



GOVERNMENT OF UTTARAKHAND

Superintending Engineer

Irrigation Works Circle, Pithoragarh

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STANDARD BID DOCUMENT FOR PROCUREMENT OF

Hon'ble Chief Minister Announcement No. 243/2022, within the Champawat Assembly Constituency, construction work for flood protection on the right bank (embankment) of the Sharda River from Boom to Tanakpur, including flood protection works on the right bank of the Sharda River at Boom and Uchauligoth (Part-3), and construction of flood protection works for the protection of Basani Goth, Suwagoth, and Gendakhali No. 3 situated on the right bank (Part-4), and construction of flood protection works for the protection of 28 hectares area and Chilyadhol located on the right bank (Part-5).

Through

[National] Competitive Procurement Process

(Through E- Procurement Portal only - www.uktenders.gov.in)

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SECTION I: NOTICE INVITING BID (NIB)

GOVERNMENT OF UTTARAKHAND

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NOTICE INVITING BID FOR {NAME OF WORKS} through {ICB/NCB}

(Through E-Procurement Portal only - www.uktenders.gov.in)

Bid Reference No: 04/SE/2026-27

Dated: 04-06-2026

1. **Superintending Engineer**, Irrigation Works Circle, Pithoragarh invites Bids from eligible Bidders for Hon'ble Chief Minister Announcement No. 243/2022, within the Champawat Assembly Constituency, construction work for flood protection on the right bank (embankment) of the Sharda River from Boom to Tanakpur, including flood protection works on the right bank of the Sharda River at Boom and Uchauligoth (Part-3), and construction of flood protection works for the protection of Basani Goth, Suwagoth, and Gendakhali No. 3 situated on the right bank (Part-4), and construction of flood protection works for the protection of 28 hectares area and Chilyadhol located on the right bank (Part-5). through E-Procurement Portal as per the following details;

Package No	Name of Work	Estimated Cost (Rs.)	Completion Period
01	Hon'ble Chief Minister Announcement No. 243/2022, within the Champawat Assembly Constituency, construction work for flood protection on the right bank (embankment) of the Sharda River from Boom to Tanakpur, including flood protection works on the right bank of the Sharda River at Boom and Uchauligoth (Part-3), and construction of flood protection works for the protection of Basani Goth, Suwagoth, and Gendakhali No. 3 situated on the right bank (Part-4), and construction of flood protection works for the protection of 28 hectares area and Chilyadhol located on the right bank (Part-5).	Rs. 581826280.00 (Including GST)	530 Days

2. Bidding is [National] Competitive Bidding and the bidding shall be conducted under Single Stage Two-Envelope Bidding process with E-Procurement, comprising Technical Bid and Financial Bid.
3. Bids must be submitted through E-Procurement Portal within the last date and time for submission of Bids. E-Procurement System requires the Bidder to submit Technical Bid and Financial Bid simultaneously Only Tender Fees & Earnest Money Deposit in original shall be accepted
4. To qualify for award of the Contracts, the Bidders are advised to note the Eligibility and Qualification criteria specified in Section IV of the Bid Document.
5. Technical Bids will be opened in the E-Procurement Portal as specified in the Schedule of Bidding Process. If the office of the Employer happens to be closed on the specified date of opening of the Bids, then they will be opened on the next working day at the same time & place as notified earlier.

6. All notifications, changes and amendments to the Bid Document will be posted only on the E-Procurement Portal which shall form part of the Original Bid Document².

7. The Schedule of Bidding Process is as below:

Date, time and place for procuring Bid Document	From 05-06-2026 from 11:00 Hrs IST to be downloaded from the E-Procurement Portal www.uktenders.gov.in
Pre-Bid meeting date, time and place	On 12-06-2026, AT 11:00 Hrs IST Venue: [Office of the Suprintending Engineer, IWC Pithoragarh]
Last date & time for submission of online Bids on E-Procurement Portal	On 23-06-2026 up to 17:00 Hrs IST
Last date of submission of Original Tender Fees & Earnest Money Deposit in the office of the Superintending Engineer, Irrigation Work Circle Pithoragarh	On 23-06-2026 up to 17:00 Hrs IST
Date and Time for opening of Technical Bid on the E-Procurement Portal	On 24-06-2026 at 15:30 Hrs IST
Date and Time for opening of Financial Bid on the E-Procurement Portal	To be announced after evaluation of technical bid
Validity of Bids (LoA to be issued prior to expiration of this period)	120 days from the last date for submission of Bids.
Period for Contract	530 Days
Address for Communications	Office of the Suprintending Engineer, IWC Pithoragarh
Earnest Money Deposit (EMD) Amount Bid Securing Declaration	Rs. <u>116.37 Lac</u> payable / to be submitted as provided in Clause 12 of ITB.

8. Bidders who are specifically exempted under this Bid Document from submitting the EMD should submit the Bid Securing Declaration as provided in this Bid Document. Bids without Bid Securing Declaration and documentary proof of such exemption as required under the Bid Document will be summarily rejected and such Bid shall not be considered for any further evaluation. The decision of the tender committee shall be legally binding and acceptable to the bidders in this regard.

9. For any additional information or clarification regarding the Bid, the interested Bidder, may contact the office of the undersigned at the address given below on all working days during office hours before the last date of Pre-Bid queries. Bidders may also raise queries through E-Procurement portal and/or any other electronic channel.
10. The Employer reserves the right to accept or reject or cancel any or all the Bids or to abandon the procurement process in the administrative/work/public/project interest. The decision of the competent authority shall be legally binding and acceptable to the bidders in this regard.

**Superintending Engineer
I W C Pithoragarh**

SECTION II : INSTRUCTIONS TO BIDDERS (ITD)**A. General****1. Scope of Bid**

- 1.1 The Employer invites Bids following E-Procurement System procedure from eligible Bidders (or 'tenderer', or as defined in procurement rules) execution of Works as detailed in Section VI, VII & VIII

2. One Bid Per Bidder

- 2.1 Each Bidder shall submit only one Bid (comprising Technical Bid and Financial Bid) for one package. Bidder who submits more than one Bid will be disqualified.
- 2.2 All Bidders are required to register in the Uttarakhand Government E- Procurement Portal. The Bidders, who submit their Bid after digitally using their Digital Signature Certificate (DSC), accept that they have clearly understood and agreed the terms and conditions including all the Forms / Appendices of this Bid.

3. Eligibility and Qualification Criteria

- 3.1 The Bidder should satisfy eligibility conditions and establish their competence and capacity based on the qualification criteria specified in Section IV. This invitation for Bid is open to all eligible Bidders meeting the Qualification Criteria.
- 3.2 The decision to allow or not allow Joint Ventures and Consortiums are specified in the Bid data sheet
- 3.3 The Employer may permit subcontracting for certain specialized works as indicated in Section IV. When subcontracting is permitted by the Employer, the specialized subcontractor's experience shall be considered for evaluation. Section IV describes the qualification criteria for sub-contractors.

4. Rejection of Bid

- 4.1 Non adherence to any of the eligibility and qualification criteria mentioned in the Bid Documents shall lead to the rejection of Bid.
- 4.7 The Employer reserves the right to verify all statements, information and documents submitted by the Bidder in response to the ITB and the **Bidder** shall, when so required by the Employer, make available all such information, evidence and documents as may be necessary for such verification. Any such verification, or lack of such verification, by the Employer shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the Employer thereunder.
- 4.3 The Employer reserves the right to reject any Bid and appropriate the Earnest Money Deposit if

- (a) at any time, a material misrepresentation is made or uncovered, or
- (b) the Bidder does not provide, within the time specified by the Employer, the supplemental information sought by the Employer for evaluation of the Bid.

Such misrepresentation/ improper response shall lead to the disqualification of the Bidder. If the Bidder is a Joint Venture, then the entire Joint Venture and each member of the Joint Venture may be disqualified/rejected. If such disqualification/rejection occurs after the Bids have been opened and the lowest Bidder gets disqualified/rejected, then the Authority reserves the right to annul the Bidding Process and invites fresh Bids.

- 4.4 In case it is found during the evaluation or at any time before signing of the Contract or after its execution and during the period of subsistence thereof, including the concession thereby granted by the Employer, that one or more of the eligibility and /or qualification requirements have not been met by the Bidder, or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Contractor either by issue of the LOA or entering into the Contract, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this ITB, be liable to be terminated, by a communication in writing by the Employer to the Selected Bidder, without the Employer being liable in any manner whatsoever to the Selected Bidder. In such an event, the Employer shall be entitled to forfeit and appropriate the EMD/Performance Security, as damages, without prejudice to any other right or remedy that may be available to the Employer under this ITB, the Bidding Documents, or otherwise.

B. The Bid Documents

5. Contents of Bid Documents

- 5.1 The Bid Documents shall include:
- a. Section I - Notice Inviting Bids;
 - b. Section II - Instruction to Bidder (ITB);
 - c. Section III - Bid Data Sheet
 - d. Section IV - Eligibility and Qualification criteria;
 - e. Section V - Formats for Submission of Bids
 - f. Section VI - Works Requirements;
 - g. Section VII - Technical Specifications;
 - h. Section VIII - Drawings
 - i. Section IX - Form of Contract
 - j. Section X - General Conditions Contract (GCC);
 - k. Section XI - Special Conditions of Contract (SCC); and
 - l. Section XII - Formats
 - i. Bill of Quantities (Price schedule);
 - ii. Form of Bank Guarantee for Performance Security Deposit
 - iii. Notification of Award and Letter of Acceptance/Letter of Intent; and
 - iv. Any modification, clarifications, addendum/ corrigendum issued to the original Bid Document, pre-bid meeting proceedings.



- 5.2 The Bid documents may be downloaded through the E-Procurement Portal (www.uktenders.gov.in), however, the Bidder must upload the scanned copy of the instrument/payment-receipt or online payment/ e-challan or e- BG etc. as a proof of tender fee/EMD submission.
- 5.3 The Bidder is expected to examine all instructions, conditions of contract, forms, terms and specifications, bill of quantities in the Bid Documents. Failure to furnish all information required by the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in all respects will be at the Bidder's risk and may result in rejection of its Bid.

6. Amendment to Bid Documents

- 6.1 Before the deadline for submission of Bids, the Employer may, modify the Bid Documents by notifying on the E- Procurement Portal through issue of Addendum or Corrigendum or Clarification. Any Addendum or Corrigendum or Clarification issued by the Employer shall form part of the Bid Document.
- 6.2 In order to allow prospective Bidders, reasonable time, to take the amendment into account in preparing their Bids, or procuring entity decide so, the deadline for the submission of Bids as necessary may be extended. Information about extension of the deadline for the submission of Bids will be published on E- Procurement Portal.

7. Pre-Bid Meeting and Clarification of Bid Documents

- 7.1 The E-Procurement Portal provides for online clarification. A prospective Bidder requiring any clarification of the Bid Documents may notify the Employer in writing or by email at the mailing address indicated in the Notice Inviting Bids one day prior to date of pre-bid meeting. The Employer will respond in writing to any request for clarification received earlier than the number of days, as specified in the Bid Data Sheet, prior to the last date and time for submission of Bids. The Employer's response will be uploaded in the E-Procurement Portal including a description of the enquiry sought for the information of public or the other Bidders without identifying the source of request for clarification.
- 7.2 If the pre-bid meeting is to be held, the Bidder or his authorized representative is invited to attend it. Its time, date and venue is given in Section I and in the Bid Data Sheet
- 7.3 The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.4 Queries raised and the responses given will be uploaded by the Employer on the E-Procurement Portal. Any modification to the Bid Documents listed in Sub-Clause 5.1, which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum/Corrigendum/ Clarification pursuant to Clause 6 and / or through the minutes of the pre-bid meeting.
- 7.5 Non- attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

C. Preparation of Bids

8. Language of Bid

The Bid prepared by the Bidder, as well as all supporting documents, the correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be in [English/Hindi] language as decided by Employer. All supporting documents other than [Hindi/English] language needs transcript/ translation, provided they are accompanied by a self-certified accurate translation of the relevant passages in (Hindi/English] language, in which case, for purposes of interpretation of the Contract, this translation shall govern. The Bidder shall bear all the costs and all risks of the accuracy of such translation.

9. Cost of Tendering

- 9.1 The Bidder shall bear all costs associated with preparation and submission of its Bid, and the Employer in no case be responsible and liable for those costs regardless of the outcome of Procurement process.

10. Document Constituting the Bid

- 10.1 The Bid should be uploaded in the E- Procurement Portal under a two Bid document system comprising the following documents.

- A- **First Electronic Document shall be named PART — I, Technical Bid documents** and shall comprise of scanned copy of all pre-qualification/technical information namely;
- i. Letter of Bid in the format prescribed at Section V **Form Tech 1.**
 - ii. Details of Bidder in the format prescribed at Section V **Form Tech 2** along with supporting documents;
 - iii. Qualification Criteria of the Bidder in the format prescribed at From **Section V Tech 3 to Form Tech 13** along with supporting documents;
 - iv. **[Bids** submitted by a Joint Venture shall include a copy of the Joint Venture Agreement entered into by all members;]
 - v. Power of Attorney for Signing of Proposal in the format prescribed at Section V Form Tech 14 / Tech 15;
 - vi. Earnest Money Deposit in the manner and form at Section V Form **Tech 17** or Form Tech 17 (A) as specified in Clause 12;
 - vii. Copy of the Demand Draft for the cost of Bid Document
 - viii. Undertaking regarding restrictions on procurement from a Bidder/Supplier of a Country which shares a land border with India in the format prescribed at Section V Form Tech 16;
 - ix. [Any other information considered relevant]‘

Note: Bidder should not furnish the Financial Bid along with the Technical Bid. A Technical Bid containing any details of Financial Bid shall be declared as non-responsive.

B- Second Electronic Document shall be named as PART — H - Financial Bid document and shall comprise of:

The Price Schedule furnished in the Bid Documents, indicating the prices for Works to be executed under the Contract and are to be provided in the slot provided on the E-Procurement Portal. A specimen of the Financial Bid to be provide in the E-Procurement Portal is prescribed at Form **Fin 1**.

10.2 Price Components

- a) The specimen format for the Financial Bid is provided at Section V Form **Fin 1**. The Bidder shall make online entries of the rates and prices in line-item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total bid price (both in figures and words).
- b) [Bidders submitting bids for combination of Packages as stated in the Works Requirements will so indicate in the bid together with any discounts offered for the award of more than one Package.
- c) For combination of Packages as stated in the Works Requirements, the Bidder may submit for any one or more package and may offer discount for combined Packages. However, a Bidder shall quote for the complete requirement of Works specified under each package on a single responsibility basis, failing which such Bid will not be taken into account for evaluation and will not be considered for award. Further, the Bidder shall submit the EMD needed against the individual Packages]
- d) All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause, excluding GST shall be included in the rates and price submitted by the Bidder and shall be for the whole Work as described in Clause I of the ITB. 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 to have covered by the other rates and prices in the Bill of Quantities.
- e) The rates and prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, if specified in the Bid Data Sheet in accordance with the provisions of Clause 53 of General Conditions of the Contract.
- f) Bids submitted by fax, e-mail or any other electronic modes other than through E-Procurement Portal shall not be entertained and shall be rejected.

11. Bid Currency

The Financial Bid should be quoted by the Bidder in Indian Rupees only. All payments shall be made in Indian Rupees.

12. Earnest Money Deposit (EMD)'

- 12.1 The Bidder shall furnish, as part of his Bid, an Earnest Money Deposit (the "EMD") of amount as specified in the Bid Data Sheet.'
- 12.2 The EMD may be provided in the form of Fixed Deposit Receipt/Demand draft/ Bank Guarantee including E-Bank Guarantee etc., issued/confirmed by a Scheduled Bank or if specified by the Purchaser, through offline modes, pledged in favour of Authority and payable at the place as specified in the Data Sheet or deposited in given heads of account through e-banking (if any) to the satisfaction of the Purchaser safeguarding the interest of the purchaser in all respects.¹⁰
- 12.3 The Bank Guarantee should be submitted in the format provided at Form: TECH 17, issued by a Scheduled Bank in India and drawn in favour of and payable at, as specified in the Data Sheet. BG should be irrevocable, non-transferable and un-conditional. For the avoidance of doubt, Scheduled Bank shall mean a bank as defined under Section 2(e) of the Reserve Bank of India Act, 1934. The Earnest Money Deposit / Bid security for the Bid shall be valid for 43 days beyond the validity of the Bid, and may be extended as may be mutually agreed between the Purchaser and the Bidder from time to time.
- 12.4 The Bidder should upload the scanned copy of the instruments furnished as EMD in the E-Procurement Portal. Failure to submit such instruments will amount to treat such Bids as non-responsive.
- 12.5 [The EMD to be paid through online or offline modes shall be made on any of the following payment options:

Online Payments:

- i. ~~Debit Card,~~
- ii. ~~Credit Card,~~
- iii. ~~Internet Banking~~
- iv. ~~NEFT (National Electronic Fund Transfer)~~

Offline Payments:

- i. ~~Remittance at the bank counter using challan~~

Note:

The Employer shall not take any responsibility for non-payment of EMD amount due to declaration of Bank Holiday. In such case the Bidder may use other alternative modes of payment.

