender, otherwise the bid will be summarily rejected.

16.4 The Bidder shall submit the following documents physically to the Authority along with the scanned copies submitted online on or before the due date of submission.i.e.01.09.2026.

- a. Original Power of Attorney (As per Annexure IV)
- b. Original DD pertaining to Earnest Money Deposit.

16.5 The documents listed at Clause 16.4 shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification “” and shall clearly indicate the name and address of the Bidder.

The envelope shall be addressed to the following officer and shall be submitted at the respective address:

ATTN.OF:

The General Manager (CS&BD)

Kamarajar Port Limited

No. 17, Jawahar Building,

Rajaji Salai, Chennai – 600001.

- 16.6 If the envelopes are not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder. Bidder failing to submit the original documents required as per Clause 16.4 above shall be liable to the rejection of their Bids and forfeiture of Bid Security.

E. Bid Opening and Evaluation

17. Bid Opening

- 17.1** The Authority shall open the Technical bid at 17.30 hours IST on 02.09.2026 at Kamarajar Port Limited, 2nd Floor, Jawahar Building, Rajaji Salai, Chennai-600 001.
- 17.2** The Authority will subsequently examine and evaluate Applications in accordance with the provisions set out in Section 2.1 and 16.2.
- 17.3** The Financial Bids of only those bidders who become qualified after the evaluation of Technical Bids shall be opened at a later date.

18. Process to be Confidential

Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a Contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced.

19. Clarification of Bids

To assist in the examination, evaluation and comparison of Bids, the Employer may, at his discretion, ask any bidder for clarification of his Bid, including breakup of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids.

20. Opening and Evaluation of Technical Bids

- 20.1** The Employer shall examine the technical bid to determine whether the bid meets the eligibility criteria (Clause 2) and is substantially responsive to the requirements of the tender document;
- 20.2** Only bids that are both substantially responsive to the tender document, and meet all Qualification Criteria shall qualify for opening of the Financial bid.
- 20.3** Employer shall notify in writing those bidders who have failed to meet the qualification criteria or whose bids were considered non-responsive to the requirements in the tender document, informing them that their technical bid failed to meet the requirements of the tender document; and that their Financial

bid shall not be opened.

- 20.4** Simultaneously Employer shall notify in writing those Bidders whose Technical bid have been evaluated as substantially responsive and meeting the Qualification Criteria that their bid has been evaluated as substantially responsive to the tender document and the date and time of opening of the Financial bid.

21. Evaluation and Comparison of Financial Bids

- 21.1 The Employer will evaluate the eligibility of the bidder based on the frozen qualification criteria set in the tender document and the qualified bidder's prices alone will be taken for comparison.
- 21.2 If the Bid of the successful Bidder is seriously unbalanced in relation to the Nodal Officer or his nominee's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those price with the implementation methods and schedule proposed.

F. Award of Contract

22. Award Criteria

- 22.1 The Employer will award the Contract to the Bidder whose Bid has been determined to be responsive to Bidding documents and who has offered the lowest evaluated Bid Price. The second Bidder (i.e. L₂) shall be kept in reserve and may be invited to match the bid submitted by the (L₁) bidder in case such bidder(s) withdraws or is not selected for any reason.

23. Employer's Right to accept any Bid and Reject any or All Bids

The Employer reserves the right to accept or reject any bid and to cancel the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder of the grounds for the Employer's action.

24. Notification of Award and Signing of Agreement

- 24.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period. This letter (herein after and in Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the Execution and completion of the Work by the Contractor as prescribed by the Contract (herein after and in the Contract called the "Contract Price")
- 24.2 The notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security in accordance with provisions of Clause 25.

24.3 The Agreement will incorporate all correspondence between the Employer and the successful Bidder. It will be signed by the Employer and the successful Bidder within 15 days following the notification of award along with the Letter of Acceptance. Within 15 days of receipt of LOA, the successful Bidder will furnish the Performance Security and sign the Agreement with the Employer.

24.4 Upon furnishing of the Performance Security by the successful bidder, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful and release their Bid security.

25. Performance Security

25.1 Performance Security should be 5% of Contract price and submitted either as a Demand Draft or Bank Guarantee within 15 days of receipt of letter of acceptance. The Demand Draft or Bank Guarantee should be issued by any Scheduled Commercial bank, encashable at Chennai;

25.2 Failure of the successful bidder to comply with the requirements shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

26. Corrupt or Fraudulent Practices:

26.1 The Employer requires that Bidders/Suppliers/Contractors under this contract, observe the highest standard of ethics during the procurement and execution of this contract. In pursuance of this policy, the Employer:

(a) defines, for the purpose of these provisions, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

(b) will reject a proposal for award of work if he determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

(c) will declare a Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract/contracts if he at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

SECTION – 2

CONDITIONS OF CONTRACT

Conditions of Contract

A. General

1. Definitions

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.
- 1.2 **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- 1.3 The **Completion Date** is the date of completion of the Works as certified by the Nodal Officer or his nominee.
- 1.4 The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works.
- 1.5 The **Contract Data** defines the documents and other information, which comprise the Contract.
- 1.6 The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.
- 1.7 The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.
- 1.8 The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.
- 1.9 **Days** are calendar days; **months** are calendar months.
- 1.10 A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.11 The **Employer** is the party who will employ the Contractor to carry out the Works.
- 1.12 The **Nodal Officer or his nominee** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Nodal Officer or his nominee) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.
- 1.13 **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- 1.14 The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- 1.15 The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified

in the Contract Data. The Intended Completion Date may be revised only by the Nodal Officer or his nominee by issuing an extension of time.

- 1.16 **Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.
- 1.17 The **Site** is the area defined as such in the Contract Data.
- 1.18 **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Nodal Officer or his nominee.
- 1.19 The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.20 A **Variation** is an instruction given by the Nodal Officer or his nominee which varies the Works.