For further details regarding e-payment, please refer to the E- Procurement Portal.) "

- 12.6 Bidders who are specifically exempted from submitting the EMD should submit supporting documents along with a Bid Securing Declaration as per Form TECH 17(A) of this Bid document. The exemption and relaxation in EMD are subject to the validity & acceptance of the supporting documents by the Employer ²
- 12.7 Any Bid not accompanied by EMD/ Bid Securing Declaration and not secured as indicated in Sub-Clauses 12.1 to 12.3 shall be rejected as non-responsive. If bids have been extended, any bid should not be rejected due to validity of EMD.
- 12.8 The Earnest Money Deposit submitted through online or offline modes of payment will be returned without any interest in the following manner:
- i. To the successful Bidder, within 30 days on receipt of the Performance Security Deposit
 - ii. To the unsuccessful Bidder, as promptly as possible and in any case not later than 30 (thirty) days after the award of the Contract by the Employer.
 - iii. In the event of rejection of all bids or cancellation of Procurement process by the Employer, within 30 (thirty) days of such rejection or cancellation.
- 12.9 The EMD shall be forfeited under the following conditions:
- i. if a Bidder withdraws its Bid during the Bid Validity Period specified in this Bid Document or as extended by the mutual consent of the respective Bidder(s) and the Employer; or
 - ii. if the Bidder does not accept the correction of the Bid Price, pursuant to ITB Clause 26.3; or
 - iii. if the successful Bidder fails or refuses to:
 - a. sign the Contract within the period specified in accordance with ITB Clause 29.6; or
 - b. Furnish Performance Security Deposit in accordance with ITB Clause 30.
 - iv. If the bidder breaches any provision of code of integrity.
- 12.10 The Bid Security of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the Bid Security shall be in the names of all future partners as named in the letter of intent.

13. Period of Validity of Bids

- 13.1 The Bid shall remain valid for a period of days as specified in Bid Data Sheet from the last date of submission of Bid. The Bidder is not allowed to modify, vary, revoke or withdraw, the Bid during the said original or extended validity period.
- 13.2 In case the last day on which the Bid are to remain valid falls on/subsequently declared a holiday or closed day for the Procuring Entity, the Bid Validity shall automatically deem to be extended to the next working day.
- 13.3 A Bid valid for a shorter period than specified in Clause 13.1 above shall be rejected by the Employer as non-responsive.

- 13.4 In exceptional circumstances prior to the expiration of the Bid validity period, the Employer may solicit the Bidder's consent to an extension of the period of validity for a specified additional period. The request and the responses thereto shall be made in writing (or by e-mail or fax or through E-Procurement Portal or other written records through electronic medium only). A Bidder may refuse the request without forfeiting its Earnest Money Deposit. A Bidder granting the request shall not be required or permitted to modify its Bid.
- 13.5 A Bidder who agrees to the extension of the period of validity of Bids shall also extend the period of validity of the Earnest Money Deposit/ Bid Securing Declaration provided under ITB Clause 12 or submit new EMD to cover the extended period of validity of their bids.
14. Code of Integrity
- 14.1 The Employer and all officers or employees of the Employer, whether involved in the procurement process or otherwise, or Bidders and their representatives or consultants or service providers participating in a procurement process or other persons involved, directly or indirectly in any way in a procurement process shall maintain an unimpeachable standard of integrity.
- 14.2 Government of Uttarakhand prescribes to the Employer and Bidders to uphold the Code of Integrity, which prohibits officers or employees of Employer or a person participating in a procurement process the following:
- (i) any offer, solicitation or acceptance of any bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process;
 - (ii) any omission, including a misrepresentation that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
 - (iii) any collusion, bid rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process;
 - (iv) improper use of information shared between the Employer and the bidders with an intent to gain unfair advantage in the procurement process or for personal gain;
 - (v) any financial or business transactions between the bidder and any officer or employee of the Employer, who are directly or indirectly related to tender or execution process of contract;
 - (vi) any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
 - (vii) any obstruction of any investigation or audit of a procurement process;
 - (viii) making false declaration or providing false information for participation in -
 - a. tender process or to secure a contract;
 - b. disclosure of Conflict of Interest;
 - c. disclosure by the bidder of any previous transgressions with any entity in India or any other country during the last three years or of any debarment by any other Procuring Entity.
- 14.3 In case of any breach of the Code of Integrity by a bidder or a prospective bidder, as the case may be, the Employer after giving a reasonable opportunity of being heard, may take appropriate measures including —
- a. exclusion of the bidder from the procurement process;

- b. calling off of pre-contract negotiations and forfeiture or encashment of bid security;
- c. forfeiture or encashment of any other security or bond relating to procurement;
- d. recovery of payments made by the Employer along with interest thereon at bank rate;
- e. cancellation of the relevant contract and recovery of compensation for loss incurred by the Employer;
- f. debarment of the bidder from participation in any future procurements of any Procuring Entity for a period of two years

D. Online Submission of Bids

15. Format and Signing of Bid

- 15.1 The Bidder shall provide all the required information sought under this Bid Document. The Employer will evaluate only those Bids that are received in the required formats and complete in all respects. Incomplete and/or conditional/ alternative Bids shall be liable to rejection as non-responsive.
- 15.2 All the documents of the Bid should be uploaded on the E-Procurement Portal www.uktenders.gov.in using digital signature with their valid Digital Signature Certificate (DSC) in the form of smart card/e-token. The DSC can be obtained from any authorised certifying agencies. The Bidder should register in the web site www.uktenders.gov.in using the relevant option available. Then the Digital signature registration had to be done with the e-token, after logging into the site. The bidder can login the site through secured login by entering the password of the e-token and the user id/password chosen during registration.
- 15.3 The documents to be uploaded shall be typed or written in indelible ink and signed by the Authorized Signatory (the "Authorized Signatory") of the Bidder who shall also initial each page, in blue/black ink with stamp as an acceptance of the terms and conditions written therein. The person signing the submissions shall initial all the alterations, omissions, additions, or any other amendments made to the submissions. The submissions must be properly signed by the Authorized signatory of the Bidder holding a Power of Attorney or the Board Resolution in this regard.
- 15.4 A copy of the Power of Attorney certified by the authorized signatory of the Bidder in the form specified in Form Tech 14, as the case may be, should accompany the Bids.
- 15.5 The Bidder shall submit through E-Procurement Portal two separate files. First Electronic Document — **Part 1**- Technical Bid documents and the Second Electronic Document — **Part 2**- Financial Bid document as specified in Clause 10.1 above. After submission of Bids, the system would generate a unique bid identification number which is time stamped. This shall be Created as acknowledgment of Bid submission.
- 15.6 Instructions for e-tendering is specified in E-Procurement Portal of www.uktenders.gov.in. The Bidder must acquaint and train themselves with the rules, regulations, procedure and implied conditions/agreement of the respective Uttarakhand Departments' portal. The Bidder shall settle clarifications and disputes if any, regarding the E-Procurement Portal directly with E-Procurement Portal helpdesk. The Bidder shall be responsible to see the E-Procurement Portal till last date of submission of Bid for any clarification/amendment which shall be part of the Bid Document. Employer will not owe the responsibility for any technical issue, if any, for the submission of the proposal.
- 15.7 A bid submitted by a Joint Venture shall be signed so as to be legally binding on all partners.

16. Deadline for Submission of Bids"

- 16.1 It shall be the responsibility of the Bidder to ensure that their Bid is submitted in the E-Procurement Portal within the last date and time specified for the receipt of Bids in complete manner. The Employer will not be held responsible for technical glitches and internet connectivity issues confronted by Bidder in uploading their Bid or for any failure on part of the Bidder to make the payment of EMD or submission of any documents as required to be submitted or for rejection **of Bids** by E-Procurement Portal for whatsoever reasons. No correspondence shall be entertained in this regard.
- 16.2 The last date and time for submission of Bids may be extended by amending the Bid Documents in accordance with ITB Clause 6 after giving adequate notice on the E-Procurement Portal, in which case all rights and obligations of the Employer and Bidder previously subject to the deadline will thereafter be subject to the deadline as extended. Information about extension of the deadline for the submission of Bids will be published on E-Procurement Portal.

17. Late Bids

The E-Procurement Portal will not accept any Bids after the last date and time for submission of Bids.

18. Modification and Withdrawal of Bids

- 18.1 The Bidder may modify the contents of the Technical Bid or Financial Bid or withdraw its Bid by uploading their request prior to deadline for submission of Bids in E-Procurement Portal. The last modified Bid submitted by the Bidder within the last date and time for submission of Bids shall be considered as the Bid. The Bidders may withdraw his bid by uploading their request before the last date and time of submission of Bids. However, if the Bid is withdrawn, the re-submission of the Bid is not allowed.
- 18.2 No Bid may be withdrawn in the interval between the deadline for submission of Bids and the expiration of the original Bid Validity Period or extended period in pursuant to Clause 13. Withdrawal of a Bid during this interval shall result in forfeiture of the Bidder's Earnest Money Deposit/initiation of action for debarring the Bidder as per Bid Securing Declaration '•'.

E. Bid Opening and Evaluation of Bids"

19. Opening of Technical Bid

- 19.1 The file containing Technical Bid Document shall be opened first in the E-Procurement Portal at the designated date and time. Authorised representatives of Bidder, who intend to attend the Technical Bid opening

are to bring with them letters of authority/power of attorney from the corresponding Bidder. In the event of the specified date of Technical Bid opening being declared a holiday, the Technical Bid shall be opened at the appointed time on the next working day.

- 19.2 List of submitted Bids termed as RECEIVED shall be displayed in E-Procurement Portal. All Bid payments including EMD] and cost of bid document successfully received shall be displayed. Thereafter the names and such other details of the Bidder shall be published in the E-Procurement Portal.

20. Process to be Coafldendal

- 20.1 The Employer shall ensure the confidentiality of the process of Bid evaluation until orders on the Bids are passed.
- 20.2 Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations of award of Contract shall not be disclosed to a Bidder or any other persons not officially concerned with such process until award of the successful Bidder is announced in the E-Procurement Portal. Any effort by a Bidder to influence, the Employer in processing of Bids or award decision may result in rejection of its Bid.

21. Clarification ot Bids

- 21.1 During evaluation of Bids, the Employer or the Bid Scrutiny Committee, may at its discretion, seek bonafide clarifications in writing from the Bidders relating to the Bids submitted by them by a specific date. The Bidders may be requested to submit necessary information or documents which are historical in nature (which exist on the last date of the submission of the Bid), like audited statements of accounts, tax clearance certificate, PAN, etc. If the Bidder does not comply or respond by the specified date, their Bid shall be liable to be rejected and this shall be legally acceptable and binding to all the bidders.
- 21.2 The Employer shall not offer or permit any change in the price or substance of a Bid except to confirm the correction of arithmetic errors discovered by the Bid Scrutiny Committee in the evaluation of the Financial Bids. In case of confusion between digit and words, words shall be preferred for evaluation purpose.
- 21.3 No substantive change to qualification information or to a submission, including changes aimed at making an unqualified bidder, qualified or an unresponsive submission, responsive shall be sought, offered or permitted undet any circumstances.
- 21.4 All communication generated as above shall be included in the record of the procurement proceedings.

22. Initial Examination of Bids

- 22.1 The Employer shall cause preliminary examination of the Bids submitted to determine their substantial responsiveness and following factors shall be considered, namely:
 - i. Whether the Bidder meets the eligibility criteria laid down in the Bid Documents;

- ii. Whether the crucial documents have been duly signed and submitted;
- iii. Whether the requisite Earnest Money Deposit Bid Securing Declaration, if exempted has been furnished;
- iv. Whether the Bid is substantially responsive in terms of the Bid Documents without material deviation or reservation or inconsistent with the Employer's right or tenderer's obligations under the Contract.

For the avoidance of doubt, a substantially responsive technical Bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

- a) If accepted, would
 - i. affect in any substantial way the scope, quality, or performance of the Works, and Materials and Plants incorporated therein as specified in Works Requirement; or
 - ii. limits in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations under the Contract to be executed.
 - b) if rectified, would unfavourably affect the competitive position of other Bidders presenting substantially responsive technical Bids.
 - c) During the evaluation of Bids, the following definitions apply:
 - i. "Déviation" is a departure from the requirements specified in the Bidding Document;
 - ii. "Reservation" is the setting of limiting conditions or withholding the complete acceptance of the requirements specified in the Bidding Document; and
 - iii. "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
- 22.2 Bids which on initial examination are found not to be substantially responsive under any of the Clauses under Clause 21.1 above, shall be rejected. The decision shall be legally binding and acceptable to the bidders in this regard.
- 22.3 (Where the Bidder has quoted for more than one package, if the EMD furnished is inadequate for all the packages, the Procuring Entity/ Bid Scrutiny Committee shall take the Contract Price into account only to the extent the Bid is secured. For this purpose, the extent to which the Bid is secured shall be determined by evaluating the requirement of EMD to be furnished for the package included in the Bid (offer) in the serial order of the Works Requirements of the Bid Document.)
- 22.4 **The Procuring Entity/ Bid Scrutiny Committee may waive any minor infirmity or non-conformity or irregularity in a Bid which does not constitute a material deviation, reservation or omission provided such a waiver does not prejudice or affect the relative ranking of any Bidder.**
23. Correction of Errors
- 23.1 **Bids determined to be substantially responsive will be checked by the Bid Scrutiny Committee for any arithmetic error. Errors will be corrected by the Bid Scrutiny Committee as follows:**
- a) **where there is a discrepancy between the rates in figures and in words, the amount in words will prevail; and**
-

- b) where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

23.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the earnest money deposit may be forfeited in accordance with Sub-Clause 12.10.

24. Evaluation of Technical Bid

24.1 The Procuring Entity may constitute a Bid Scrutiny Committee" as it deems fit to carry out scrutiny and evaluation of Bids strictly in accordance with the evaluation criteria indicated in Section IV of this Bid Document.

24.2 Bidder whose Technical Bids are adjudged as responsive in terms of Clause 21 and who fulfils the conditions of eligibility and qualification in terms with Section IV will be declared as qualified Bidder (**"Qualified Bidder"**). If a Bidder does not fulfil the eligibility and qualification criteria prescribed **as above**, such a Bidder shall be disqualified. The Financial Bids of only the Qualified Bidders shall be considered for opening in the E-Procurement Portal and further evaluation in the manner set out in Clause 25 below.

24.3 The list of Qualified Bidders and the date, time of opening of Financial Bids of Qualified Bidders shall be published by the Procuring Entity in the E-Procurement Portal.

25. Opening and Evaluation of Financial Bid

25.1 The Financial Bids of all the Qualified Bidders will be opened in the E-Procurement Portal at the designated date and time notified. Authorised representatives of the Bidders, who intend to attend the Financial Bid opening are to bring with them letters of authority from the corresponding Bidders. If the specified date of Financial Bid opening is declared a holiday subsequently the Financial Bids shall be opened at the appointed time on the next working day.

26. Evaluation and Comparison of Bids

26.1 The Employer/ Bid Scrutiny Committee shall compare the evaluated prices of all substantially responsive bids established in accordance with this Bid Document to determine the lowest evaluated bid. By applying the criteria and methodologies the Employer shall determine the Most Advantageous Bid. This is the Bid that meets the Qualification Criteria and has been determined to be:

- a) substantially responsive to the Bid document, and
- b) the lowest evaluated cost.

26.2 [No Bid will be considered if the complete requirements is not included in the Bid. However as stated in ITB Clause 10.2 (b) and (c), where the Bidder are allowed the option to submit Bid for any one or more Package who meets the required qualification criteria for respective Package(s) and to offer discounts for combined

Packages, these discounts will be taken into account in the evaluation of the bids so as to determine the Bid or combination of Bids offering the lowest evaluated cost for the Employer in deciding award(s) for each Package. In determining Bidder or Bidders that offer the total lowest evaluated cost to the Employer, after considering all possible combinations of Packages, the Employer shall apply the following steps in sequence:

- a. evaluate individual Package to determine the substantially responsive Bids and corresponding qualification criteria and then the evaluated costs;
- b. If the bidder has applied for more than one package, evaluate the combined qualification criteria for the combined packages and the evaluated costs
- c. for each package, rank the substantially responsive Bids starting from the lowest evaluated cost for the Package;
- d. apply to the evaluated costs listed in (b) above, any applicable discounts/price reductions offered by a Bidder (s) for the award of multiple contracts based on the discounts and the methodology for their application offered by the respective Bidder; and
- e. determine contract award on the basis of the combination of Packages that offer the total lowest evaluated cost to the Employer.]’•

- 26.3 In evaluating the **Bids**, the Employer will determine for each **Bid** the evaluated **Bid Price** by adjusting the **Bid Price** as follows:
 - a) making any correction for errors pursuant to Clause 22; and 23
 - b) [making appropriate adjustments to reflect discounts]".
 - c) the bid **price, excluding** Provisional Sums and **the provision, if any**, for contingencies in the Summary Bill of Quantities for measurement contracts, or **Schedule of Prices for lump sum contracts, but** including Daywork items, where priced competitively;
 - d) **price adjustment for correction of arithmetic errors.**
- 26.4 The Employer reserves the right to reject any variation, deviation, or alternative offer unless otherwise specified in the Bid Data Sheet.
- 26.5 The estimated effect of the price adjustment conditions, if any under Clause 53 of the General Conditions of Contract, during the implementation of the Contract, will not be taken into account in bid Evaluation.
- 26.6 If the bid of the successful bidder is seriously unbalanced or front loaded in relation to the Employer's estimate of the cost of the 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** prices with the construction methods and **schedule proposed. After** evaluation of the price analyses, the Employer may require that the amount of the performance security deposit set forth in Clause 30 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful under the contract.
- 26.7 The evaluation of Bid and award of Contract shall be completed, as far as possible, within the period for which the Bids are held valid. **The Employer** shall seek extensions **of the validity of Bidder as per the rules** from the

Bidder for the completion of evaluation. In case the evaluation of Bids and award of Contract is not completed within this extended period, all the Bids shall be deemed to have become invalid and fresh Bids may be called for.

F. Award of Contract

27. Preparation of evaluation report

- 27.1 The detailed evaluation report shall be prepared in accordance with the eligibility and qualification criteria, which shall be considered by the Procuring Entity for taking a final decision on the Bid.
- 27.2 After evaluation of the Bids, simultaneously with the issuance of LoA under ITB Clause 29, the Employer shall publish the contract award notice on the E-Procurement Portal which shall contain, at a minimum, the following information:
- a. name and address of the Employer;
 - b. name and reference number of the contract being awarded, and the selection method used;
 - c. names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
 - d. names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting the Eligibility and Qualification Criteria, or were not evaluated, with the reasons therefor; and
 - e. the name of the successful Bidder, the final total Contract Price, the contract duration and a summary of its scope.

28. Employer's right to vary Quantities at the Time of Award

The Employer reserves the right to increase or decrease by up to [10] percent of the quantity of works originally specified in the Schedule of Requirements without any change in the rate or other terms and conditions.

29. Notification of Award and Signing of Contract

- 29.1 Subject to ITB Clause 26.1 above, the Contract will be awarded to the successful Bidder whose Bid has been determined to be substantially responsive and has been determined as the lowest evaluated Bid, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 29.2 The Bidder whose Bid has been accepted will be notified by the Employer by issuing the Letter of Acceptance (LOA) prior to expiration of the Bid validity period through the E-Procurement Portal and through email to the successful Bidder specifying the sum that the Employer will pay the Bidder in consideration of the execution of Works as prescribed by the Contract (hereinafter and in the Contract called the "**Contract Price**"). The Bidder, shall within 14 days confirm acceptance by returning a signed copy of the Letter of Acceptance through E-Procurement Portal and email.

- 29.3 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.
- 29.4 Before issuing such LOA, the Employer may, at its discretion, ask the Successful Bidder to submit the originals of all such documents for verification whose scanned copies were submitted in E-Procurement Portal along with the Technical Bid. If the Bidder fails to provide originals or if there are any substantive discrepancies between such documents, the same shall be considered as violation of Code of Integrity including misleading the Employer and action shall be initiated to debar such Bidder in accordance with Section V.
- 29.5 Upon the successful Bidder's furnishing of Performance Security Deposit pursuant to ITB Clause 30, the Employer shall send the Contract Form to the successful Bidder.
- 29.6 Within Fourteen (14) days of receipt of the Contract Form, the successful Bidder shall sign, date, and return it to the Employer.
30. Performance Security Deposit
- 30.1 Within the timeframe specified in the Data Sheet, the successful Bidder shall furnish the Performance Security Deposit plus additional performance security for unbalanced Bids in accordance with Clause 26.6 of ITB and Clause 59 of the General Conditions of Contract, in the form of Demand Draft/ Fixed Deposit Receipt/ Bank Guarantee issued/ continued by a Scheduled Bank in India or through online payment in an acceptable form to the Purchaser, safeguarding the Purchaser's interest in all respects.
- 30.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 29.6 and/or ITB Clause 30.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Earnest Money Deposit. In such a case the Procuring Entity shall go for re-tendering.
31. Appeals
- 31.1 A Bidder aggrieved by an order passed by the Procuring Entity pursuant to Clause 29.1 of ITB may complain within prescribed time of the publishing of the notice inviting bid in the portal prescribed by the Government. If the aggrieved Bidder is not satisfied with the decision of the Procuring Entity, Online complaints shall be entertained only, if received within three working days from the date of uploading of recommendation of technical evaluation of the bids. All the complaints shall be forwarded to **sepithoragarh@gmail.com** only. Any complaint to other email ID or otherwise shall not be entertained
- 31.2 The decision of the appellate authority shall be final and legally binding on both parties.

SECTION III - Bid Data Sheet

(To be modified by the client as per requirement)

The following specific data for the goods and related services to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB

ITB Para Reference	Particulars
NIB 1	The reference number of the Notice Inviting Bids (NIB) is: 04/SE/2026-27 dated 04-06-2026 The Employer is: Superintending Engineer, Irrigation Works Circle Pithoragarh.
ITB3.I	Joint Ventures and Consortiums are (allowed).
ITB52	Demand Draft towards cost of Bid Document for an amount of Rs. 5000 + Rs. 900 (GST) separately in favour of Executive Engineer, Irrigation Division, Lohaghat along with the Bid in the manner set out in this Bid Document.
	B. Bidding Documents
ITB 7.1	The Employer's address for the purpose of any clarification is: Irrigation Works Circle Pithoragarh.) Requests for clarification should be received by the Employer no later than: 12 Days, prior (i.e up to 23.06.2026) the last date and time for submission of Bids
ITB 7.2	Pre-Bid Meeting shall be scheduled: Yes In case Pre-Bid Meeting is scheduled, name of contact person, venue, time and date for pre-bid meeting are specified as under: Name and designation of contact person: <u>Superintending Engineer</u> Phone: E-mail: sepithoragarh@gmail.com Venue Irrigation Works Circle, Pithoragarh Time and Date: 12-06-2026 at 11:00 Hrs
	C. Preparation of Bids
ITB 10.2, 22.3	Whether price for combination of Packages is allowed: Yes _____ / No _____ If Yes, then for combination of Packages as stated in the Works Requirements, the Bidders

	may submit for any one or more packages and may offer discounts for combined packages. Further, the bidder shall submit the EMD needed against the individual schedules]
ITB10.2	The price quoted by the bidder shall be <i>[fixed /subjecti to variation]</i> during the Bidder's performance of the Contract.
ITB 12.1	[The amount of EMD is Rs. <u>116.37 Lac</u> only
ITB 12.2, 12N	EMD/Bank Guarantee shall be in favour of <u>Executive Engineer, Irrigation Division, Lohaghat</u> payable at Lohaghat
ITB 12.5	EMD paid through digital mode is <u>Not Permitted</u> [insert “permitted” / “not permitted”] <i>(iii case Bid Security deposit through digital mode is permitted. mention Employer’s bank details such as Account Number, IFSC Code. Name and address of Bank 7 Head of Account)</i>
ITB 13.1	The bid validity period shall be 120 days after the deadline for bid submission
D. Submission and Opening of Bids	
E. Bid Opening and Evaluation of Bids	
ITB 19.1	The bid opening shall take place at Office of the Superintending Engineer, Irrigation Works Circle Pithoragarh The date and time for Bid opening is: 24-06-2026 at 15:30 Hrs
ITB 26.2	Bids will be evaluated for [insert “each Package ” or “Cumulative of all Packages ”, as applicable] <i>fThe above is required only when bids are invited for multiple packages and contract is likely to be awarded to different bidders. In case there is only single package, the para may be substituted with 'Not Applicable']</i>
ITB 26.3	Adjustments to reflect discounts (if any) _____
ITB 30.1	Performance security Deposit shall be furnished by the Selected Bidder [.....] days from the date of the receipt of LOA from the Purchaser.



SECTION IV: ELIGIBILITY AND QUALIFICATION CRITERIA

1. Eligible Bidder

1.1 For determining the eligibility of Bidder, the following conditions are to be satisfied:

- a. The Bidder should not be under order of debarment or removed from empanelled/registered list by any Employer from participating in a Bid, as on the last date of submission of Bids.
- b. Any contract of the Bidder should not have been terminated during the last 36 months from the last date of submission due to non-fulfillment of contractual obligations as evidenced by imposition of a penalty by any Employer or by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder.
- c. Bidder should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Employer to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the Works to be executed under this Notice Inviting Bids.
- d. Bidder shall be a natural person, private entity, government-owned entity or, any combination of these in the form of Joint Venture (JV) or Consortium of not more than 2 members.
- e. In the case of a joint venture
 - i. In case of JV, all partners of JV must fulfill a minimum of 25% of eligibility criteria for all requirements. All members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms.
 - ii. The joint venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture during the Bid process and, in the event the joint venture is awarded the Contract, during contract execution.
 - iii. Members of the Joint Venture shall enter into a binding Joint Bidding Agreement for the purpose of submitting the bid which shall include a brief description of the roles and responsibilities of individual members and lead partner particularly with reference to financial, technical and maintenance obligations, if any. The EMD should preferably be in the name of the JV, however, the EMD may also be submitted in the name of the lead partner with approval / authorization by all the partners of the JV
 - iv. A Bidder who has applied for the Bid in its individual capacity or as part of a Joint Venture cannot participate as a member of any other Joint Venture applying for the Bid.
- f. Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Employer's satisfaction, through all relevant documents, including its Charter and other information the Employer may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the

government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not Bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

- g. A Bidder shall not have a conflict of interest as specified in Uttarakhand Procurement Rules, as amended from time to time
 - h. [In case of global Bid, an international Bidder bidding individually shall ensure that Power of Attorney is legalised/apostilled by appropriate authority notarised in the jurisdiction where the Power of Attorney is being issued and requirements under the Indian Stamp Act, 1899 are duly fulfilled.] ²¹
 - i. [The Bidder should fulfil the conditions imposed by the Government of India in the interests of national security relating to submission of a bid by a **Bidder/Contractor/Supplier** from a **Country which** shares Land Border with India or by a bidder (including an Indian bidder) who has a Specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India. A certificate for having read the above* clauses is required to be submitted / uploaded by the Bidder separately in the prescribed format at Form Tech 16.]
 - j. Bidder must neither be insolvent, in receivership, bankrupt or being wound up, nor shall have its affairs administered by a Court or Judicial Officer or, its business activities suspended and must not be the subject of legal proceeding for any of these reasons.
 - k. The Bidder should not have, and their directors and officers do not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter a procurement contract within a period of three years preceding the last date of submission, or not have been otherwise disqualified pursuant to debarment proceedings.
- 1.2 The Bidder should have the following:
- a. Registration under the applicable law for establishing their legal business identity.
 - b. Active Registration under the Goods and Service Tax (GST) Act.
 - c. Permanent Account Number(PAN) issued by the Board of Direct Taxes under the Income Tax Act, 1961.
 - d. Registration with Employees Provident Fund Organisation under EPF and Miscellaneous Provisions Act, 1952.

2. Qualification Criteria

- 2.1 Evaluation of the Bidder's Bid will include an assessment of the Bidder's capacity to mobilize key personnel and equipment for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in **Section VI - Works**
-

Requirements. Such an evaluation shall be based on the qualification criteria listed below.

- 2.2 **The Bidder should demonstrate that they fulfil the following qualification criteria (the “Qualification Criteria”). The qualification information should be submitted in the format prescribed at Section V Form Tech 3 — Form Tech 13.**

A. Qualification Criteria:

- a) The Bidder should have achieved a **minimum average** annual construction turnover (**based on financial statement**) **over the last [5 (five)] financial years amounting** of Rs 5818.26 ²⁴Lakh (Including GST) (usually not less than 100% of the tender value)
- b) The Bidder should have Experience of ‘similar construction contracts’ in the role of contractor for at least the last [5 (Five)] years prior to the bid submission deadline.” ²⁵
- c) The Bidder should have satisfactorily completed at least [one] similar work of [at least 50% of the contract value i.e Rs, 2909.18 Lakh (Including GST)] as a prime contractor or at least Two similar work of value not less than [33% i.e Rs, 1920.03 Lakh (Including GST)] estimated value of contract ²⁶ within the last [60 (sixty)] months from the last date of submission. The similar work shall be strictly based on the nature, physical size, complexity, methods, technology or other characteristics for the works requirement described in Section V Form Tech 1

Note: Base year to be considered as the FY in which the tenders are invited. Financial turnover of previous years shall be given a weightage of 5% per year to bring them to the price level of the FY in which the tenders are invited.

- d) The Bidder should have executed in any one of the 5 (five) financial years, the minimum quantities of the following works: [insert type and quantity of principal item of the works to be executed]

Earthwork in excavation	: 33313.00 CuM
P.C.C grade M 10 Nominal mix 1:3:6	: 34500.00 CuM
Stone masonry cement mortar (1:5)	: 4556.50 Cum

(Any other works can be mentioned here)
(usually, 50% of the peak annual rate of construction)

- e) The Bidder should be in adherence to the class of contractors as defined in the bid document.²⁷
- f) The bidder should demonstrate that they have availability (either owned or leased) of the following critical equipment for this work: [insert list of critical equipment and their minimum number required].

²⁴ Updated to the FY in which the tenders are invited. Financial turnover of previous years shall be given a weightage of 5% per year to bring them to the price level of the FY in which the tenders are invited.

²⁵ Based on categorisation of works

²⁶ Updated to the FY in which the tenders are invited value of work of previous years shall be given a weight of 5% per year to bring them to the price level of the FY in which the tenders are invited.

²⁷ strike out, if not applicable.

S.No.	Equipment	Minimum Number required	Capacity	Model and Power Rating	Age of Equipment
1	Front end-loader	4 No	1 cum bucket capacity		
2	Air Compressor	2 No	140 CF		
3	Self loading mobile concrete mixture	1 No	As per requirement		
4	Dozers D-8 or equivalent	1 No	Dozer D-80-A 12		
5	Concrete Pump	2 No	-		
6	Concrete Mixer	3 No	0.30 Cum		
7	Concrete Vibrator (pin)	3 No	1 HP		
8	Tipper	6 No	3 Cum		
9	Water Tanker	4 No	6KL		
10	Vibrators (surface)	4 No	140 CF		
11	Diesel Generating sets	2 No	25 kw		
12	Drilling equipment	4 No	-		
13	Transformer panels	4 No	-		
14	Water Pump	10 No	10 HP		

Minimum Required Instruments for field testing Laboratory

Sl. N	Name of the Equipment	Quantity	Requirements
1	Compressive Testing Machine	01 Set	Must meet the requirements
2	Aggregate Impact Test Apparatus	01 Nos	
3	Sieves (Coarse & Fine)	01 Set each	
4	Stone boulder, Impact value, Abrasion test Apparatus	01 Set each	
5	Flakiness and Elongation Test Gauges	01 Set	
6	Enamelled Trays (Assorted Size)	06 Nos	
7	Cube Mould (size Picture)	24 Nos	
8	Digital Balance	01 Set	
9	Liquid limit and P.I. Apparatus	01 Nos	
10	Water tank for curing concrete cube samples	04 Nos	
11	Leveling Instrument	01 Nos	
12	Slump Test apparatus	04 Nos	

Note:

The Maximum age of the equipment shall not be more than [8 (eight)] years as on last date of submission. For this purpose, the age of the equipment shall be calculated from the date of manufacturing of the equipment.

The Bidder's provision of the minimum equipment requirements given in the list above shall not relieve the Bidder, in the event of contract award, of his obligation to provide additional equipment to construct and complete the Works in accordance with the Contract.

- g) The Bidder should have availability for this work, personnel with adequate qualification and experience as required below: [insert list of personnel (their position / specialization with required qualification and relevant work experience)].

S.No.	Position/Specialisation	Relevant academic qualifications	Total Work experience	Minimum years of relevant experience
1	Project Manager - (01 No)	B.E/ B.Tech (Civil)	08 Years	05 Years
2	Site Engineer. (03 No)	B.E/ B.Tech (Civil)	05 Years	03 Years
3	Junior Engineer (06 No)	Diploma in Civil Engineering	05 Years	03 Years
4	Supervisor (12 No)	I.T.I	05 Years	03 Years

- h) The Bidder should have Liquid Assets / credit facility of not less than the amount of Rs. 2909.13 Lakh (Including GST)

The Bidder should submit Credit line / Letter of Credit / Certificate from its Banker for meeting the fund requirement for execution of works (usually equivalent of the estimated cash flow for three months in the **peak construction period**)

- i) The Bidder must be a profit-making entity for the last 5 (five) financial years.
- j) All pending litigation shall be treated as resolved against the Bidder and so shall in total not represent more than 50% percent of the Bidder's net worth.
- k) [The Bidder (or its sub-contractor, if any) " should possess valid electrical license for executing electrification works of the project and should have executed similar electrical works for a minimum



amount of [Rs. Lakh. specify amount] (usually not less than 50% of the electrical works in any one of the last 5 (five) financial years in a single job. In case, the bidder is not in possession of such license, the bidder must enter into a collaboration/tie-up arrangement with such license holder having requisite experience. Such tie up must be registered in court for carrying out electrification works. Necessary documents should be furnished along with the bid.

- 1) The Bidder (or its sub-contractor, if any) " should possess and produce valid license for executing anti-termite works at the time of signing of agreement. In case the bidder is not in possession of such license, the bidder must enter into a collaboration/tie-up arrangement with such license holder having requisite experience. Such tie up/ collaboration must be registered in court. Necessary documents should be furnished at the time of signing of agreement.
 - m) The Bidder (or its sub-contractor, if any) " should possess valid work certificate for executing HVAC works from a competent authority
 - n) The Bidder (or its sub-contractor, if any) " should possess valid work certificate for executing fire-fighting works from a competent authority.]"
- B. [To qualify for a package of contracts made up of this and other contracts for which bids are invited in this NIB, the Bidder must demonstrate having experience and resources to meet the aggregate of the qualifying criteria for the individual contracts]"
- C. Bidders who meet the above specified minimum qualifying criteria, will only be qualified, if their available bid capacity is more than the total tender value. The available bid capacity will be calculated as under:

Assessed Available Bid Capacity = $(A \times N \times 2 - B)$

Where

A= Maximum value of civil Engineering works executed in any single year during the last five years (updated to the price level of the financial year ____@5% per year indicated taking into account the completed as well as works in progress)

N= Number of years prescribed for completion of the works for which bids are invited (period of 6 months to be taken as (1/2) half-year and more than six months as one year).

B= Value, at the current price level, of the existing commitments on on-going works to be completed during the period of completion of the works for which bids are invited).

Note. 'the Statements showing the value of existing commitment and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the **Engineer-in- Charge**, not below the rank of an **Executive Engineer** or equivalent.