2. Interpretation

In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Nodal Officer or his nominee will provide instructions clarifying queries about the Conditions of Contract.

3. Language and Law

The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Nodal Officer or his nominee's Decisions

Except where otherwise specifically stated, the Nodal Officer or his nominee will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

The Nodal Officer or his nominee may delegate any of his duties and responsibilities to other people except to the Conciliator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Other Contractors

The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of other contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

7. Personnel

If the Nodal Officer or his nominee asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

8. Insurance

The Contractor will have to take workmen's compensation policy for deployed workers and it is to be valid during the execution i.e. upto completion of contract period. The insurance shall be in force from 7 days from the date of issue of acceptance letter.

9. The Works to Be Completed by the Intended Completion Date

The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Nodal Officer or his nominee and complete them by the Intended Completion Date.

10. Safety

The Contractor shall be responsible for the safety of all activities on the Site.

11. Discoveries

Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Nodal Officer or his nominee of such discoveries and carry out the Nodal Officer or his nominee's instructions for dealing with them.

12. Possession of the Site

The Employer shall give possession of all parts of the Site to the Contractor free from encumbrances. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

13. Access to the Site

The Contractor shall allow the Nodal Officer or his nominee and any person authorized by the Nodal Officer or his nominee access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured, fabricated / assembled for the works.

14. Instructions

The Contractor shall carry out all instructions of the Nodal Officer or his nominee, which comply with the applicable laws where the Site is located.

15. Extension of the Intended Completion Date

15.1 The Nodal Officer or his nominee shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

15.2 The Nodal Officer or his nominee shall decide whether and by how much to extend the Intended Completion Date on submitting full supporting information by the contractor. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

B. Quality Control

16. Identifying Defects

The Nodal Officer or his nominee shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities.

17. Correction of Defects

17.1 The Nodal Officer or his nominee shall give notice to the Contractor of any Defects before the end of the Defects Liability Period if any. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

17.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Nodal Officer or his nominee's notice.

18. Uncorrected Defects

If the Contractor has not corrected a Defect within the time specified in the Nodal Officer or his nominee's notice, the Nodal Officer or his nominee will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

C. Cost Control

19. Bill of Quantities

The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

20. Variations

Item Rate/Percentage Rate Contracts.

In the case of Item Rate/Percentage Rate tenders, the following procedures will be adopted in the finalization of rates for Variation, Extra and Substituted items.

- i. Variation means variation in quantities of items, i.e. where there is increase or decrease in the quantities of items of work in the agreement. In other words, the nomenclature remains the same but the quantities vary with those provided in the agreement.
- ii. Variation beyond $\pm 10\%$ of the stipulated quantities of individual items in the contract shall require the approval of Competent Authority.
- iii. The rates payable for the variations up to 25% in respect of individual items in the contract shall be as per the contract rates.
- iv. The rates payable for variations in quantities in excess of 25% in respect of individual items shall be worked out at market rates prevailing at the time of commencement of execution of these items.

21. Payments

Bills shall be prepared and submitted by the Contractor. Joint measurements shall be taken continuously and need not be connected with billing stage. Bill will be paid within 15 days from the date of certification of the bill.

75% of Mobilization & 25% of demobilization of equipment / tools & tackles and personnel to the project study shall be paid.

All the payments will be made on the basis of actual work executed as per rate quoted in the price bid after receipt of original tax invoices along with relevant documents from the date of certification by the Engineer-In-Charge and will be made on back-to-back basis

No extra amount will be paid over and above the executed work.

GST payment will be made on submission of proof / challan. KPL will not pay any amount as advance to the selected bidder.

The payment shall be made in Indian Rupees only. The whole of the quantity / work mentioned may not be executed as per the requirement of the projects. No additional payment will be allowed above the rates quoted on any account. The Bidder shall quote the amount exclusive of GST.

All deliverables shall be submitted by bidder in hard copy (3 Nos.) and soft copy for each stage to the Authority.

22. Tax

The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes including GST that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. The GST will be reimbursed by KPL on production of remittance only on the 25th day of subsequent month provided ITC will be reflected in KPL's GST portal. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the Employer on production of documentary evidence.

23. Liquidated Damages / Cancellation

Liquidated damages will be applicable @ 0.5% of the contract order value per week or part thereof, for delay in contract completion date subject to a maximum ceiling of 10% of contract order value.

24. Advance Payment

No advance payment will be paid.

25. Performance Securities

Security Deposit in the form of Demand Draft will be returned after 2 months from the completion of contract without any interest. In case of Bank guarantee, the bidder would be required to provide it for an additional 2 (two) months period over and above the contract period.

26. Termination

The Employer is having right to terminate the contract for the unsatisfactory progress of work at any stage.

27. Payment upon Termination

If the Contract is terminated because of the reasons stated above, the Nodal Officer or his nominee shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

28. Defect liability

No defect liability period for this contract.

SECTION – 3

Contract Data

Contract Data

Items marked "N/A" do not apply in this Contract. The following documents are also part of the Contract

	Clause Reference
1. The Schedule of Requirements	7 of Sec-3
The above instructions should correspond to the information provided in the invitation of Bids.	
2. The Employer is Name: KAMARAJAR PORT LIMITED, No.17,2 nd Floor, Jawhar Building, Rajaji Salai,Chennai – 600 001	
3. Name of authorized Representative – General Manager (CS&BD) Address: No.17,2 nd Floor, Jawhar Building, Rajaji Salai, Chennai – 600 001	
4. The Nodal Officer is: C. Pushpalatha, Manager (Projects)	
5. The name and identification number of this contract- “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port”	
6. The Start Date shall be 7 days from the date of issue of the work order or actual date of taking over the site for execution, whichever is earlier.	1.19 of Sec-2
7. The Intended Completion Date for the whole of the Works is 03 months reckoned from ‘Start Date’. The contractor should indicate the Milestone for the completion of each item of works in the program and get the approval of the Nodal Officer or his nominee. Milestone Dates - Not Applicable <u>Physical works to be completed Period from the date of issue of Work order</u> Milestone1 - Not Applicable Milestone2 - Not Applicable Milestone3 - Not Applicable	
8. The Site is located at Kamarajar Port Premises in the State of Tamil Nadu.	

9. No Defect liability period is insisted.	28 of Sec-2
10. The successful tenderer will have to take workmen's compensation policy for deployed workers and it is to be valid during the execution	8 of Sec-2

SECTION – 4

SITE CONDITIONS AND TECHNICAL SPECIFICATIONS

SPECIAL CONDITIONS OF CONTRACT

1. LABOUR

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Nodal Officer or his nominee, deliver to the Nodal Officer or his nominee a return in detail, in such form and at such intervals as the Nodal Officer or his nominee may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Nodal Officer or his nominee may require.

2. COMPLIANCE WITH LABOUR REGULATIONS

During continuance of the contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Nodal Officer or his nominee /Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/ Nodal Officer or his nominee shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

TECHNICAL SPECIFICATIONS

1. PREAMBLE

1.1 The Technical Specifications Contained herein shall be read in conjunction with the specifications published by the Central Public Works Department Manuals.

1.1.1 General

The Technical specifications covering the materials and the workmanship aspects as well as method of measurements and payments are included in this section. These specifications cover the items of civil and non-civil works coming under scope of this document. All work shall be carried out in conformity with the same. These specifications are not intended to cover minute procedural details; however, the Contractor shall follow established professional investigation practices to achieve accurate, reliable, and high-quality results, ensuring safety and data integrity. All standards and guidelines referred to shall be the latest applicable editions, unless otherwise specified.

All investigation works shall be carried out strictly in accordance with these specifications, approved methodology and directions of the Employer or its authorised representative.

1.1.2 Inclusive Documents

The provisions of special conditions of contract, those specified elsewhere in the tender document, as well as execution drawings and notes, or other specifications issued in writing by the Engineer shall form part of the technical specifications of this project.

1.1.3 The attention of the contractor is drawn to those clauses of codes, which require supporting specification either by the Engineer or by 'Mutual agreement between the supplier and purchaser'. In such cases, it is the responsibility of the tenderer/contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the contractor without involving separately any additional payment.

1.1.4 Measurement And Payment

The methods of measurement and payment shall be as described under various items and in the Bill of Quantities. Where specific definitions are not given, the methods described in B.I.S. Code will be followed. Should there be any detail of construction or materials which has not been referred to in the Specification or in the Bill of Quantities and Drawings but the necessity for which may be implied or inferred there from, or which is usual or essential to the completion of the work in the trades, the same shall be deemed to be included in the rates and prices entered by the contractor in the Bill of Quantities.

2. SITE INFORMATION

- 2.1** The information given here under and provided elsewhere in these documents is given in good faith by the 'Employer but the Contractor shall satisfy himself regarding all aspects of site conditions and no claim will be entertained on the plea that the information supplied by the Employer is erroneous or insufficient.'
- 2.2** The area in which the works are located is mostly plain to rolling terrain. The approximate longitude and latitude of region being 80.34° E and 13.26° N respectively.
- 2.3 General Climatic Conditions**
- 2.3.1 The variation in temperature in this region is as under
- 1) During summer months, maximum Temperature is about 37° C and minimum about 30° C.
 - 2) During winter months, minimum temperature is about 22° C and maximum about 27° C.
- 2.3.2 The normal annual rainfall in the area is in the order of about 1200 mm a good portion of which is concentrated during the months of October to December each year.
- 2.4 Seismic Zone**
- The works are located in seismic zone III as defined in IS 1893 (Part 1)

3. Scope of Work

The scope of the work comprises the following:

- a. Mobilisation and demobilisation of manpower, machinery, equipment and other resources required for the investigation.
- b. Setting out and positioning of borehole/investigation locations as per the approved investigation plan.
- c. Drilling of boreholes through soil and rock strata to the required depths.
- d. Conducting Standard Penetration Tests (SPT) at specified intervals and wherever required.
- e. Collection of disturbed and undisturbed soil samples, wherever feasible.
- f. Collection of rock core samples and determination of rock quality parameters, wherever rock strata are encountered.
- g. Conducting relevant in-situ tests and field investigations as specified in the approved scope.
- h. Conducting laboratory tests on representative soil and rock samples.
- i. Determination of relevant geotechnical parameters required for structural and foundation design.
- j. Recording of borehole logs, strata descriptions, groundwater levels and other field observations.
- k. Preparation of borehole logs, test results, interpreted geological sections and geotechnical profiles.

- l. Submission of a comprehensive Geotechnical Investigation Report with investigation results and recommendations for the proposed development.
- m. 40 Numbers of boreholes to a depth of 30m /40m, testing requirements and locations shall be as specified in the Bill of Quantities (BoQ)/Technical Specifications.

Note: The quantities indicated in the BoQ are tentative and may vary depending on the actual site conditions encountered during the Geotechnical Investigation works or as directed by the KPL representatives.

The consultant shall set out the locations of boreholes / test locations on site, as per the layout of Bore hole enclosed. The exact positions of the holes shall be determined by the consultant by total stations instrument /DGPS. All positioning and leveling equipments requiring calibration shall be calibrated immediately prior to the execution of the fieldwork and at intervals during the fieldwork as recommended by the manufacturer of the equipment. The reduced levels of the bore hole ground level shall be measured by the consultant by using the leveling/total station instruments.

a. IS Codes:

In general, all relevant IS codes/specifications shall be followed. Important relevant codes for this section:

IS : 1888 (latest) - Method of Load Tests on soils.

IS : 2131 (latest) - Standard penetration test

IS : 1892 (latest) - Subsurface investigation for foundations

IS : 1498 (latest) - Classification and identification of soils for general engineering purposes

IS : 2720 All parts (latest) - Method of test for soils.