- 2.3 The Bidder should fulfil all the criteria detailed in section IV to qualify in the Technical Bid. If a Bidder does not fulfil the minimum criteria prescribed herein, the Bidder shall be disqualified. On such disqualification the Financial Bid of such Bidder will not be opened & will not be considered for further evaluation.
- 2.4 Though the Bidder fulfils the above conditions, they are subject to be disqualified if they have;
- made any misleading or false representation in the forms, statements, any attachments in proof of the requirements specified in the eligibility or qualification criteria.
 - » record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

SECTION V: FORMATS FOR SUBMISSION OF BIDS

Form Tech 1

Letter of Bid

(To be uploaded in the letter head of the Bidder)

Dated: {insert date (as day, month and year) of Bid Submission]

Bid Reference No. _____

To

[insert complete Name/address of Employer]

Sub: Bid for (Description of Work)

- 1 We, the undersigned, hereby submit our Bid, in two parts under Single Stage Two Envelop bidding process, namely: (a) the Technical Part: Technical Bid, and (b) the Financial Part: Price Bid.
- 2 With reference to your Bid document dated "...." 1/We, having examined the Bid Documents have no reservations to the Bid Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 6.1).
- 3 We offer to supply in conformity with the Bidding Document and in accordance with the Works Requirements, the Works under the Package / Contract Title: [...name of Work) for [...Name of the Project. I against NIB reference [.].
- 4 We have bid as a joint venture permitted as per Clause 3.2 of Bidding Document, and we declare and confirm that all partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, in the event of award on us. [applicable only if the Bidder is a Joint Venture if so permitted to bid as per Bidding Document].
- 5 We undertake, if our Bid is accepted, to execute the Works in accordance with the Bid Document and as per the Works Requirements.
- 6 We certify that all information provided in the Bid submitted by us are true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
- 7 I/We shall make available to the Employer any additional information/clarification it may find necessary or require to supplement or authenticate the Bid.

- 8 I/We acknowledge the right of the Employer to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
- 9 I/We declare that in the preceding 36 months from last date of submission, we have neither failed to perform on any contract, as evidenced by imposition of a penalty by any Procuring Entity/Employer or by an arbitral or judicial authority or a judicial pronouncement or arbitration award, nor been expelled from any service or contract by any public authority nor have any contract terminated by any Procuring Entity/Employer for breach on our part.
- 10 We declare that we will abide by the 'Code of Integrity of Public Procurement'. In case of transgression, our names are likely to be deleted from the list of: registered contractors, besides any other penalty or more severe action as deemed fit that may be imposed by the Procuring Entity/Employer.
- 11 We/our firm understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed,
- 12 I/We understand that you may cancel the selection process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Works.
- 13 I/We believe that we satisfy the Eligibility Criteria and Qualification Criteria and meet(s) the requirements as specified in the Bid Document.
- 14 I/we certify that, we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the Service or which relates to a grave offence that outages the moral sense of the community.
- 15 In the event of us being declared as the Successful Bidder, I/we agree to enter into a Contract in accordance with the draft that has been provided by the Employer. We agree not to seek any changes in the aforesaid draft Contract and agree to abide by the same.
- 16 I/We have studied all the Bid Documents carefully and also understand the Works required to be executed. We understand that except to the extent as expressly set forth in the draft Contract, we shall have no claim, right or title arising out of any documents or information provided to us by the Employer or in respect of any matter arising out of or relating to the selection process including the award of the Contract.
- 17 [he offer an Earnest Money Deposit of [Rs. _____ I-] (Rupees _____ Only) and Cost of bid documents Rs. [] (Rupees _____ Only) (if applicable) for the Works for which we have submitted the Bid (s) in accordance with the Bid Document.

OR

I/We are hereby exempted from payment of EMD. The Supporting documents to substantiate the exemption along with the Bid Securing Declaration in the required manner is attached]¹⁵

¹⁵ Retain whichever provision is applicable.

- 18 The documents comprising the Bid, as specified in Clause 10.1 of the Bid Document, have been submitted in the manner set out in the Bid Document.
- 19 Rates/Price, has/have been quoted by me/us in the FIN 1, after taking into consideration all the terms and conditions stated in the Bid Document, draft Contract, our own estimates of costs and revenues and after a careful assessment of the Works to be executed and all the conditions that may affect the execution of Work.
- 20 I/We certify that I/We have not been debarred or removed from empaneled/registered list by the Procuring Entity, State Government or any entity controlled by it, from participating in any Bid, for indulging in violation of Code of Integrity or deficiencies of services or for indulging in unfair trade practices or for any other reasons as on the last date for submission of Bids.
- 21 I / we hereby offer and agree to execute the Work in conformity with the Bid Document and in accordance with the Works Requirement.
- 22 We agree to abide by this bid for the Bid validity period specified in Clause 13.1 of the ITB and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- 23 I/we confirm that our Financial Bid is unconditional and that we accept all terms and conditions specified in the Bid Document.
- 24 Until a formal Contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.
- 25 I/We confirm that if I/We are the successful Bidder shall within [03 (Three)] days of the receipt of LOA from the Employer, furnish the Performance Security and Additional Performance Security in accordance with the Conditions of Contract.
- 26 I/We understand that you are not bound to accept the lowest or any Bid you may receive.
- 27 I/We agree to abide by all the terms and conditions of the tender documents
- 28 I / we agree to be bound by this offer if we are the Successful Bidder for the aforementioned Service.
- In witness thereof, I/we submit this Bid under and in accordance with the terms of the Bid document.

Yours Faithfully,

Date:
Place:

(Signature of the Authorised Signatory)
Name and Seal of Bidder

Form Tech 2

Details of the Bidder*(To be uploaded in the letter head of the Bidder)*

1.
 - (a) Name:
 - (b) Bidder's Constitution or Legal Status:
[attach copy of constitution document such as Certificate of Incorporation for Companies, Article and Memorandum of Association, Registered Partnership Deed for Partnership firms, etc.]
 - (c) [Corporate Identity Number/ Registration Number]
 - (d) Bidder's Registration Status as approved Contractor:
[provide details of registering authority, class of registration, and its validity.
[attach Registration Certificate(s)]]
 - (e) Address of the office/corporate headquarters and its branch office(s), if any, in India:
 - (f) Address of the office/ corporate headquarters or its branch office(s), in Uttarakhand:
2. Bank Details
 - (a) Name of the Holder
 - (b) Bank Account No.
 - (c) Name of the Bank
 - (d) Branch Name
 - (e) IFSC Code
3. Brief description of the Bidder including details of its main lines of business and proposed role and responsibilities in these Services:
4. Details of individual(s) who will serve as the point of contact for communication for the Employer:
 - (a) Name:
 - (b) Designation:
 - (c) Company:
 - (d) Address:
 - (e) Telephone Number:
 - (f) E-Mail Address:
 - (g) Fax Number:
 - (h) Mobile:
5. Particulars of the Authorised Signatory of the Bidder:
 - (a) Name:
 - (b) Designation:
 - (c) Company
 - (d) Address:
 - (e) Telephone Number:
 - (f) E-Mail Address:
 - (g) Fax Number:
 - (h) Mobile:

6. Taxation Registrations:
- PAN number:
 - Type of GST Registration as per the Act (Normal Taxpayer, Composition, Casual Taxable Person, SEZ, etc.):
 - GSTIN number. in Consignor and Consignee States

7. The following information shall also be provided:

No.	Criteria	Yes	No
1.	Has the Bidder been barred by Procuring Entity/ State Government, or any entity controlled by it, from participating in any Bid.		
2.	If the answer to 1 is yes, does the bar subsist as on the date of submission of the Bid.		
3.	If the answer to 1 is no, the Bidder are required to furnish Self-Declared Certificate in their letter head to substantiate the same.		
4.	Whether the Bidder belongs to a country which shares Land Border with India. The Bidder are required to furnish an undertaking in the prescribed format at Form Tech 16 in the letter head to substantiate the same.		

8. A statement by the Bidder disclosing material non-performance or contractual non-compliance in past Assignment, contractual disputes and litigation/ arbitration during the last 60 (sixty) months from the last date of submission recent past is given below (Attach extra sheets, if necessary)

Year	Work/ Assignment	Name of Employer with Contact details	Contract No. and Date	Value of Contract in Rs.	Date Completed	Nature of Litigation	Final Award

I / We confirm that all the registrations submitted are under operation presently and shall be used for all related activities.

Note: Bidder shall **file in this Form** in the format **provided** above. **No alterations to its** format shall be permitted, **and no** substitutions shall be accepted.

SIGNATURE OF BIDDER WITH DATE AND OFFICIAL SEAL
(Name and Designation)

Duly authorized to sign the Bid on behalf of
(Name & address of the Bidder)

Qualification Criteria of the Bidder Form

Tech 3- Annual Financial Turnover*(Refer to !Seciion II of the Bid Document)**(To be submitted **on the Letterhead of the Statutory Auditor**)*

We have verified the relevant statutory and other records of M/s _____ [Name of the Bidder], and certify that the Annual Turnover for the last five completed financial Year is as follows:

UDIN NO.

Annual Financial Turnover (Rs Cr.) (billing for works in progress and completed in all class engineering construction works only)				
FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25

Place:

Date

Signature and Seal of the Statutory Auditor
clearly indicating his/her membership number
as well as UDIN number

Instructions:

1. The Bidder should provide details of its own Financial Turnover duly certified by its Statutory Auditor.
2. Annual Turnover = Annual Income as indicated in the audited annual financial statement
Year 1 will be the latest completed financial year, preceding the last date for submission of Bid. Year 2 shall be the year immediately preceding Year 1 and so on. In case the last date for submission of Bids falls within six months of the close of the latest financial year, it shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the three years preceding its latest financial year.
3. The Bidder should furnish the supporting documentary proofs along with the Certificate from Statutory Auditor in the above format. Copy of the audited financial statements with audited report, balance sheet, Profit & Loss account with all enclosures for each for the last 5 financial years should be attached certified by a Statutory Auditor.
4. Financial turnover of previous years shall be given a weight of 5% per year by the employer to bring them to the price level of the FY in which the tenders are invited.
5. In case the Bidder is registered outside India, the financial capacity as certified by the statutory auditor residing outside India may be submitted. However, for conversion of US Dollars to Rupees, the rate of conversion shall be the rate prevailing as on the date of issue of Bid Document. In the case of any other currency, the same shall first be converted to US Dollars as on the date of issue of Bid Document, and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date.

Form Tech 4: Satisfactory Completion of Similar Contracts

[To be uploaded in the letter head of the Bidder]

(Refer Section IV of the Bid Document)

Name of Bidder: _____

Sl. No	Name of Employer	Brief Description of Work	Contract No.	Date of Issue of Work Order / Contract	Value of Contract (Rs.)	Stipulated period of Completion of Work	Actual date of completion	Remarks explaining reasons for delay, if any

Note: Attach Completion or work in progress (% of work completed) Certificate issued by Competent Authority of Employer (Not below the rank of E.E)

~~Form Tech 5- Satisfactory Completion of Electrical Works^{o/a}~~

~~(Refer to Section IV of the Bid Document)~~

~~To be uploaded in the letter head of the Tenderer~~

Name of Bidder: _____

- a) ~~Do you possess valid Electrical license for executing Electrical Work? Yes /No [If yes, attached License]~~
- b) ~~In case, answer to the above question is 'No', have you entered into a collaboration/tie up arrangement with such license holder having requisite experience? [Attach a collaboration / tie up agreement registered in Court]~~
- c) ~~Fill the table giving information as required.~~

No.	Employer	Description of Electrical Work	No.	Issue of Work Order / Contract	Contract (Rs.)	period of Completion of Work	date of completion	explaining reasons for delay, if any
-----	----------	--------------------------------	-----	--------------------------------	----------------	------------------------------	--------------------	--------------------------------------

~~Note: Attach Completion or work in progress (% of work completed) Certificate issued by Engineer In-Chief / Competent Authority of Employer~~

~~Form Tech 6 License for Executing Anti Termite Works~~

~~(To be submitted on Bidder Letter Head)~~

~~(Refer to Section IV of the Bid Document)~~

Name of Bidder: _____

- ~~a) Do you possess valid license for executing anti termite Work? Yes/No
[If Yes, you will be required to submit such a License at the time of signing of agreement].~~
- ~~b) In case, answer to the above question is 'No', have you entered into a
collaboration/tie up arrangement with such license holder? Yes / No.~~

~~(If Yes, you will be required to submit such a License at the time of signing of agreement)~~

~~Form Tech 7- License for Executing HVAC Work
(To be submitted on Bidder Letter Head)
(Refer to Section IV of the Bid Document)~~

~~Name of Bidder: _____~~

- ~~a) Do you possess valid license for executing HVAC Work? Yes/No
[If yes, you will be required to submit such a License from a competent authority at the time
of signing of contract].~~
- ~~e) In case, answer to the above question is 'No', have you entered into a
collaboration/tie-up arrangement with such license holder? Yes / No.~~

~~(If yes, you will be required to submit such a License at the time of signing of agreement)~~

~~Form Tech 8 License for Executing Fire Fighting Work~~
~~(To be submitted on Bidder Letter Head)~~
~~(Refer to Section IV of the Bid Document)~~

Name of Bidder: _____

- ~~a) Do you possess valid license for executing Fire fighting Work ? Yes / No
[If yes, you will be required to submit such a License from a competent authority at the time of signing of contract].~~
- ~~d) In case, answer to the above question is 'No', have you entered into a collaboration/tie up arrangement with such license holder? Yes / No.~~

~~(You will be required to submit such a License at the time of signing of agreement)~~

Form Tech 9- Contractor's Experience for carrying out Works

ifo be submitted on Bidder Letter Head)
(Refer to Section IV of Bid Document)

Name of the Bidder: _____

Financial Year	Name of Work	Name of Employer	Quantities of Works performed				Remarks (Attach contract ref. no. and Certificate issued by Executive Engineer/Competent Authority)

” Make changes as per mquirement of project

Form Tech 10- Availability of Contractor' Equipment essential for carrying out Works

(To be submitted on Bidder Letter Head)

(Refer to Section IV of the Bid Document)

Equipment	No.	Capacity	Model and Power Rating	Owned / Leased	Age of Equipment	Remarks (current commitments of each equipment mentioned)

Form Tech 11- Availability of Contractor' Key Personnel*(To be submitted on Bidder Letter Head)**(Refer to Section IV of the Bid Document)*

Bidders should provide the names and details of the suitably qualified Key Personnel to perform the Contract.

S.No.	Title of position	Name of Candidate	Experience	
			Total Experience	Number of years of experience at relevant position

Submit Resume in the format below for each Key Personnel along with Declaration:

Position [title of position]		
Personnel information	Name:	Date of birth:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: [language and levels of speaking, reading and writing skills]	
Details	Address of employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	Email ID
	Job title:	Years with present employer:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	Role	Duration of involvement	Relevant experience
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form correctly describes myself, my qualifications and experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment to duration of contract:	<i>insert period (start and end dates) for which this Key Personnel is available to work on this contract]</i>
--	--

I understand that any misrepresentation or omission in this Form may:

- (a) cause disqualification from participating in the Bid;
- (b) cause my dismissal from the contract and allow the Authority to take action as deemed fit.

Name of Key Personnel: [inset name]

Signature: _____

Date: (day month year): _____

Counter signature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Form Tech 12- Availability of Liquid Assets / Credit Facility*(Refer to Section IV of the Bid Document)**(To be submitted on the letter head of the Bidder)*

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts

Source of financing	Amount (.)
1.	
2.	
3.	
4.	

Note:

1. Submit Credit line / Letter of Credit / Certificate from Its Banker for meeting the fund requirement for execution of works.
2. Solvency Certificates shall not be considered as line of credit
3. Liquid Assets = Current Asset — (Inventory+ pre-paid expenses)

Format for Evidence of Access to or Availability of Credit Facilities*(To be submitted on the Letterhead of the Bank)*

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the work, namely, _____ is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their working capital requirements for executing the above contract.

Signature of Senior Bank Manager _____

Name of the Senior Bank Manager _____

Address of the Bank _____

Stamp of the Bank _____

Note: Certificate should not be more than one month old.

Form Tech 13- Information on Bid Capacity
(Refer to Section IV of the Bid Document)
(To be submitted on the letter head of the Bidder)

A) Works Completed / Executed

Sr. No.	Financial Year (last 5 FY)	Value of Civil Engineering works executed / completed during the year(Rs. in Lakh)
1		
2		
3		
4		
5		

Note: Certificate issued by Chartered Accountant should be submitted along with Certificate issued by Executive Engineer/Competent Authority on completion of work

B) Existing Commitments and on-going Works:

Description of Work	Place & State	Contract No.	Name and address of Employer	Value of Contract (Rs.)	Stipulated period of Completion	Value of works remaining to be completed	Anticipated date of Completion

Note: Certificate issued by Chartered Accountant should be submitted along with along with work order and Certificate issued by Executive Engineer/Competent Authority on progress of work

C) Works for which Tenders already submitted and decision is pending:

Description of Work	Place & State	Name and address of Employer	Estimated value of Contract (Rs.)	Stipulated period of Completion	Date when decision is expected	Remarks, if any

Note: It should be provided on Bidder's Letterhead

Form Tech 14

Power of Attorney for Signing of Bid

(To be submitted on 100 rupees Non-Judicial Stamp Paper)

Know all men by these presents, We, _____ (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr. / Ms. (Name), son/daughter/wife of _____ and presently residing at _____, who is [presently employed with us and holding the position of _____], as our true and lawful attorney (hereinafter referred to as the "Attorney") 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 Procurement of Works for _____", proposed by the [Name of the Employer] (the "Employer") including but not limited to signing and submission of all applications, Bids and other documents and writings, participate in Bidder's and other conferences and providing information/responses to the Employer, representing us in all matters before the Employer, signing and execution of all contracts including the Contract and undertakings consequent to acceptance of our Bid, and generally dealing with the Employer in all matters in connection with or relating to or arising out of our Bid for the said Service and/or upon award thereof to us and/or till the entering into the Contract with the Employer.