IS : 2132 - Code of Practice for Thin Shelled Tube Sampling of so.

IS : 2720 - (Part-I to Part-XXXVII) – Method of Test for soils.

3.2 Tests to be conducted for Soil Investigation Work

Conducting laboratory tests as per usual practice and relevant Indian Standards including following tests:

- a) Natural moisture content
- b) Particle size analysis
 - (i) Sieve
 - (ii) Mechanical (Hydrometer)
- c) Wet and dry density
- d) Index properties (liquid and plastic limits) wherever applicable.
- e) Unconfined compression test wherever applicable
- f) Shear tests by tri-axial compression whenever applicable
- g) Consolidation test (Odenmeter) wherever applicable
- h) Permeability test

- i) Crushing strength of rock wherever applicable
- j) Chemical analysis of soil samples collected from bore holes at different depths to detect constituents like SO₄, CL.
- k) Chemical analysis of water samples collected from bore holes for SO₄, Cl content.

3.3 Calibration of Equipment:

Consultant shall ensure that all the equipment / instruments are properly calibrated at the start of the work, to reflect actual values. If so demanded by GM (CS&BD) or his authorized representative, Consultant shall have the instruments tested at an approved laboratory at his cost and test report shall be submitted to GM (CS&BD) or his authorized representative. If GM (CS&BD) or his authorized representative desires to witness such tests, Consultant shall arrange for the same.

b. Requirements

- a. The consultant shall mobilize required equipment (Boring/ rotary drilling Machine) to carryout the works at the proposed site and complete the works within the stipulated time frame.
- b. The Consultant shall mobilize a qualified Geotechnical Engineer with graduate degree for supervision of field works. Also, the Geotechnical Engineer responsible for preparing the report should visit the site to familiarize with the site conditions and to assess the various field and laboratory tests to arrive at the design parameters.
- c. The work shall be carried out in line with the relevant provisions of the Indian standards for soil and rock investigation, modified to the extent given below, or as per instructions of KPL.

3.5.1 Boring & Rock Coring

Boring shall be carried out in accordance with the provisions of IS: 1892. Minimum diameter of boring shall be 150 mm. Auger boring shall be resorted to above the water table, whereas below the water table the boreholes shall be advanced by rotary drilling with mud circulation through all kinds of soil other than rock. Casing shall be used to support the sides of boreholes in soft to firm soils.

Use of chisel and percussion boring shall be permitted exclusively in strata having N (SPT) value greater than 100 blows per 30 cm of penetration and as per directions of GM (CS&BD) or his authorized representative of KPL.

The consultant shall take care in the use of shell and auger casing and attachments to avoid fracturing or otherwise disturbing rock at the

interface between soil and rock / weathered rock, such that the true level of the surface of rock / weathered rock and its true in-situ quality will be identified.

3.5.2 Rock Coring

If the rate of advancement of boring by chiselling is little or slow (i.e. less than 20 cm in 4 hrs), the consultant may be permitted to adopt core drilling with NX size Tc bit and this core drilling operation shall be at no extra cost to the owner so long as the core recovery is less than 25%.

Where core recovery exceeds 25%, Tc bits shall be used for coring in soft / weather rock and diamond bits for hard rock (RQD > 75% or core recovery percentage > 85%). Maximum length of coring in rock shall be 3.0 m. In hard rock maximum length of coring shall be restricted to 1.0 m. Double tube core barrel shall be used for coring.

The consultant shall ensure that the equipment used for drilling, sampling etc. shall have an adequate capacity to drill bore holes up to specified depth. The consultant shall make his own arrangements to deploy all the necessary equipment to the borehole location. The rates quoted shall be inclusive of this and any extra claims on this account shall not be acceptable.

The drill core and cuttings shall be preserved carefully in core boxes as per latest IS: 4078 and the selected core samples shall be transported to the laboratory for testing at no additional cost. The cost of core boxes shall be deemed to have been included in the quoted rates. The consultant shall at his own cost transport the core boxes to the place of storage as directed by GM (CS&BD) or his authorized representative of KPL.

3.5.3 Termination of Boreholes

The bore holes shall be terminated as per following criteria, whichever occurs earlier:

- a) When the specified depth is reached.
- b) When tungsten bit drilling in soft/ weathered rock reaches 3m depth.
- c) When diamond bit drilling in hard rock reaches 1.0 m depth.

If very hard strata are met within the borehole at depths shallower than specified, the borehole shall be advanced by chiseling. If in the opinion

of the KPL, the rate of advancement of borehole is still low, coring may be resorted to subsequently.

The consultant has to obtain the written permission from the KPL while terminating each borehole. Immediately on completion of a borehole, the borelog shall be prepared in the approved proforma as given in Annexure- A and submitted to KPL.

3.5.4 Standard Penetration Tests (SPTs)

These shall be conducted in boreholes at an interval of 1.5 m upto 15 m depth and at an interval of 3.0 m beyond 15 m depth and at every change of strata. The first penetration test in each borehole shall be conducted either at 0.5 m depth or less from existing ground level and last SPT shall be conducted at the termination depth of borehole.

3.5.5 In-situ Vane Shear Tests (VSTs)

In-situ vane shear tests shall be conducted in soft to firm clays, sensitive clays and clayey strata which are highly susceptible to sampling disturbances. The tests shall be conducted in accordance with IS: 4434. For vane testing instruments that do not read the torque directly a calibration curve to convert the readings to Newton metre of torque shall be provided. These calibration curves shall be checked periodically.

Records of vane shear tests shall be maintained in a suitable form including details given in Annexure - B, which gives a recommended proforma for the record of results.

3.5.6 Disturbed Samples (DS)

Disturbed samples shall be collected at every half a metre or at every change of strata from borehole. They shall be fully representative of the zone from which they are taken.