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

IN WITNESS WHEREOF WE, _____, THE ABOVE-NAMED PRINCIPAL HAVE

EXECUTED THIS POWER OF ATTORNEY ON THIS _____ DAY OF _____, 20

For _____

(Signature)

(Name, Title and Address)

Accepted [Notarised]

(Signature)

(Name, Title and Address of the Attorney)

Notes:

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 aimed in accordance with the required procedure.

Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

For a Power of Attorney executed and retained overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidder from countries that have signed the Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.



Form Tech 15

Power of Attorney for Lead Member of Consortium

Whereas the (“the Authority”) has invited applications from interested parties for the Project (the “Project”).

Whereas,,, and (collectively the “Consortium”) being Members of the Consortium are interested in bidding for the Project in accordance with the terms and conditions of the Request for Qualification document (RFQ), Request for Proposal (RFP) and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members of the Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's bid for the Project and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We; having our registered office at, Ws. having our registered office at, M/s. having our registered office at, and having our registered office at, (hereinafter collectively referred to as the “Principals”) do hereby irrevocably designate, nominate, constitute, appoint and authorise M/S having its registered office at, being one of the Members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as the “Attorney”). We hereby irrevocably authorise the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the concession/contract, during the execution of the Project and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the Consortium and submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Letter of Award, participate in bidders' and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the Authority, and/ or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium's bid for the Project and/ or upon award thereof till the Concession Agreement is entered into with the Authority.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney 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 Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Consortium.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF-ATTORNEY ON THIS DAY OF 20.....

(Signature)

(Name & Title)

For

(Signature)

(Name & Title)

(Signature)

(Name & Title)

Witnesses:

2.

(Executants)

(To be executed by all the Members of the Consortium)

Notes:

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 procedwe.

Also, wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applied ite from countries that heve signed the Hague Legislation Convention 196 t are not required to be legalised by the Indian Embassy if it carries a conforming Appostille certificate.

Form Tech 16

**[FORMAT FOR UNDERTAKING REGARDING RESTRICTIONS ON PROCUREMENT FROM A
BIDDER/SUPPLIER OF A COUNTRY WHICH SHARES A LAND BORDER WITH INDIA]**

(To be submitted on the letterhead of the Bidder)

[Date]

FROM: (Name of Entity)

TO: (Name and Address of the Employer)

Dear Sé:

Subject: Undertaking Regarding Restrictions on Procurement from a **Bidder/Supplier** having Transfer of Technology (ToT) **arrangement** with an entity from a **Country** Which Shares a **Land Border** with India.

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; or bidder having Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India. I certify that this bidder or any of the sub-contractor (in case if sub-contracting is allowed) is neither from such a country nor has ToT arrangement with an entity from such a country or, if from such a country/having ToT arrangement with an entity from such a country, has been registered with the Competent Authority. I certify that this bidder will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. (Where applicable, evidence of valid registration by the Competent Authority shall be attached.)

Yours Faithfully,

Authorized

Signature:

Name and Title of Signatory:

Name of the Bidder:

” This declaration is not required for the procurements, exempted from such restrictions.

Form Tech 17 Earnest Money Deposit
Bank Guarantee for EMD
(Refer Clause 12 of the Bid Document)

B.G.No.

Dated:

- 1 In consideration of you, *•***, having its office at *••*, (hereinafter referred to as the “Employer”, which expression shall unless it be repugnant to the subject or context thereof include its, successors and assigns) having agreed to receive the Bid of (a _____ registered under the _____,) and having its registered office at (hereinafter referred to as the “Bidder” which expression shall unless it be repugnant to the subject or context thereof include its/their executors, administrators, successors and assigns), for _____ (hereinafter referred to as “the Works”) pursuant to the Bid Document dated. issued in respect of the Works and other related documents including without limitation the draft Contract (hereinafter collectively referred to as “Bid Documents”), we (Name of the Bank) having our registered office at and one of its branches at (hereinafter referred to as the “Bank”), at the request of the Bidder, do hereby in terms of Clause 12.3 of the Bid Document, irrevocably, unconditionally and without reservation guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Bid Documents by the said Bidder and unconditionally and irrevocably undertake to pay forthwith to the Employer an amount of Rs. *•*** (Rupees •• • • • only) (hereinafter referred to as the “Guarantee”) as our primary obligation without any demur, reservation, recourse, contest or protest and without reference to the Bidder if the Bidder shall fail to fulfil or comply with all or any of the terms and conditions contained in the said Bid Documents.
- 2 Any such written demand made by the Employer stating that the Bidder is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the Bid Documents shall be final, conclusive and binding on the Bank.
3. We, the Bank, do hereby irrevocably, unconditionally and on non-transferable basis undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Bidder or any other person and irrespective of whether the claim of the Employer is disputed by the Bidder or not, merely on the first demand from the Employer stating that the amount claimed is due to the Employer by reason of failure of the Bidder to fulfil and comply with the terms and conditions contained in the Bid Documents including failure of the said Bidder to keep its Bid open during the Bid validity period as set forth in the said Bid Documents for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. ••••• (Rupees *•*** only).
4. This Guarantee shall be irrevocable and remain in full force for a period of 45 (forty five) days beyond the validity of the Bid or for such extended period as may be mutually agreed between the Employer and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all amounts under this Guarantee have been paid.



5. We, the Bank, further agree that the Employer shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bid Documents including, *inter alia*, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Bid Documents, and the decision of the Employer that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Employer and the Bidder or any dispute pending before any Court, Tribunal, Arbitrator or any other Employer.
6. The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger or amalgamation of the Bidder or the Bank with any other person.
7. To give full effect to this Guarantee, the Employer shall be entitled to treat the Bank as the principal debtor. The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the said Bid Documents or to extend time for submission of the Bids or the Bid validity period or the period for conveying acceptance of Letter of Award by the Bidder or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said RFP Documents by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the said Bid Documents or the securities available to the Employer, and the Bank shall not be released from its liability under these presents by any exercise by the Employer of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Bidder or by any change in the constitution of the Employer or its absorption, merger or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.
8. Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
9. We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address] and delivered at our above branch which shall be deemed to have been duly authorised to receive the said notice of claim.
10. It shall not be necessary for the Employer to proceed against the said Bidder before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which the Employer may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealised.
11. We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the Employer in writing.
12. The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Guarantee for and on behalf of the Bank.

- 13, For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs. *** (Rupees *** only). The Bank shall be liable to pay the said amount or any part thereof only if the Employer serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [insert date falling (eguo/ io validity period of EMD) days after the last date for submission of Bid].

Signed and Delivered by..... Bank

By the hand of Mr./Ms., its....., and authorised official.

(Signature of the Authorised Signatory) (Official Seal)

Form Tech 17 (A)**Bid Securing Declaration***(Refer Clauses 12.6 and io be submitted on the letterhead of the Bidder)*

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

To

[Head of Procurement

Procuring Entity

[Complete address of the Procuring Entity]

Ref: Tender Document No. /Tender No./ xxxx; Tender Title: WORKS

Sir/ Madam

We, the undersigned, solemnly declare that:

We understand that according to the conditions of this Bid Document, the bid must be supported by a Bid Securing Declaration in lieu of EMD.

We unconditionally accept the conditions of this Bid Securing Declaration. We understand that we shall stand automatically suspended from being eligible for bidding in any Bid in Procuring Entity for [_____] years from the date of opening of this bid if we breach our obligation(s) under the Bid conditions if we:

1. withdraw/ amend/ impair/ derogate, in any respect, from our bid, within the bid validity period; or
2. being notified within the bid validity of the acceptance of our bid by the Procuring Entity:
 - a. refused to or failed to produce the original documents for scrutiny or the required Performance Security within the stipulated time under the conditions of the Bid Document.
 - b. Fail or refuse to sign the contract.

We know that this Bid Securing Declaration shall expire if the contract is not awarded to us, upon:

1. receipt by us of your notification of cancellation of the entire Bidding process or rejection of all bids or of the name of the successful bidder or
2. forty-five days after the expiration of the bid validity period or any extension to it.

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of.....

[name & address of Bidder and seal of company]

Dated on day of..... [insert date of signing]

Place..... [insert place of signing]

DA:

Form Tech 18**CHECKLIST OF DOCUMENTS TO BE SUBMITTED BY THE TENDERER ALONG WITH THE BID***(Reference Section IV of the Bid Document)*

SI No	Reference Clause	Heading	Documentary Proofs	Submitted YES/NO	Page No.
	10.1 A	First Electronic Document-PART-I Technical Bid documents	Form Tech 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17/17(A), Demand Draft for payment of Bid Document fee		
	10.1 B	Second Electronic Document — PART — II- Financial Bid documents	Form Fin 1		
	Section IV	Undertaking	Undertaking Regarding Restrictions on Procurement from A Bidder of a Country which shares a land border with India as per Form Tech 16		
	Section IV	Statement of not been debarred or removed from empaneled /registered list by the Procuring Entity	Furnish a self-declared Certificate to this effect on the letter head of the Bidder		
	Section IV	Legal Status of the Bidder	Furnish a copy of the certificate of incorporation in case of a companies issued by the registrar of companies/Registration Certificate issued by the registrar of firms as the case may be along with copy of PAN and the IT returns for the last 5 (five) financial years preceding the last date for submission of Bids as a proof of identity.		
	Section IV	Details of Registration	Furnish a copy of the following valid registration certificates issued by the competent authority a. Registration under the applicable law for establishing their legal identity. b. Active Registration under the Goods and Service Tax (GST) [& last submitted return as proof of submission of dues]. c. Permanent Account Number (PAN) issued by the Board of Direct Taxes under the Income Tax Act, 1961.		

Section IV	Qualification Criteria	<p>Furnish a copy of the following documents</p> <ol style="list-style-type: none"> Information on all completed contracts and satisfactory performance in the prescribed format at Form Tech 3 - 13 License for Electrical Works, License for Anti-Termite Works, License for Fire-Fighting Work, Availability of Essential Equipment's under Form Tech 5, Form Tech 6 Form Tech 7 and Form Tech 8 respectively. Copy of work order/ Agreement and Completion Certificate be considered as documentary proof for the purpose of evaluation. <i>[Any other certificate(s) as may be applicable under the relevant laws of the State of Uttarakhand. J''</i> 		
		<ol style="list-style-type: none"> Audited balance sheets, financial statements for the 5 (five) financial years immediately preceding the last date for submission of Bids Annual Audited Reports for 5 (five) years preceding the last date for submission of Bids. The financial statements shall: <ol style="list-style-type: none"> reflect the financial situation of the Bidder; be audited by a Statutory Auditor; be complete, including all notes to the financial statements; and correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted). Statutory Auditor's certificate specifying the Turnover of the Bidder. Availability of Liquid Assets/Credit Facility Intonation on current contract commitment/work in progress. 		

	12	EMD	Certificate for exemption/ Bid Securing Declaration /Bank guarantee (scanned copy)/E-Bank Guarantee whichever is applicable.		
	14.4	Power of Attorney	Power of Attorney certified by the Authorised signatory signing the Bid Submission in the format provided at Form Tech 14 / Tech 15.		

Form Fin 1 SAMPLE FORMAT FOR FINANCIAL BID*(Sample format to be prescribed in excel of the slot provided in the E-Procurement Portal)***Objectives***The objectives of the Bill of Quantities are:*

- a. to provide sufficient information on the quantities of Works to be performed to enable bids to be prepared efficiently and accurately, and*
- b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.*

In order to attain these objectives, works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and contents of the Bill of Quantities should be as simple and brief as possible.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary priced Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the Special Conditions of Contract should state the manner in which they shall be used, and under whose authority (usually the Project Manager's/ Engineer-in-Charge's).

These Notes for Preparing a Bill of Quantities are intended only as information for the Employer or the person drafting the Bidding Documents. They should not be included in the final documents.

Sample Bill of Quantities

Sl. No.	Description of item (with brief specification and reference to Book of specification)	Quantity	Unit	Rate (Rs)		Total Amount (Rs)
				In figures	In words	
Total Bid Price (In figures)						
(in words)						

Note:

- i. Item for which no rate or price has been entered in financial bid, it 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 (refer: ITB Clause 10.2 and GCC Clause 49.3).
2. Unit rates and prices shall be quoted by the Bidder in Indian Rupees.
3. Where there is a discrepancy between the rate in figures and words, the amount in word will govern. [ITB Clause 23.1(a)]
4. Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITB Clause 23.1 (b)]

SECTION VI - WORKS REQUIREMENTS

(To be filled by the Employer before upload of Bid Document)

(A schedule of packages/requirements is to be inserted in the Bid Documents by the Employer, as applicable. The Schedule should cover, at a minimum, the required items, quantities, sizes, delivery period(s) and earnest money deposit for individual packages (in case of multiple packages).)

(A set of precise and clear Specifications is a prerequisite for bidders to respond realistically and competitively to the requirements of the Employer without qualifying or conditioning their bids. The Specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of Specifications from previous similar projects in the same region are useful in to prepare specifications. Most Specifications are normally written specially by the Employer or Project Manager/ Engineer-in-Charge to suit the Contract Works in hand.

Care must be taken in drafting Specifications to ensure that they are not restrictive. In the Specifications of standards (or goods, materials, and workmanship, recognized national and international standards should be used as much as possible. Where other particular standards are used, the Specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or- higher quality than the standards mentioned, shall also be acceptable)

This section shall include the following

1. Information related to Project Description. Project Location
2. Detailed Technical Conditions, Specifications & Requirements specific to the Project/Work
3. Construction Timeline
4. Payment Schedule

Every organization using this bidding document shall define these conditions at its own level

Good for Construction (GFC) Drawings

Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section or annexed in a separate folder.

Inspections and Tests

The following inspections and test shall be performed: [insert list of inspections and tests]

Supplementary Information

If any

SECTION VII: TECHNICAL SPECIFICATIONS

[Minimum Technical Specification for the work to be included here]

Attached Page 114 to 134

SECTION VIII: DRAWINGS

{Drawings to be attached here.}

Attached

CONDITIONS OF CONTRACT AND CONTRACT FORMATS

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SECTION IX - FORM OF CONTRACT

This **CONTRACT** (hereinafter called the "Contract") is made the _____ day of the month of _____ 20____, between, on the one hand, The Governor of Uttarakhand through Head of Departments [_____] (hereinafter called the "**Employer**") and, on the other hand, _____ (hereinafter called the "**Contractor**").

WHEREAS

- a. Employer is desirous that the Contractor execute _____ [name and identification number of the Contract] (hereinafter called "the Works") and has accepted a bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein for a sum of Rs. ____/- (Rupees _____ Only) (hereinafter called as the "**Contract Price**");

NOW THEREFORE the parties hereto hereby agree as follows:

1. In this Contract words and expressions shall have the same meaning as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents attached hereto shall be deemed to form and be read and construed an integral part of this Contract:
 - a. The General Conditions of Contract (hereinafter called "**GCC**");
 - b. The Special Conditions of contract (hereinafter called "**SCC**");
 - c. The following Formats/Details:

Section VI:	Works Requirements
Section VB:	Technical Specifications
Section VIII:	Drawings
Format 1:	Bill of Quantities
Format 2:	Performance Security Deposit
Format 3:	Notification of Award and Letter of Acceptance.
Format 4:	Any Modification, Addendum, Pre-Bid Meeting Proceedings

[Note: If any of these Formats are not used, the words "Not Used" should be inserted below next to the title of the Format on the sheet attached hereto regarding the use of that Format.]

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

FOR AND ON BEHALF OF [GOVERNOR OF UTTARAKHAND]

By
(Signature and Designation of the Authorized Representative of the Employer)

FOR AND ON BEHALF OF {NAME OF SUPPLIER}

By
(Signature and Designation of the Authorized Representative of the Supplier)

SECTION X: GENERAL CONDITIONS OF CONTRACT (GCC)

A. General

1. Definitions

Additional performance Security is an additional monetary guarantee apart from performance guarantee to be furnished by the successful Bidder in case of abnormally low bid or unbalanced bid.

Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 29 hereunder.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

Certificate of Completion or Completion Certificate means the certificate issued under GCC Clause 62.1.

Compensation events are those defined in Clause 51 hereunder.

Completion means that the Works (or, where the context so requires, a specific Section thereof, if any, specified in the Contract), have been completed in all respects as per Contract operationally and structurally and put in a tight and clean condition, that all Test for Completion of the Works (or such specific Section thereof) has been completed.

The **Completion Date** is the date of completion of the Works as certified by the Employer in accordance with Sub Clause 62.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.5 below which are collectively referred to as the Contract Documents.

The **Contract price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

The Contractor is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bid document submitted by the Contractor to the Employer.

Contractor's Equipment or **Construction Equipment** means all apparatus, equipment, machinery, construction plant, vehicles and other items required by the Contractor for the execution of the Works. Contractor's Equipment excludes Temporary Works, Plant, Materials, and any other things intended to form or forming part of the Permanent Works.

Contractor's Representative means the person named as such in the Contract for and on behalf of the Contractor and appointed from time to time by the Contractor, with the approval of the Employer, to perform the duties under the Contract.

The **Defects Liability Certificate** is the certificate issued by Project Manager/ Engineer-in-Charge/ Employer upon correction of defects by the Contractor.

Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, and include calculations and other information provided or approved by the Employer or Employer's Representative for the execution of the Contract.

Days are calendar days; months are calendar months.

A Defect is any part of the Works not completed in accordance with the Contract

The Defects Liability Period is the period named in the Special Conditions of Contract and calculated from the Completion Date and the Defects Liability Period is the period, through which the performance of the work is established and is as mentioned in the Contract & where the contractor remains responsible for remedying defects.

The Employer is the party who will employ the Contractor to carry out the Works, as specified in the SCC.

Employer's Personnel means Project Manager or Employer's Representative or Engineer-in-Charge or Engineer, their assistants to whom **delegation is made by them as per the Contract and all** other staff, labor and other employees of the Employer engaged in fulfilling the Employer's obligations under the Contract; and any other personnel identified as Employer's Personnel, by a Notice from the Employer to the Contractor.

Force Majeure are the situations as defined in Clause 50 of GCC.

Government means the government of India, State Government or local government as applicable.

Government Authority means any national, state provincial, local or similar government, governmental, regulatory or administrative authority, branch, agency, any statutory body or commission or any non-governmental regulatory or administrative authority, body or other organization to the extent that the rules, regulations and standards, requirements, procedures or Orders of such authority, body or other organization have the force of governing law of the Contract, or any court, tribunal, arbitral or judicial body, or any stock exchange of India or any other country.

The Initial Contract price is the Contract Price listed in the Employer's Letter of Acceptance.

The Intended Completion Date is the period/time, reckoned from the Start Date, within which **it is intended** that the **Contractor shall complete the Works**. The Intended Completion Date is specified in the **Special Conditions of Contract**. The Intended Completion Date may be revised only by the Employer by issuing an extension of time or an acceleration order.

Letter of Acceptance means the Normal acceptance of the Employer of the Bid.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Party means the Employer or the Contractor, as the context requires and "Parties" mean both the Employer and the Contractor.

Performance Security (includes the terms 'Performance Bank Guarantee' or 'E-Bank Guarantee' or any other specified financial instruments in specific context, means a monetary guarantee to be furnished by the successful Bidder or Supplier in the form prescribed for the due performance of the Contract;

Permanent Works means the works of a permanent nature which are to be executed by the Contractor under the Contract.

Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

Project Manager or Employer's authorized Representative or Engineer-in-Charge or Engineer means the person named by the Employer as such in the Contract (or any other person appointed and notified to the contractor to act in his replacement) who is responsible for supervising the work being performed by the Contractor and administering the contract.

Section means a part of the Works specifically identified in Contract as a Section.

The Site is the area defined as such in the Special Conditions of Contract.

Site Investigation Reports/ Data are those that were included in the bidding document and are factual and interpretative reports/ data about the surface and subsurface conditions at the Site.

The Special Conditions of Contract defines the documents and other information which comprise the Contract.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Employer.

The Start Date is given in the Special Conditions of Contract. 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.

A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

Tests after Completion means the tests specified in the Contract, which are to be carried out after the Works or any Section of Works has been taken over by the Employer.

Tests for Completion means the tests specified in the Contract and any other tests as may be agreed by the Employer and the Contractor or instructed in writing as a variation, which are to be carried out before the Works or any Section of Works are taken over by the Employer.

A Variation is an instruction given by the Employer in writing, which varies the Works.

The Works are what the Contract requires the Contractor to construct, install, and hand over to the Employer, as defined in the Special Conditions of Contract and includes the Permanent Works and the Temporary Works or either of them as appropriate.

In writing or written means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Throughout the bidding/ bid documents and the documents forming part of the Contract, the term "bid" /

“tender” and the derivatives (bidder/tenderer, bid/tender, bidding/tendering, bidding document/bid document/tender document etc.); Bill of Quantity / Schedule of Quantity / Price Schedule & Schedule of items; Bid Security / Earnest Money Deposit are used interchangeably to carry the same meaning unless repugnant to the context.

2. Interpretation

- 2.1 In interpreting these **Conditions of Contract**, singular also means plural, words indicating one gender include all gender. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Employer will provide instructions clarifying queries about the **Conditions of Contract**.
- 2.2 If sectional completion is specified in the Special Conditions of Contract, references in the **GCC** to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 In the Contract, except where the context requires otherwise,
 - i. provisions including the word “agree,” “agreed,” or “agreement” require the agreement to be recorded in writing;
 - ii. the word “Tender” is synonymous with “bid,” “tenderer” with “Bidder,” and “tender documents” with “Bidding/ Bid Documents”;
 - iii. the word ‘approved’ means approved in writing, including subsequent written confirmation of previous verbal approval and ‘approval’ means approval in writing, including as aforesaid
 - iv. “person” means a natural person, any form of business organization, incorporated or not, or any other legal entity, including but not limited to a company, a corporation, limited liability partnership, partnership, or proprietorship organization;
 - v. Joint Venture (JV)” means an association with or without a legal personality distinct from that of its members, of more than one entity/ firm where one member has the authority to conduct all business for and on behalf of any and all the members/ partners of the JV, and where the members/ partners of the JV are jointly and severally liable to Employer for the performance of the Contract; “
 - vi. “store” wherever appearing, means the place where the Plant and Material supplied under this Contract are stored by the Contractor preferably near to the Site. Such place will be treated as forming part of Site;
 - vii. the marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions;
 - viii. wherever it is mentioned in the Contract that the Contractor shall perform certain work or provide certain facilities or services, it is understood that the Contractor shall do so at his cost and the Contract Price shall be deemed to have included the cost of such performances and provisions so mentioned;
 - ix. in the event of any ambiguity or conflict between the Contract Documents listed in Clause 2.5, the order of precedence shall be the order in which the Contract Documents are listed in Clause 2.5.
- 24 The Contractor shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the Parties hereto. Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Employer.

- 2.5 The documents stated below form part of the Contract Documents and are meant to complement each other. However, in the event of any conflict arising between the provisions of various documents, the documents shall take precedence in the order provided below:

- (1) Agreement
- (2) Letter of Acceptance, notice to proceed with the works
- (3) Contractor's Bid
- (4) Special Conditions of Contract
- (5) General Conditions of Contract, including Appendices
- (6) Work Requirements
- (7) Technical Specifications
- (7) Drawings
- (8) Bill of Materials;
- (9) Performance Security Deposit
- (10) any other document listed in the Special Conditions of Contract as forming part of the Contract
- (11) Any modification, addendum, pre-bid meeting proceedings

3. Language and Law governing contract

- 3.1 The language of the Contract shall be [English/Hindi].

- S.2 The law governing the Contract is the Laws of India supplemented by the law and regulations of State of Uttarakhand.

4. Employer's decisions

- 4.1 Except where otherwise specifically stated, the Employer will decide contractual matters between the Employer and the Contractor.

5. Delegation

- 5.1 The Employer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may revoke any delegation after notifying the Contractor.

6. Communications

- 6.1 The address and contact details for communication with the Contractor and Employer shall be as per the details given in **Special Conditions of Contract to GCC**. Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act). The notice sent by fax or other electronic means shall be effective on confirmation of the transmission. The notice sent by registered post or speed post shall be effective on delivery.

~~7. Subcontracting~~

- ~~7.1 The Contractor may subcontract with the approval of the Engineer, but may not assign the contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. The subcontracting shall not exceed 50% of the total value of work. The sub-contractors should have an experience in any one year within the last 3 years of execution of similar item of construction to an extent of 50% of the quantity proposed to be executed as a subcontract.~~

8. Other Contractors

- 8.1 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, as referred to in the Special Conditions of Contract. The Contractor shall 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.
- 8.2 The Contractor should take up the works in convenient reaches as decided by the Employer to ensure there is least hindrance to the smooth flow of traffic including movement of vehicles and equipment of Other Contractors till the completion of the Works.

9. Personnel

- 9.1 The Contractor shall employ the technical personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Employer. The Employer shall approve any proposed replacement of Technical Personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
- 9.2 If the Employer 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. The Contractor shall then appoint (or cause to be appointed) a replacement.
- 9.3 The Contractor shall not employ any retired Gazetted officer who has worked in the Engineering Department of the State Government and has either not completed two years after the date of retirement or has not obtained State Government's permission for employment with the Contractor.
- 9.4 The Employer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative, who in the opinion of the Employer:
 - a) Persists in any misconduct,
 - b) Is incompetent or negligent in the performance of his duties,
 - c) Fails to conform with any provisions of the Contract, or
 - d) Persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

10. Employer's and Contractor's risks

- 10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's risks

- 11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's
 - a. The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to



- i. use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - ii. negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- b. The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employee or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.
- 11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to
 - a. Defect which existed on the Completion Date,
 - b. an event occurring during Defects Liability Period or (c) the activities of the Contractor on the Site after the Completion Date
- 11.3 The Employer is responsible to provide the dispute free site to the Contractor
- 12. **Contractor's risks**
- 12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.
- 13. **Insurance:**
- 13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the SCC for the following events which are due to the Contractor's risks:
 - a) loss of or damage to the Works, Plant, and Materials;
 - b) loss of or damage to Equipment;
 - c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
 - d) personal injury or death.
- 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Employer for his approval before the Start Date. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred. All payments received from insurers relating to loss or damage shall be held jointly by the Parties and used for the repair of the loss or damage or as compensation for loss or damage that is not to be
- 13.3 If the Contractor fails to effect or keep in force any of the insurances referred to in the previous sub-clauses or fails to provide satisfactory evidence, policies or receipts, the Employer may without prejudice to any other right or remedy, effect insurance for the cover relevant to such default and pay the premiums due and recover the same as a deduction from any other monies due to the Contractor. If no payments is due, the payment of the premiums shall be a debt due.
- 13.3 Alterations to the terms of an insurance shall not be made without the approval of the Employer.

13.4 Both Parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1 The Contractor, in preparing the bid, shall be deemed to have relied on site investigation reports/data referred to in the Special Conditions of Contract, supplemented by any information that may have been available to the Bidder. All Site Investigation Reports/Data, information and/or data provided/ to be provided by the Employer as described in the Special Conditions of Contract and/ or Works Requirements shall be deemed to be accurate, except when the Employer expressly states otherwise. All seismic, geological, and other subsurface conditions or concealed conditions on the Site are the responsibility of the Employer. However, the Contractor is obliged to bring to the notice of the Employer in a timely manner, any errors, or omissions in such information or ambiguities/ discrepancies therein.

The Employer shall be deemed to have and shall have made available to the Contractor for information, all relevant data in the Employer's possession on the topography of the Site and on sub-surface, hydrological, climatic, and environmental conditions at the Site before submission of Bid by the Contractor. The Employer shall promptly make available to the Contractor all such data which comes into the Employer's possession after the submission of Bid by the Contractor.

14.2 The Contractor shall be deemed to have satisfied himself as to the suitability and availability of access routes to the Site. The Contractor shall use reasonable efforts to prevent any roads or bridges from being damaged by the Contractor's traffic for movement of Materials, Plant, and Construction Equipment to the Site. These efforts shall include the use of appropriate transportation vehicles and access routes. Any damage or improvement to the transportation system including the roads/bridges/culverts enroute to the project Site during execution of the works shall be borne by the Contractor, who shall make good the same at his own cost.

15. Progress Reporting

15.1 Monthly progress reports for each calendar month shall be prepared by the Contractor and submitted to the Employer's Representative in 3 copies. Each report shall include:

- a) Detailed description of progress, including each stage of design, procurement, manufacture, delivery to site, construction, erection, testing and commissioning;
- b) Charts showing the status of design and construction documents, purchase orders, manufacture and **COOnStruCtiOn**;
- c) For the manufacture of each main item of Plant and materials, name of manufacturer, factory location, percentage progress, actual date or expected dates of Contractor's inspections, tests and delivery;
- d) Records of Contractor's personnel and Construction Equipment on site;
- e) Copies of quality assurance documents, test results and acceptance Certificates of Plant and materials;
- f) Safety statistics including details of any hazardous incidents and activities related to site, environmental aspects and public relations;
- g) Comparisons of actual and planned progress, with details of any aspects which may delay or jeopardize the completion as per Contract, and the measures being (or to be) taken to overcome such aspects and difficulties;
- h) Actions pending from Employer's Representative which may delay the works;
- i) Details of Construction drawings required for works atleast 2 months in advance of their requirement.

The Contractor/Engineer-in-Charge is required to maintain Hindrance Registers for reporting hindrances if any, while executing the work in respect of design, engineering, procurement, supply and site work-related issues. The Contractor/Engineer-in-Charge shall get record of hindrances in the Hindrance Register(s) and bring in the notice of Engineer-in-Charge/Contractor, within 7 days of happening of hindrance.

16. Queries about the Special Condldons of Contract

16.1 The Employer will clarify queries on the Special Conditions of Contract.

17. Contractor to construct the Works

17.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

18. Construction Equipment

- a) The Contractor shall provide and install all necessary Construction Equipment required for the execution of the Works under the Contact, at his cost and shall use such methods and appliances for the purpose of all the operations connected with the Work covered by the Contract which shall ensure the completion of Work(s) within the specified Intended Time for Completion. The Construction Equipment shall preferably be new.
- b) The Contractor shall deploy Construction Equipment as per agreed schedule. Provided further that in case of slow rate of progress of Works, the Contractor should supplement the agreed schedule of Contractor's Equipment with additional Construction Equipment so as to ensure completion of Works within Intended Time for Completion at no extra cost to Employer.
- c) The Contractor shall mike necessary arrangements for Repair/maintenance of his equipment/machinery utilized at site, by arranging proper workshop, storage facilities, experienced manpower for routine maintenance etc. close to the site locations.
- a) The Contractor shall not remove Construction Equipment, except for purpose of removing it from one part of the Site to another, without written consent of the Engineer-in-Charge. Provided always that any such approval of shifting of Construction Equipment shall not absolve the Contractor of his obligations for due execution of the Works within the Time for Completion as per the Contract.

19. Materials

- a) The Contractor shall at his own expense provide/arrange all materials required for the bonafide use on works under the Gonoact.
- b) All materials to be provided by the Conbactor shall be in conformity with the Specifications laid down in the Contract and the Contractor shall furnish from time-to-time proof and samples, at his cost, of the materials as may be specified by the Engineer-in- Charge for his approval before use in the Works. The Engineer-in-Charge shall also have powers to have such tests, in addition to those specified in the Contract, as may be required and the Contractor shall carry out the same. The cost of materials consumed in such tests and also expenses incurred thereon shall be borne by the Contractor in all cases and also where such tests which are in addition to those provided in the Contract.

- c) The Engineer-in-Charge or his representative shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured, or at any place where these are lying or from where these are being obtained. For this purpose, the contractor shall afford such facilities as may be required for such inspection and examination.
- d) The Engineer-in-Charge shall have full powers for removal of any or all materials brought to Site by the Contractor, which are not in accordance with the Contract Specifications or samples, approved by him.

20. The Works to be completed by the Intended Completion Date

- 20.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the schedule submitted by the Contractor, as updated with the approval of the Employer, and complete them by the Intended Completion Date.

21. Approval by the Employer

- 21.1 The Contractor shall submit Specification and drawings showing the proposed Temporary Works to the Employer, who is to approve them if they comply with the Specifications and Drawings.
- 21.2 The Contractor shall be responsible for the design of Temporary Works.
- 21.3 The Employer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 21.4 The Contractor shall obtain approval of third parties to the design of the temporary Works where required.
- 21.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Employer before their use.
- 21.6 The Contractor shall submit all drawings with specifications to the Employer for approval. The Employer shall approve or send it back for modifications within 14 days of receipt. The Contractor shall make the required modifications and send it back to Employer for approval.

22. Safety

- 22.1 The Contractor shall be responsible for the safety of all activities on the Site.
- 22.2 The Contractor shall be responsible for safety of all persons, employed by him on Works, directly or through Sub-Contractors, and shall report accidents to any of them, however, and wherever occurring on Works, to the Employer or the Employer's Representative, and shall make every arrangement to render all possible assistance and to provide prompt and proper medical attention. The compensation for affected workers or their relatives shall be paid by the Contractor in such cases expeditiously in accordance with the Workmen's Compensation Act and other labour laws and regulations.

23. DISCOVERY

- 23.1 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 Employer of such discoveries and carry out the Employer's instructions for dealing with them. The Contractor shall take reasonable precautions to prevent any damage to these discoveries.

24. Possession of the Site

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

25. Access to the Site

- 25.1 The Contractor shall allow the Employer and any person authorized by the Employer 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.

26. Instructions, Inspections and Audits

- 26.1 The Contractor shall carry out all instructions of the Employer which comply with the applicable laws where the Site is located.
- 26.2 The Contractor shall permit the Employer to inspect the Contractor's accounts, records and other documents relating to the submission of bids and contract performance and to have them audited by auditors appointed by the Employer. The Contractor shall maintain all documents and records related to the Contract for a period of 3 (three) years after completion of the Works. The Contractor shall provide any documents necessary for the investigation of allegations of fraud, collusion, coercion, or corruption and require its employees or agents with knowledge of the Contract to respond to questions from the Employer.

27. Patent Rights

The Contractor shall indemnify the Employer, its representatives or its employees against any action, claim or proceedings relating to infringement or use of any patent rights or design trademark or patented name or other protected rights in respect of the whole or any part of the works and shall pay any royalties or other charges which may be payable in respect of any machine, article or materials or part thereof included in the Contract. In the event of any claim being made or action being brought against the contractor by the Employer or any agent, servant or employee of the Employer in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof. Provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by the Employer.

28. Subsequent Legislation

If, after the deadline for submission of Bid for the contract there occur changes to any National or State Statute, Ordinance or Decree or other Law or any regulation or bye law of any local or other duly constituted authority or introduction of any such state statute, Ordinance, Decree, Law, regulation or bye law which causes additional or reduced cost to the Contractor in execution of the Contract on the direct transactions between the Employer and the Contractor, such additional or reduced cost shall, be determined by the Employer and shall be added to or deducted from the Contract Price and the Employer's Representative shall notify the Contractor accordingly .