Disturbed samples shall not be less than 1 kg and shall be taken according to the Indian Standards. They shall be placed immediately in airtight containers which they should sensibly fill.

Identification labels indicating depth, borehole no. and visual soil classification shall be affixed on the containers.

3.5.7 Undisturbed Samples (UDS)

Undisturbed samples (100 mm dia) shall be collected from all boreholes from representative soils at intervals of 3.0 m in depth or at every change of stratum, whichever occurs earlier. For adjacent boreholes depth of sample collections shall be staggered to cater for full layer. The area ratio of the sampling tubes shall not exceed 20%. In soft

deposits piston sampler shall be used to collect UDS. Quoted rates shall include transport of samples from site to the laboratory.

Before taking an undisturbed sample the bottom of the boring shall be carefully cleaned of loose materials and where casing is being used the sample shall be taken from below the bottom of this casing.

Care shall be taken to minimize sample disturbance while collection of samples. Samples shall be collected preferably by pushing the sampler. Driving by hammer above ground level (like SPT) is not acceptable. However, for stiff / hard soil a sliding hammer can be used for driving the sampler at sampler head.

Where an attempt to take an undisturbed sample is aborted because of non-recovery, the boring shall be cleaned out for the full depth to which the sampling tube has been driven and the recovered soil saved as a disturbed sample. A fresh attempt shall then be made from the level of the base of the aborted attempt, and the consultant may use a core catcher between the cutting shoe and sampling

tube; alternatively, an additional sample tube may be coupled. Where full recovery is not achieved the actual length of sample in the sampling tube shall be recorded and the reason for only partial recovery shall be noted. Samples with recovery of less than 60% shall be regarded as disturbed samples.

The depths from which all samples are taken shall be recorded. The level at the top of the sample and the length of the sample obtained shall be given, together with the depth of casing.

3.5.8 Water Samples

Samples of water shall be taken at the location of each boring, or otherwise as directed by the KPL. The samples shall be stored in water tight containers which shall be washed out with groundwater before filling. The sample shall be not less than 0.5 litres in volume. In the event that sample contains any suspended sediment, a larger sample shall be obtained and the sediment allowed to settle. The clean water shall then be decanted into the storage container. The depth of borehole, depth of casing and water level at the time of sampling and the depth from which the sample is obtained shall be recorded on two labels to be fixed to the samples, using appropriate non-fade waterproof marker pen.

3.5.9 Sample Labelling, Packing and Transport

3.5.9.1 Sample Labelling

All samples, irrespective of their type, shall be clearly and permanently labeled with the following information immediately upon recovery:

- a. Job name and location
- b. Borehole number
- c. Depths to top and bottom of sample
- d. Date of recovery
- e. In the case of core samples or undisturbed “tube” samples, the top and bottom of the samples shall be clearly marked as such.

All samples shall be fixed with two labels; one on the lid or screw top, the other on the jar or steel tube.

3.5.9.2 Packing and Transport of Sample

The consultant shall be responsible for the packing and transport of sample to the laboratory, approved by the KPL. All collected samples shall be transported at the end of every working day to the laboratory. The consultant shall ensure that all packing and transport arrangements are suited to the type of sample(s) in question and that the least possible disturbance of the samples will occur during transport. In any event, the consultant shall be held responsible for any damage to samples. The laboratory test shall be carried on completion of each bore hole as per IS code specifications.

3.5.9.3 Laboratory Tests

After collecting disturbed and undisturbed samples from different boreholes at different depths, a laboratory test schedule shall be prepared and submitted to KPL for approval. The laboratory tests shall essentially comprise of but not limited to the following:

1. Grain Size Distribution

Wherever applicable both the sieve & hydrometer analysis shall be conducted to indicate complete range of grain sizes of soil samples tested.

2. Atterberg Limits

Wherever applicable, these tests shall be carried out by the skilled personnel. The test results should include liquid limit, plastic limit and shrinkage limit of the soil samples tested. These tests shall be conducted as per IS: 2720, Parts V & VI.

3. Consolidation Tests

The tests shall be conducted for vertical drainage only. The following loading stages shall be employed:

0.1, 0.25, 0.50, 1.0, 2.0, 4.0, 8.0 kg/cm².

From e vs $\log p$ curves, preconsolidation pressure shall be determined to establish whether the soil is normally consolidated or over-consolidated. The point (e , p) showing initial condition of the soil under test must be specifically marked on the consolidation curves. Cycle(s) of loading, unloading and reloading shall be applied. The field virgin compression curve shall be established. Settlement predictions based on the field virgin compression curve shall only be acceptable. The procedure adopted in respect of obtaining compression indices from the field curve and that for computing settlements for the type of soil under consideration shall be clearly illustrated in the report.

It is to be noted that deviations from the standard procedure of performing consolidation tests given in IS: 2720, Part XV are permissible in order to enable computation of settlements based on the above procedure.

The following curves shall be included in the report:

- i) e vs $\log p$
- ii) e vs p
- ii) Compression vs $\log (t)$ or compression vs square root ' t '

The Choice of relationship depends upon the shape of the plot which enables clear determination of C_v , the coefficient of consolidation. The time period required for 50% and 90% primary consolidation shall be given in the report.

Location of p_c (preconsolidation pressure) shall be clearly indicated in the e - $\log p$ curve.

Values of m_v and c_v shall be furnished for different pressure ranges including the values of e_o , C_c & p_c in tabular form.

Computation of secondary settlements, if significant, shall also be made and included in the report.

d. Unconfined Compressive Strength

These tests shall be done as per IS-2720, Part X on selected soil samples.

e. Triaxial Tests

These tests shall be done on specimen saturated by the application of back pressure. Only if the water table is at sufficient depth so that chances of it's rising to the base of the footing are meager or nil, the triaxial tests shall be performed on specimens at natural moisture content. The magnitude of the back pressure applied shall be indicated

in the report. The different types of tests to be conducted are mentioned in Bill of Quantities (BOQ).

All the stress-strain diagrams as well as Mohr's circle envelopes shall be included in the report. Density and water content of the sample tested and modulus of elasticity along with shear strength parameters shall be reported.

Relevant corrections applied to the computed 'e' shall be clearly illustrated in the report.

f. Chemical Tests

Chemical test shall be conducted on soils & water samples as per relevant BIS latest revisions to report the following:

- g. pH
- h. Chlorides in ppm & percentage
- i. Sulphates in ppm and percentage and expressed as SO₃ & SO₄.

j. Test on Rock Samples

The crushing strength of rock shall be determined on the collected rock samples and reported in the final report along with other details such as design unit skin friction and bearing values.

3.6 Consultant shall establish and tabulate reduced levels and co-ordinates of various test locations. Any expense on this account shall be deemed to have been included in the quoted rates.

3.7 Field borelogs and other test results shall be furnished to the GM (CS&BD) or his authorized representative of KPL for his review as soon as each borehole is completed.

3.8 Report

- i. The report shall be prepared with due regard to the given requirements. Report shall also contain the summary of various soil parameters evaluated in a proforma as given in **Annexure - C**. Draft reports shall be furnished on completion of field investigation and laboratory test for KPL's comments. These comments, if, any shall be duly incorporated in the final report.
- ii. No extra payment shall be admissible for preparation of the report.
- iii. The final report shall include but not limited to the following:
 - i. A plot plan shall be attached with the report showing all test locations with their co-ordinates and reduced levels.
 - ii. General geological information of the region.
 - iii. Character and genesis of soil.

- iv. Procedure of investigations and methods of various tests adopted.
- v. Detailed borelogs indicating co-ordinates, reduced ground / bed levels, subsoil section along various profiles indicating borehole numbers, depth-wise in-situ tests like SPT, etc.
- vi. All field and laboratory test results shall be plotted against depth and also in tabular form.
- vii. Summary of results obtained from various tests and their interpretation to evaluate various soil parameters.
- viii. A set of longitudinal and transverse soil profile connecting various boreholes showing the variation of soil stratum.
- ix. Strata-wise recommended soil properties such as water content, Atterberg limits, dry and wet densities, shear parameters, etc. to enable generation of P-Y curves and pile capacities for lateral and uplift loading.
- x. P-Y curves to be generated and pile capacities shall be calculated with recommendations taking into account the encountered sub-soil strata and properties.
- xi. Comments on chemical nature of ground water and soil with due regard to potential deleterious effect on concrete and steel and firm recommendations on protective measures. Also remedial measure for sulphate attack or acidity shall be dealt with in detail giving clear practical recommendations.

All recommendations shall be supported by back-up calculations.

d) **Final report should be submitted in three (3) copies.**

All the data collected including the original records including all the reproducible for all the drawings should be handed over to KPL after submission of the final report. The soft copy of the report (editable) shall be submitted to the KPL.

SECTION -5

ANNEXURES

ANNEXURE - I

FORM OF BID

(To be executed on bidder's letter head)

[The bidder shall fill in this Form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted. The Form shall be submitted in both the Technical Bid and Price Bid separately]

Date _____

Tender No: KPL/PPD/GEO/2026 “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port”

To
Kamarajar Port Limited,
2nd Floor, Jawahar Building,
Rajaji Salai, Chennai-600 001

We the undersigned, declare that:

- (a) We have examined and have no reservations to the Tendering Documents, including Addenda No.: [Number and issuing date of Addenda, if any.]
- (b) We offer to execute the work in conformity with the Tendering Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements in accordance with the tender documents bearing No.: KPL/PPD/GEO/2026
- (c) Our bid shall be valid for the period of 90 days from the date fixed for the tender submission deadline and it shall remain binding upon us and may be accepted at any time before the expiration of that period or any extended period.
- (d) If our bid is accepted, we commit to submit a performance guarantee in accordance with respective clause.

Signed: (Signature of person whose name and capacity are shown)

In the capacity of: (Legal capacity of person signing the form of tender)

Name: (Complete name of person signing the Form of Tender)

Duly authorized to sign the Tender for and on behalf of (complete name of Bidder)

Dated on..... day of,..... (date of signing)

ANNEXURE – II
STATEMENT OF WORKS EXECUTED

The information shall be provided by the Bidder in the format indicated below for each works executed during the last three years.

FORMAT

S.No	Name of the work and the narrative description	Name of the Client	Value of the Contract	Period of Contract	Whether the work was completed satisfactorily throughout the Contract period
1.					
2.					
3.					
4.					
5.					
6					
7.					

(Copies of work orders and Completion certificates obtained from the clients in proof of satisfactory performance shall be attached. It should be notarized by a Notary Public/ Self Attested, otherwise the tender will be summarily rejected.)

Signature of the bidder with Date and seal

ANNEXURE - III
FINANCIAL STATUS

Turn-over of the Bidder during the last 3 years (Year wise) duly certified by the Chartered Accountant's firm.

Year	Turn-over (Rs)
2023-24	
2024-25	
2025-26	

(Must enclose supporting documents which are certified true copies like balance sheet/ profit and loss A/C /Auditor certificate, a proof for IT filing, otherwise liable for rejection of tender.)

Signature of the bidder with Date and seal

ANNEXURE – IV
FORMAT FOR POWER OF ATTORNEY

Dated:

POWER OF ATTORNEY

TO WHOMSOEVER IT MAY CONCERN

Know all men by these presents, We, (name of Firm and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr/Ms/Mrs..... son/daughter/wife and presently residing at, who is presently employed with/ retained by us and holding the position ofas our true and lawful attorney (hereinafter referred to as the “Authorized Representative”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port” in response to the tender invited by the Kamarajar Port Limited (the “Authority”) including but not limited to signing and submission of all applications, bids and other documents and writings, participating in meetings/conferences providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our Bid and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Bid for the said tender and/or upon award thereof to us till the entering into of the Contract with the Authority. and

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN PRESENCE WITNESS WHEREOF WE, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2026

For

(Signature, name, designation and address)

Witnesses:

1.