Notwithstanding the above, such additional or reduced cost shall not be separately adjusted (paid/recovered) if the same already have been taken into account in the cost indices or prices to the Price Adjustment Formula provided in the Contract.

29. Appointment of the Adjudicator

- 29.1 The Adjudicator shall be appointed by the Employer with the consent of Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 14 days of receipt of such request.
- 29.2 If the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 14 days of receipt of such request.

30. Procedure for resolution of Disputes:

- 30.1 If the Contractor is not satisfied with the decision taken by the Engineer-in-Charge, the dispute shall be referred by either party to the Adjudicator within 30 days of the notification of the Engineer-in-Charge's decision.
- 30.2 The Adjudicator shall give a decision in writing within 28 days of receipt of notification of a dispute. The Adjudicator shall be paid as specified in the SCC, together with reimbursable expenses of the types specified in the SCC, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. If the Adjudicator fails to give its decision within a period of 28 days of the receipt of a notification of a dispute, either party may within 28 days of the expiration of the above-mentioned period or either party is not satisfied with the decision of the Adjudicator, give notice to the Employer of its dissatisfaction. If neither party refer the dispute to the Employer within 30 days, the Adjudicator's decision will be final and binding.
- 30.3 If any party refer the dispute to the Employer, then the Employer shall give a decision in writing within 28 days of receipt of notification of a dispute.
- 30.4 If the Contractor is not satisfied with the decision taken by the Employer, the dispute shall be referred by the Contractor to the Arbitrator. The Arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

B. Time Control

31. Program

- 31.1 Within the time stated in the Special Conditions of Contract, the Contractor shall submit to the Employer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the
- 31.2 The Contractor shall submit the list of equipment and machinery being brought to the Site, the list of key



personnel being deployed, the list of machinery/equipments being placed in field laboratory and the location of field laboratory along with the Programme as per requirement and as per direction of Employer. The Employer shall cause these details to be verified at each appropriate stage of the Programme.

- 31.3 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 31.4 The Contractor shall submit to the Employer for approval an updated Program at intervals no longer than the period stated in Special Conditions of Contract. If the Contractor does not submit an updated Program within this period, the Employer may withhold the amount stated in the Special Conditions of Contract from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.

Payment certificate:

- (a) The Contractor shall submit to the Employer's Representative monthly statements of the estimated value of the work completed less the cumulative amount certified previously.
 - (b) The Employer's Representative shall check the Contractors' monthly statement within 30 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in Contract.
 - (c) The value of work executed shall be determined by the Employer's Representative.
 - (d) The value of work executed shall comprise the value of the quantities of the items in the Bill of quantities **(BOQ)**
 - (e) The value of work executed shall include the valuation of variations and Compensation Events.
 - (f) The Employer's Representative may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
 - (g) The Employer's Representative may by any interim monthly bill make any correction or modification in any previous interim monthly bill which has been issued by him, and shall have authority, if any work is not being carried out to his satisfaction, to omit or reduce the value of such work in any Interim Payment Certificate
- 31.5 The Employer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Employer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

32. Extension of the Intended Completion Date

- 32.1 The Employer 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, which would cause the Contractor to incur additional cost.
- 32.2 The Employer shall decide whether and by how much to extend the Intended Completion Date within 21

days of the Contractor asking the Employer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. 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.

33. Acceleration

- 33.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Employer shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 33.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

34. Delays ordered by the Employer

- 34.1 The Employer may instruct the Contractor to delay the start or progress of any activity within the Works.

35. Management meetings

- 35.1 Either the Employer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the progress achieved and the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 35.2 The Employer shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Contractor. The responsibility of the parties for actions to be taken is to be decided by the Employer either at the management meeting or after the management meeting and stated in writing to be distributed to all who attended the meeting.

36. Early Warning

- 36.1 The Contractor shall warn the Employer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Employer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the **Contract Price** and **Completion Date**. The estimate shall be provided by the Contractor as soon as reasonably **possible**.
- 36.2 The Contractor shall cooperate with the Employer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Employer.

37. Suspension of Works

- 37.1 The Contractor shall on the order of the Engineer-in-charge suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer-in-Charge may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer-in-charge. If such suspension is:
- a) provided for in the Contract, or
 - b) necessary for the proper execution of the Works or by reason of weather conditions or by some default on



- the part of the Contractor, or
- c) necessary for the safety of the Works or any part thereof,

the Contractor shall not be entitled to extra costs (if any) incurred by him during the period of suspension of the works; but in the event of any suspension ordered by the Engineer-in-Charge for reasons other than aforementioned and when each such period of suspension exceeds 14 days, the Contractor shall be entitled to such extension of Time for Completion of the Works as the Engineer-in-Charge may consider proper having regard to the period or periods of such suspensions and to such compensation as the Engineer-in-Charge may consider reasonable cost incurred by the Contractor during the periods of such suspension.

- 37.2 If the progress of Works or any part thereof is suspended on the order of the Engineer-in-Charge for more than three months at a time the Contractor may serve a written notice on the Engineer-in-Charge requiring permission within 15 days from the receipt thereof to proceed with the Works or that part thereof in regard to which progress is suspended and if such permission is not granted within that time the Contractor by a further written notice so served may (but is not bound to) elect to treat the suspension where it affects part only of the Works as an omission of such part or where it affects the whole of the Works as an abandonment of the Contract by the Employer.

C. Quality Control

38. Bench Marks

- 38.1 The Engineer-in-Charge shall establish/indicate the bench marks and convey the same in writing to the Contractor immediately after Letter of Acceptance. Engineer-in-Charge shall be responsible for correctness of such data/bench marks conveyed to the Contractor.**

- 38.2 The Contractor shall be responsible for the true and proper setting out of all the Works (in relation to the aforementioned bench marks) for the correctness of the location, grades, dimensions and alignment of all components of the Works; and for the provisions of all instruments, appliances, materials and labour required in connection therewith. If at any time during the progress of work, any error shall appear or arise in the location, grades, dimensions, or alignment of any part of the Work, the Contractor on being required to do so by the Engineer-in-Charge shall, subject to Clause (a) hereof, at his own expense, rectify such error to the satisfaction of the Engineer-in-Charge.

- 38.3 The Contractor shall afford all reasonable facilities and assistance to the Engineer-in-Charge for checking the setting out and lines and grades established by the Contractor. The checking of any setting out or of any line and grade by the Engineer-in-Charge shall not in any way relieve the Contractor of his responsibility for the correctness thereof. If at any time during the progress of work, any error shall appear or arise in the location, grades, dimensions, or alignment of all parts of the Site including special and/or temporary rights-of-way to the Contractor, free from all encumbrances. If possession of a part of site is not given by the date stated in the Contract, the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event, under the Contract.

39. Identifying defects

- 39.1 The Employer 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. The Employer may instruct the Contractor to**

search for a Defect and to uncover and test any work that the Employer considers may have a Defect.

40. Tests

40.1 For carrying out mandatory tests as prescribed in the specifications, the Contractor shall establish field laboratory at the location decided by the Employer with full equipment as per Special Conditions of Contract. The Contractor shall be solely responsible for:

- a) Carrying out the mandatory tests prescribed in the Specifications, and
- b) For the correctness of the test results, whether performed in his laboratory or elsewhere.

40.2 If the Employer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

41. Correction of defects

41.1 The Employer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Special Conditions of Contract. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

41.2 Every time, notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Employer's notice at the Contractor's own cost.

(a) The "Defects Liability Period" for the works shall be the period stated in the Special Conditions of Contract, following the Completion Date.

(b) The Contractor shall be responsible for fulfilling of all his obligations and making good as soon as practicable at his expenses any Defect in or damage to any section or part of the Works which may appear or occur during the Defects Liability Period and which arises either from quality deficiency in design or materials or workmanship or from any act or omission, of the Contractor. Repair, modification, or replacement of work or part thereof as required to make good such Defect or deficiency or damage shall constitute complete fulfillment of the Contractor's obligations under the Contract and upon such repair, modification, or replacement pursuant hereto or upon the expiration of the Defects Liability Period whichever is later, all such obligations shall terminate.

(c) Until the expiry of the Defects Liability Period, the Contractor shall have the right of access subject to the Employer's permission during normal working hours, at his own risk and expense, by himself or his duly authorized representatives, whose names shall have previously been communicated in writing to the Employer for the purpose of inspecting, working to undertake repairs/corrective actions and performance thereof. Subject to the Employer's approval, which shall not be unreasonably withheld, the Contractor may at his own risk and expense make any test which it considers desirable.

(d) If effective steps for repair, modification or replacement of Defects, deficiencies or damages pursuant hereto are not taken up within two weeks of the date of notification thereof by the Employer to the Contractor or if such repair, modification or replacement is not completed with reasonable **promptitude** by the Contractor at its own expense, the Employer shall be entitled to undertake the same to be made **good** by other agencies or otherwise and deduct **expenses from** any sum that **may be** then or at any time thereafter **becomes** due to the **Contractor under the Contract or from** the amount released by encashing



the bank guarantees provided by the Contractor under the Contract or recover otherwise from the Contractor including from money due to the Contractor on any other accounts whatsoever.

- (e) If during the Defects Liability Period any portion of the Works is found defective or deficient in any manner and is repaired/rectified/replaced pursuant to the defect liability provisions of the Contract, the Defects Liability Period for such portion of the Works, shall, notwithstanding anything to the contrary contained herein, be operative for a further period of 12 months from the date of such repair/rectification/replacement.

42. Uncorrected defects

- 42.1 If the contractor has not corrected a defect to the satisfaction of the Engineer-in-Charge within the time specified in the Engineer's notice, the Engineer-in Charge will get the defect corrected through a debitable agency and retention money/performance security of the contractor shall be utilized for this purpose.

D. Cost Control

43. Bill of Quantities (BOQ)

- 43.1 The BOQ shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.
- 43.2 The **BOQ** is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the BOQ for each item.

44. Contract Price

- 44.1 In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
- 44.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for Materials on Site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

45. Variations

- 45.1 The Employer shall have power to order the Contractor to do any or all of the following as considered necessary or advisable during the progress of the work by him
 - (a) Increase or decrease of any item of work included in the Bill of Quantities (BOQ);
 - (b) Omit any item of work;
 - (c) Change the character or quality or kind of any item of work;
 - (d) Change the levels, lines, positions and dimensions of any part of the work;
 - (e) Execute additional items of work of any kind necessary for the completion of the works; and
 - (f) Change in any specified sequence, methods or timing of construction of any part of the work.
 - (g) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than the percentage **specified in Special Conditions of Contract**, provided the change

exceeds the percentage of the Initial Contract Price, as specified in the Special Conditions of Contract, the Engineer-in-Charge shall adjust the rate to allow for the change, as under:

- i. If the quantity of work executed exceeds the quantity of the item in **BOQ** beyond the higher specified limit, the Engineer-in-Charge shall fix the rate to be applied for the additional quantity of the work executed.
- ii. If the quantity of work executed is less than the quantity of the item in **BOQ** and is lesser than the lower specified limit, the Engineer-in-Charge shall fix the initially contracted rate to be applied for whole of the quantity of the work so executed.

412 The variation from a **BOQ** item to a Non **BOQ** item is not permitted.

45.3 All the variations shall be included in updated Programs produced by the Contractor.

45.4 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

45.5 The Contractor shall be bound to carry out the work in accordance with any instructions in this connection, which may be given to him in writing by the Employer and such alteration shall not vitiate or invalidate the **Contract**.

45.6 Variations shall not be made by the Contractor without an order in writing by the Employer, provided that no order in writing shall be required for increase or decrease in the quantity of an item appearing in the **BOQ** so long as the work executed conforms to the approved drawings.

45.7 The Contractor shall promptly carry out the Variation and failing to do so, the Employer will carry out such variation works, at the risk and cost of the Contractor.

45.8 Due to variations, the terms and conditions of this Contract, including any modification with respect to Performance Security Deposit may be made by written agreement between the Parties.

46. Payments for Variations

46.1 Under no circumstances the **Contractor** shall suspend the work on the plea of non-settlement of rates for items falling under this Clause.

46.2 The payments for variations shall be as specified in **SCC**.

47. Cash Flow Forecasts

47.1 When the Program is updated, the Contractor shall provide the Employer with an updated cash flow forecast.

48. Submission of bills for payment

48.1 The Contractor shall submit to the Employer monthly bills of the value of the work completed less the cumulative amount paid previously.

48.2 The Employer shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.



48.3 The Employer shall check the Contractor's bill and determine the value of the work executed which shall comprise of (i) value of the quantities of the items in the **BOQ** completed and (ii) valuation of Variations and Compensation Events.

48.4 The Employer may exclude any item paid in a previous bill or reduce the proportion of any item previously paid in the light of later information.

49. Payments

49.1 Payments shall be adjusted for deductions for advance payments and retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 30 days of the date of each certificate. If the Employer makes a late payment, the contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payments should have been made up to the date when the late payment is made at the rate of interest for commercial borrowing as specified in the SCC.

49.2 The Employer may appoint another authority, as specified in the Special Conditions of Contract (or any other competent person appointed by the Employer and notified to the Contractor) to make payment.

49.3 Items of the Works for which no rate or price has been entered in the BOQ, will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

50. Force Majeure

50.1 For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, is not foreseeable, is unavoidable, and makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action by Government agencies.

50.2 Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Experts, sub-contractors or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both take into account at the time of the conclusion of this Contract, and avoid or overcome in the carrying out of its obligations hereunder.

50.3 Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

50.4 The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

50.5 A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

50.6 A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.

50.7 Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a **period** equal to the time during which such Party was unable to perform such action as a result of Force **Majeure**.

50.8 During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor, upon instructions by the Employer, shall either:

- a) **demobilize, in which case the Contractor shall be reimbursed for additional costs they reasonably and necessarily incurred, and, if required by the Employer, in reactivating the Work; or**
- b) continue with the Work to the extent reasonably possible, in which case the Contractor shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.

50.9 In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to Clause **GCC 30**.

51. Compensation events

51.1 The following are **Compensation** events unless they are caused by the **Contractor**:

- a) The Employer does not give access to a part of the Site by the Site Possession Date as stated in SCC
- b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- c) **The Project Manager/Engineer-in-Charge orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.**
- d) **The Project Manager/ Engineer-in-Charge instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.**
- s) The Project Manager/ Engineer-in-Charge unreasonably does not approve a subcontract to be let
- f) Ground conditions are substantially more adverse than could reasonably have been assumed before **issuance of the Letter of Acceptance** from the information issued to bidders (including the Site Investigation Reports), **from information** available publicly and through a visual **inspection** of the Site.
- g) **The Project Manager/ Engineer-in-Charge gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.**
- h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other **constraints** stated in the Contract, and they cause delay or extra cost to the Contractor.
- i) The advance payment is delayed.
- j) The effects on the Contractor of any of the Employer's Risks.
- k) **The Project Manager/ Engineer-in-Charge unreasonably delays issuing a Certificate of Completion.**

51.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contractor shall submit claim within 14 days of the occurrence of Compensation Event and the Employer will give his duly considered evaluated decision as early as possible within three months. The Employer shall accordingly decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

51.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager/ Engineer-in-Charge,

and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager/ Engineer-in-Charge shall adjust the Contract Price based on Employer's own forecast. The Employer will assume that the Contractor will react competently and promptly to the event.

- 51.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Employer.

52. Terms

- 52.1 The rates quoted by the Contractor in the Bill of Quantities forming part of the Contract shall be deemed to be inclusive of all duties, taxes, royalties and other levies of central and state government, local bodies and authorities, but excluding 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.

53. Price Adjustment

- 53.1 Contract price shall be adjusted for increase or decrease in rates and prices of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formulae given in the Special Conditions of Contract.

- (a) The price Adjustment shall apply for the work done from the Start Date up to the end of the Intended Completion Date. If there is delay in completion beyond such date for reasons attributable to the Contractor, the Price Adjustment for the work carried out during such period, for reasons attributable to the Contractor, shall be regulated as specified below:

If the Contractor fails to complete the Works within the Intended Completion date, adjustment of prices thereafter shall be made using either:

- (a) index or price applicable on the specified date prior to the expiry of the Intended Completion Date,
- (b) the current index or price applicable for the period in question, whichever is more favourable to the Employer
- (b) Price Adjustment shall be admissible from the date of opening of bids (original or extended)
- (c) The price adjustment shall be determined during each quarter from the formulae given in Special Conditions of Contract.
- (d) Following expressions and meanings are assigned to the work done during the quarter:

R = Total value of work done during the quarter. It will exclude value for works executed under variations for which price adjustment (if any) will be worked out separately based on the terms mutually agreed.

- 53.2 To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.
- 53.3 If the total duration of project is less than or equal to 18 months, generally no request for price escalation shall be considered while granting the Extension of Time.
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54. Procedure for Clsims

- a) **Except as otherwise provided in any other provision of the Contract, if the Contractor intends to claim any additional payment pursuant to any Clause of these Conditions or otherwise, he shall give notice of his intention to the Engineer-in-Charge, within 14 days after the event giving rise to the claim has first arisen.**
- b) Upon the happening of the event referred to in (a), the Contractor shall keep such contemporary records as may reasonably be necessary to support any claim he may subsequently wish to make. Without necessarily admitting the Employer's liability, the Engineer-in-Charge shall, on receipt of a notice under (a), inspect such contemporary records and may instruct the Contractor to keep any further contemporary records as are reasonable and may be material to the claim of which notice has been given. The Contractor shall permit the Engineer-in-Charge to inspect all records kept pursuant to (a) and shall supply him with copies thereof as and when the Engineer-in-Charge so instructs.
- c) Within one month, or such other reasonable time as may be agreed by the Engineer-in-Charge, of giving notice under (a), the Contractor shall send to the Engineer-in-Charge an account giving detailed particulars of the amount claimed and the grounds upon which the claim is based. Where the event giving rise to the claim has a continuing effect, such account shall be considered to be an interim account and the Contractor shall, at such intervals as the Engineer-in-Charge may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. In cases where interim accounts are sent to the Engineer-in-Charge, the Contractor shall send a final account within one month of the end of the effects resulting from the event.
- d) The Contractor shall be entitled to have included in any interim payment certified by the Engineer-in-Charge such amount in respect of any claim as the Engineer-in-Charge, after due approval of the Employer, may consider due to the Contractor provided that the Contractor has supplied sufficient particulars to enable the Engineer-in-Charge to determine the amount due. If such particulars are insufficient to substantiate the whole of the claim, the Contractor shall be entitled to payment in respect of such part of the claim as such particulars may substantiate to the satisfaction of the Engineer-in-Charge. The Engineer-in-Charge shall notify the Contractor of any determination made under this Clause.