2.

Accepted

Notarized (Signature, name, designation and address of the Attorney)

Note:

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

(The Power of Attorney should be executed on a non-judicial stamp paper of Rs. 100 (Rupees one hundred) and duly notarized by a notary public.

ANNEXURE - V
FORM OF PERFORMANCE BANK GUARANTEE

(Issued by any scheduled commercial Bank encashable at Chennai)

This Deed of Guarantee executed atby (Name of the Bank) having its Head/Registered Office at (hereinafter referred to as “the Guarantor” which expression shall, unless it be repugnant to the subject or context thereof, include its executors, administrators, successors-in-interest and assigns);

In favour of M/s. Kamarajar Port Limited having its registered office at Jawahar Building, Rajaji Salai), Chennai- 600 001 (hereinafter referred to as ‘KPL’ which expression shall, unless it be repugnant to the subject or context thereof, include its executors, administrators, successors-in-interest and assigns;

Whereas

M/s. having its registered office at (hereinafter called “the Successful Bidder” which expression shall, unless it be repugnant to the subject or context of thereof, include its executors, administrators, successors-in-interest and assigns) has successfully bid and has been selected as the prospective Contractor inter alia, for the work of “Conducting Geotechnical Investigation works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port” (hereinafter referred to as “Said Work”) and KPL has issued a Letter of Acceptance dated for award of the Contract to the Successful Bidder.

KPL has sought for an unconditional and irrevocable Bank Guarantee for the sum of Rs(Rupees.....) by way of Security for the due execution and performance of the Work and obligations set out in the Contract within a period of Five months from the date of issue of the Letter of Acceptance for award of the Contract and for guaranteeing the due performance of the Work inter alia relating to “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port” and the Guarantor has agreed to provide a Guarantee being these presents.

NOW THIS DEED OF GUARANTEE witnesses that in consideration of the aforesaid premises, we, Bank, the Guarantor herein, hereby irrevocably and unconditionally guarantee as follows:

- i. The Successful Tenderer shall execute the Contract before (date)..... and shall carry out the work inter alia of “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo

Terminal-II and General Cargo Berth-III areas at Kamarajar Port” strictly in accordance with and in compliance of all the Terms and conditions as contained in the tender-bid submitted by the Successful Bidder.

- ii. We, the Guarantor, shall without any demur or protest, pay to KPL an amount not exceeding Rs. Rupees only) within Ten (10) days from the date of receipt of a mere written demand thereof from KPL stating that the Successful Bidder has failed to meet its performance obligations as stated in Clause (i) above without having to furnish any proof, documentary or otherwise, of the Successful Bidder having committed such breach.
- iii. The above payment shall be made by us, as the Guarantor, without any reference to the Successful Bidder or any other person and irrespective of whether KPL’s claim is disputed by the Successful Bidder or not.
- iv. This Guarantee shall be valid and shall remain in force for a period of 150 DAYS from i.e., upto and inclusive of (date) including a NINETY DAYS claim-period.
- v. In order to give effect to this Guarantee, KPL shall be entitled to treat the Guarantor as the principal debtor. The obligations of the Guarantor shall not be affected by any subsequent variations in the terms and conditions of the Contract or other documents by KPL or due to any extension of time of performance granted to the Successful Bidder or any enlargement of time of the power exercisable by KPL against the Successful Bidder or forbearance or non-enforcement of any of the terms and conditions of the Contract and we shall not be relieved from our obligations under this Guarantee on account of any such variation, extension, forbearance or omission on KPL’s part or any indulgence shown by KPL to the Successful Bidder to give such matter or thing whatsoever which under the Law relating to Sureties would, but for this provision, have the effect of so relieving us.
- vi. This Guarantee shall be unconditional and irrevocable and shall remain in full force and effect until all our obligations under this Guarantee are fully discharged.
- vii. The Guarantor is duly authorized in law to issue this Guarantee and the undersigned is duly authorized to execute this Guarantee on behalf of the Guarantor pursuant to the power granted vide Document dated _____.
- viii. This Guarantee is enforceable and encashable at Chennai. (Mention Branch name and address).

In witness whereof the Guarantor has set its hands hereunto on the day, month and year first hereinabove written.

Signed and Delivered by Bank
By the hand of Shri
Its..... and authorized official.

ANNEXURE-VI

SITE VISIT CERTIFICATE

Name of the work: Conducting Geotechnical Investigation works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port

As per the tender condition, I have completed the Site survey visit and understand the site condition & arrive at the actual requirement of Kamarajar Port Limited.

1. Date & Time of Visit

.....

2. Name of Firm

.....

3. Name of Person making the
visit.....

4. Designation of the person making the visit
.....

Seal & Sign of KPL official

Seal & Sign of Visitor

ANNEXURE- VII
FORM OF AGREEMENT

STAMP PAPER
(VALUE Rs.100)

AGREEMENT NO..... OF 2026.

THIS AGREEMENT executed in Chennai thisday of TWO THOUSAND AND TWENTY SIX.

Between

M/s. Kamarajar Port Limited, a Company incorporated under the Companies Act 1956 and represented by Managing Director (hereinafter referred to as “KPL” which expression shall, unless excluded by or repugnant to the context, deemed to mean and include its executors, administrators, successors-in-interest and assigns) of the ONE PART
AND

..... (hereinafter referred to as “the Contractor” which expression shall, unless excluded by or repugnant to the context, deemed to mean and include its executors, administrators, representatives ,successors-in-interest and assigns) of the OTHER PART.

WHEREAS

- A. KPL is desirous of engaging a Contractor to perform the work inter alia of “Conducting Geotechnical Investigation Works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port” for a period of 3 MONTHS (hereinafter referred to as the ‘Said Work’)
- B. The Contractor has offered to carry out the Said Work and whereas KPL has accepted the tender-bid of the Contractor vide LOA dated _____ ; and
- C. The Contractor has furnished a sum of Rs. _____ (Rupees) as Performance Security in the form of a Bank Guarantee/DD dated _____ guaranteed by _____ Bank _____ Branch for the due performance of all the conditions of the Contract.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1. In this Agreement, the words and expressions shall have the same meaning as are respectively assigned to them in the conditions of Contract hereinafter referred to.
- 2. The following documents for the work, inter alia, of “Conducting Geotechnical Investigation works for Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port” shall deemed to form and be read and construed as part of this Agreement, viz.,

PART – I [KPL TENDER DOCUMENTS]

- 1. Invitation for Bids
- 2. Instructions to Bidders
- 3. Conditions of Contract

4. Contract Data
 5. Site Conditions and Technical Specifications
 6. Bill of Quantities
 7. Drawing
 8. Form of Tender
 9. Form of Performance Guarantee
 10. Letter of Award
 11. Addendum & Amendments
 12. Agreement
3. The following tender-bid documents submitted by the Contractor shall deemed to form and shall be read and construed as Part – II of this Agreement.

PART – II | CONTRACTOR'S BID DOCUMENTS|.

1. Bid Forwarding Letter
 2. Power of Attorney
 3. Technical Capacity
 4. Financial Status
 5. GST Certificate
 6. Site Visit Certificate
 7. Price Bid
 8. Performance Bank Guarantee
4. The Contractor hereby covenants with KPL to execute and complete the Said Work in strict conformity in all respects with the provisions of the Agreement.
5. KPL hereby covenants to pay the Contract Price to the Contractor at the time and in the manner prescribed in the Tender as consideration for such completion of the Said Works.
- IN WITNESS whereof the Parties hereunto have set their hands and seals on the day and year first written.

(Authorized Signatory)
Contractor

For KAMARAJAR PORT LIMITED

in the presence of Witness:

1.

2.

Enclosed: Signed Tender document.

Annexure-VIII

Form-1

RECORD OF BORING

Client..... Location:
.....
Ground Surface Level..... Boring No.
.....
Type of Boring..... Date Started:
.....
Diameter of Boring..... Date Completed:
.....
Ground Water Level..... Site Engineer:
.....

Description of Strata	Soil Classification	Strata Thicknes s	Depth from G.L. ()	R.L. of Layer ()	Samples			Insitu Test			Remark
					Type	No.	Depth ()	Type	Depth	Value	

Annexure-IX

Form-2

PROFORMA FOR FIELD VANE SHEAR TEST

GENERAL

Project

Bore-hole No.

Date of Test

DETAILS OF BORING (IF ANY)

Location

Reference elevation

or

Ground elevation

Method of making the hole

Cased / Uncased

Level of ground water table

at the time of test

DETAILS OF VANE TEST

(a) Test from bottom of Bore hole

Vane size

Dia. of dummy rod (if used)

Conversion factor for torque

measuring equipment

(b) Test by Direct Penetration from Ground Surface

Vane by Direct Penetration from Ground Surface

Vane constant

Depth

TIME - ROTATION READINGS

Time in Minutes	Depth					
	D	U	R	D	U	R

SECTION – 6

BILL OF QUANTITIES

S. No	Description	Qty	Unit	Rate (Rs)	Amount (Rs.)
1	Mobilisation and demobilisation of all the rotary drilling equipments/plant at site required for the execution of the detailed soil investigation works for the proposed Development of 2nd Container Terminal, Bulk Terminals, Multi Cargo Terminal-II and General Cargo Berth-III areas at Kamarajar Port, set up site organisation including the costs of staff and labour and all other services. Shifting of all the drilling equipments, men and materials from one borehole location to another location of each borehole including accurate positioning, erection/ dismantling of rig and hire of boat, if necessary etc...	1	Lump sum		
2	Boring 150 mm dia, 40 Nos of borehole including conducting SPTS, in-situ VSTS, collection of DS & UDS as specified through gravel, sand, silt, clay and all soils other than boulders or rock to a depth below bed level as follows				
(i)	Up to (-) 30m CD	600	M		
(ii)	Up to (-) 40m CD	800	M		
(iii)	40m to 50m CD	200	M		
3	Double barrel Rotary core drilling (NX size) though weathered and hard rock Or boulders in boreholes as specified and collection of core samples in core boxes.	100	Nos		
4	Collection of water samples from bore holes for chemical analysis.	40	Nos		
5	Determination of Natural Moisture Content	160	Nos		
6	Determination of Bulk & Dry Density	160	Nos		
7	Determination of Atterbergs Limits	120	Nos		
8	Determination of Specific Gravity	160	Nos		
9	Carry out unconfined compression tests as specified :	100	Nos		
10	Carry out Triaxial compression tests as specified :				
a	Unconsolidated Undrained	100	Nos		
b	Consolidated Undrained	50	Nos		
11	Carry out consolidation Tests as specified.	300	Nos		
12a	By Sieve Analysis (for sandy soils)	150	Nos		
12b	By Hydrometer (for silty to clay soils)	100	Nos		
13	Carry out tests on rock core samples (i.e. density, absorption, porosity, specific gravity, crushing strength etc.)	40	Nos		
14	Carrying out chemical analysis on disturbed or undisturbed samples as specified.	40	Nos		
15	Carrying out chemical analysis on water samples specified	40	Nos		
16	Preparation and submission of Detailed Soil Investigation Report (3 Nos)	1	Lump sum		
	TOTAL				
Rupees (in words) _____					

Signature of the contractor, with seal

Note:

1. The rates quoted shall be inclusive of all taxes excluding GST.

THE FINANCIAL BID IS TO BE SUBMITTED ONLINE ONLY USING THE BOQ FORMAT PROVIDED IN THE E-PROCUREMENT PORTAL.

SECTION – 7

DRAWING