55. Retention

- 55.1 **The Employer shall retain from each payment due to the Contractor the proportion as stated in the SCC until Completion of the whole of the Works.**
- 55.2 **The total amount retained shall be repaid to the Contractor when the Defects Liability Period has passed and the Employer has certified that all Defects notified by the Employer to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" bank guarantee.**

56. Liquidated damages

- 56.1 The Contractor shall **pay liquidated damages** to the Employer at the rate per day stated in the Special Conditions of Contract for each day that the **Completion Date** is later than the **Intended Completion Date** (for the whole of the works or the milestone as stated in the Special Conditions of Contract). The total amount

of liquidated damages shall not exceed the amount defined in the Special Conditions of Contract. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

56.2 The Employer may, without prejudice to any other method of recovery, deduct the amount of such liquidated damages from any sum due, or to become due to the Contractor or from Security Deposit or any other dues from government or semi government bodies within the State of Uttarakhand.

56.3 If the intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment of bill.

57. Bonus

57.1 [If specified in SCC, the Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the SCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Employer shall certify that the Works are complete, although they may not be due to be complete.]

58. Advance Payments:

58.1 The Employer shall make advance payment to the Contractor of the amounts stated in the Special Conditions of Contract by the date stated in the Special Conditions of Contract, against provision by the Contractor of an unconditional bank guarantee in a form acceptable to the Employer issued by a Nationalized/Scheduled Bank in amounts equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Rate of interest will be charged on the advance payment as specified in SCC.

58.2 Advance against Materials and Plants shall be given only against the raw materials which will be used for construction within the next 3 months. Mobilisation advance up to 10% can be provided.

58.3 The Contractor is to use the advance payment only to pay for Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Employer.

58.4 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuation of the work done, variations, price adjustments, compensation events or liquidated damages.

59. Performance Security:

The Performance Security Deposit (including additional performance security for unbalanced bids) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued for an amount and in the form and type of instrument as specified in the Special Condition of Contract. The Security deposit shall be valid until a date 60 days from the date of expiry of Defects Liability Period. The additional performance security, if any shall be calculated as specified in SCC.

60. Day works

- 60.1 If applicable, the Day works rates in the Contractor's Bid shall be used for small additional amounts of work only when the Employer has given written instructions in advance for additional work to be paid for in that way.
- 60.2 All work to be paid for as Day works shall be recorded by the Contractor on forms approved by the Employer. Each completed form shall be verified and signed by the Employer within two days of the work being done.
- 60.3 The Contractor shall be paid for Day works subject to obtaining signed Day works forms.

61. Cost of Repairs:

- 61.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability Period shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

62. Completion

- 62.1 The Contractor shall request the Employer to issue a Certificate of Completion of the Works and the Employer will do so upon deciding that the Work is completed.

63. Taking over

- 63.1 The Employer shall take over the Site and the Works within seven days of issuing a certificate of Completion.

64. Final account

- 64.1 The Contractor shall supply to the Employer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within [90 days] of receiving the Contractor's account if it is correct and complete. If it is not, the Employer shall issue within [90 days] a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Employer shall decide on the amount payable to the Contractor and make payment within [60 days] of receiving the Contractor's revised account.

65. As built drawings and /or Operating and Maintenance Manuals

- 65.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Special Conditions of Contract.

³ Completion drawings

65.2 If the Contractor does not supply the Drawings by the dates stated in the Special Conditions of Contract, or they do not receive the Employer's approval, the Employer shall withhold the amount stated in the Special Conditions of Contract from payments due to the Contractor.

66. Use of Explosive material

66.1 For the use of explosive material for excavation in hard rock, the Contractor has to follow the prevailing rules in this regard of Government of India & of Government of Uttarakhand and also has to get license from the appropriate authority for the use of explosive material.

67. Termination

67.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

67.2 fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Employer;
- (b) the Employer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 60 days;
- (c) The Contractor becomes bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment due to the Contractor is not paid by the Employer within 90 days of the date of the submission of the Bill by Contractor;
- (e) the Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Employer;
- (f) the Contractor does not maintain a security which is required;
- (g) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Special Conditions of Contract; and
- (h) the Contractor fails to provide insurance cover as required under Clause 13;
- (i) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.
For the purpose of this paragraph: "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. "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 Borrower, 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 Borrower of the benefits of free and open competition."
- (j) if the Contractor fails to set up a laboratory with all equipment as mentioned in Forms to ITB;
- (k) if the Contractor fails to deploy machinery and equipment or personnel as specified in the Conditions of Contract at the appropriate time;
- (l) if the Contractor fails to pay EPF, ESI contribution as required under prevailing laws;
- (m) if the Contractor engages child labour in violation of prevailing laws;
- (n) if the Contractor fails to ensure that there is no gender bias in engagement of labour and other employees and in payment of wages and he discriminates against female workers;
- (o) any other fundamental breaches as specified in the Special Conditions of Contract.

67.3 When either party to the Contract gives notice of a breach of contract to the Employer for a cause other than those listed under Sub Clause 67.2 above, the Employer shall decide whether the breach is fundamental or

67.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

67.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

68. Payment upon Termination

68.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Employer shall prepare bill for the value of the work done less advance payments received up to the date of the bill, 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 as indicated in the Special Conditions of Contract. 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. The Employer may also debar and blacklist the Contractor for applying for future tender/ITB/contractor selection processes as indicated in SCC.

68.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Employer shall prepare bill for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the Contract, and less taxes due to be deducted at source as per applicable law and make payment accordingly.

69. Property

69.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a contractor's default. It will be transferred to the Contractor after settling of the liabilities arising due to termination.

70. Performance Certificate & Site Clearance

70.1 Performance Certificate

Performance Certificate shall be issued by Employer's Representative upon completion of all the Contractor's obligations, stating the date on which the Contractor completed his obligations under the Contract.

The Employer's Representative shall issue the Performance Certificate within 28 days of expiry of Defects Liability Periods including remedying any Defects to be carried after completion of Works. A copy of the Performance Certificate shall be retained by the Employer's Representative with duly acknowledged receipt from the Contractor.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.



70.2 Clearance of Site

Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If any of these items have not been removed within 28 days by the Contractor after the issue of Completion Certificate, the Employer may dispose off remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

71. Release from performance

- 71.1 If the Contract is frustrated by any event entirely outside the control of either the Employer or the Contractor the Employer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.
- 71.2 Death or permanent invalidity of the Contractor: The Contractor shall indicate his nominee for the Contract at the time of signing of Contract. If a Contractor dies during the currency of the Contract or becomes permanently incapacitated, and his/her nominee are not willing to complete the Contract, the Contract shall be closed without levying any damages/compensation as provided in this Contract.
- 71.3 However, if the nominee expresses his/her intention to complete the balance work and the competent authority is satisfied about the competence of the nominee, then the competent authority shall enter into a fresh agreement for the remaining work strictly on the same terms and conditions, under which the Contract was initially awarded.

72. Foreclosure of Contract

- 72.1 In case, the Employer decides to abandon or reduce the scope of the works under the Contract for reason whatsoever and does not require the whole or any part of the works to be carried out, the Engineer-in-charge shall give notice in writing to that effect to the Contractor and the Contractor shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from execution of the works in full but which he could not derive in consequence of the foreclosure of the whole or part of the Contract.

The Contractor shall be paid at Contract rates for full amount of the works executed at site and in addition, a reasonable amount as certified by the Engineer-in-charge for the items hereunder mentioned which could not be utilized on the work to the full extent because of the foreclosure.

- (i) Any expenditure incurred on preliminary works, e.g. temporary access roads, temporary labor huts, staff quarter & site office, storage accommodation and water storage tanks;
- a) The Employer shall have the option to take over Contractor's materials or any part thereof, either brought to Site or ordered for which the Contractor is legally bound to accept delivery from suppliers provided however

that the quantity of such materials is not in excess of reasonable requirement of works. The decision of Engineer-in-charge in respect of reasonable quantity required for works will be final and conclusive (for incorporation in or incidental to the work), provided however, the Employer shall be bound to take over, the material or such portions thereof as the Contractor does not desire to retain. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which have been caused to materials whilst in the custody of the Contractor.

- b) For Contractor's materials not retained by the Employer, reasonable cost for transporting such materials from Site to Contractor's stores or to his other works, whichever is less will be paid by the Employer. If materials are not transported to either of the said places, no cost of transportation shall be payable.
- (ii) Reasonable compensation for transfer of Construction Equipment from Site to Contractor's permanent stores or to his other works whichever is less provided that such Construction Equipment is not in excess or reasonable requirement of works. If Construction Equipment are not transported to either of the said places, no cost of transportation shall be payable.
- (iii) The reasonable cost of transportation of all the Contractor's staff and workmen employed on or in connection with the works at time of such closure of Contract.
- ^) The Contractor shall, if required by the Engineer-in-charge, furnish to him books of account, wage books, time sheets and other relevant documents as may be necessary to enable him to certify the reasonable amount payable under this condition.
- b) Provided always that against any payments due from Employer under this clause **Employer** shall be entitled to be credited with any outstanding balances due **from the Contractor and any** other sums which at the date of termination were recoverable by the Employer from the Contractor under terms of the Contract.

73. Closure of Contract

The Contract shall stand closed upon:

- 1) Successful performance of all obligation by both parties, including completion of defect liability obligations and final payment.
- 2) Termination and settlements after that, if any, as per clause 67 above.

F. Other Conditions of Contract

74. 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 pay, food, housing, feeding and transport.

The Contractor shall, if required by the Employer, deliver to the Employer a return in detail, in such form and at such intervals as the Employer 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 Employer may require.



75. Care of Works and Indemnity

- a) From commencement to completion of the Works as a whole, the Contractor shall take full responsibility for the care thereof and for taking precautions to prevent loss or damage except the loss/damage occasioned by Employer's Risks or Force Majeure Risks, which are not insurable as per GCC hereof. He shall be liable for any damage or loss that may happen to the Works or any part thereof except the loss/damage occasioned by Employer's Risks or Force Majeure Risks. Any such loss or damage shall be restored in good order and condition and in conformity in every respect with the requirements of the Contract and instructions of the Engineer-in-Charge at Contractor's cost. The re-doing or repair of Permanent Works occasioned by Employer's Risks or Force Majeure Risks which are not incurable shall be paid by the Employer as per variation order provided such a loss or damage could not have been foreseen or avoided by a prudent person.
- i. Neither party to the Contract shall be liable to the other in respect of any loss or damage which may occur or arise out of "Force Majeure" to the Works or any part thereof or to any material or Plant at Site but not incorporated in the Works or to any person or anything or material whatsoever of either party and the either party shall bear losses and damages in respect of their manpower and materials. As such liability of either party shall include claims/compensation of the third party also.
- ii. **Provided**, however, in an eventuality as mentioned in sub-clause (b)(i) above, the following provisions shall also have effect:
 - b) The Contractor shall, as may be directed in writing by the Engineer-in-Charge proceed with the erection and completion of the works under and in accordance with the Contract; and
 - c) The Contractor shall, as may be directed in writing by the Engineer-in-Charge, re-execute the works lost or damaged, remove from the Site any debris and so much of the works as shall have been damaged. The cost of such re-execution of the works shall be ascertained in the same manner as for deviations and this shall be paid separately to the Contractor.

Provided always that the Contractor shall, at his own cost, repair and make good so much of the loss or damage as has been by any failure on his part to perform his obligations under the Contract or not taking precautions to prevent loss or damage or minimize the amount of such loss or damage.

- d) The Contractor shall indemnify and keep indemnified the Employer against all losses and claims for death, injuries or damage to any person or any property whatsoever which may arise out of or in consequence of the construction and maintenance of works during the Intended Time for Completion and also against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto, and such liabilities shall include claims/compensations of the third party. Provided the same is attributable to the contractor.

The Employer shall not be liable for in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or Employer's Personnel. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages costs, charges and expenses whatsoever in respect thereof or in relation thereto.

76. 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, Employer shall have the right to deduct any money due to the Contractor including his amount of security deposit. The Employer 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.

Full compliance of statutory requirements apart, the Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or the industry where the work is carried out. The Contractor shall make himself aware of all labour regulations and their impact on the cost and build up the same in the Contract Price. During the Contract Period, unless and otherwise provided in the Contract, no extra amount in this regard shall be payable to the Contractor, for whatsoever reason.

In the event of default being made in the payment of any money in respect of wages of any person employed by the Contractor or any of its sub-contractors of any tier in and for carrying out of this Contract and if a claim therefore is filed in the office of the Labour Authorities and proof thereof is furnished to the satisfaction of the Labour Authorities, the Employer may, failing payment of the said money by the Contractor, make payment of such claim on behalf of the Contractor to the said Labour Authorities and any sums so paid shall be recoverable by the Employer from the Contractor.

It shall be the responsibility of the Contractor to pay EPF, ESI contributions as required under prevailing rates. The Contractor shall bear all such cost and it would be deemed to be included in the Contract Price.

The employment of child labour is prohibited in the Contract. The Contractor shall comply with the Child Labour (Prohibition and Regulation) Act, 1986.

The Contractor shall ensure that there is no gender bias in engagement of labour and other personnel and shall not make any discrimination against female employees. The Contractor shall comply with the Equal Remuneration Act, 1979 and Maternity Benefit Act, 1961.

The Contractor shall have a Labour Welfare Organisation which shall be responsible for labour welfare and compliance with prevalent labour laws, statutes and guidelines. In this context, the Contractor is also required to familiarize himself with Labour Welfare Rules of the state and comply with the provisions of the Building and other Construction Workers (Regulation and Employment & Conditions of Service), Act 1996 and the Cess Act, 1996.

The Contractor shall provide and maintain at his own expense, all necessary accommodation and welfare

facilities as per prevailing labour and welfare laws for his staff and labour.

The Contractor shall prepare and submit compliance reports of adherence to labour laws as and when directed by the Employer.

77. Protection of Environment:

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

78. Ecological Balance

The Contractor shall be required to ensure that there shall be no indiscriminate felling of trees by him or his labourers or their family members and he will be solely responsible for the acts in this regard. The Contractor shall try to maintain ecological balance by preventing deforestation, water pollution and defacing of natural landscape in the vicinity of work areas. The Contractor shall so conduct his construction operations as to prevent an unnecessary destruction of, scarring or defacing the natural surroundings in the vicinity of the work area. In order to maintain the ecological balance, the Contractor shall specifically observe the following instructions:

- a) Where unnecessary destruction, scarring, damage, or defacing may occur as a result of the Contractor's operation, the same shall be repaired, replanted or otherwise corrected at the Contractor's expense. The Contractor will prevent scattering of rocks and other debris outside the work areas. All work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape as directed by the Engineer-in-Charge.
- b) All trees and shrubs, which are not specifically required to be cleared or removed for construction purposes, shall be preserved and shall be protected from any damage that may be caused by the Contractor's construction operation and Construction Equipment. The removal of trees or shrubs will be permitted only after prior approval by the Engineer-in-charge. Special care shall be exercised where trees or shrubs are exposed to injuries by Construction Equipment, blasting, and excavating, dumping, chemical damage or other operation and the Contractor shall adequately protect such trees by use of protective barriers or other methods approved by the Engineer-in-Charge. Trees shall not be used for anchorage.
- c) The Contractor's construction activities shall be performed by methods that will prevent entrance or accidental spillage of solid matter contaminants, debris and other objectionable pollutants and wastage into river. Pollutants and wastes shall be disposed of in a manner and at sites approved by the Engineer in-Charge. The Contractor shall fully comply with Water (Prevention and Control of Pollution) Act, 1974 section -33(A), as may be amended from time to time.
- d) Burning of materials resulting from clearing of tree, bush, combustible construction materials, and rubbish may be permitted only when atmospheric conditions for burning are considered favourable.

In the conduct of construction activities and operation of Construction Equipment, the Contractor shall utilise such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize air pollution. The contractor shall fully comply with Air (Prevention and Control of Pollution) Act, 1981 section -31(A), as may be amended from time to time.

79. Drawings, Photographs and CD of videography of the Works

- 79.1 The Contractor shall provide as built drawings, photographs and videography of the construction works during the construction and after the construction to the Employer.
- 79.2 If the Contractor does not submit the drawings, photographs and videography to the Employer, the Employer shall withhold the amount stated in the Special Conditions of Contract from the payments from the bill of the **Contractor**.
- 79.3 The Contractor shall do photography/video photography of the site firstly before the start of the Work, secondly midway in the execution of different stages of Work and lastly after the completion of the Work. No separate payment will be made to the Contractor for this.
- 79.4 The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Employer in writing. No photograph of the Works or any part thereof or plant employed thereon shall be taken or permitted by the Contractor to be taken by any of his employees without the prior approval of the Employer in writing. No photographs/video photography shall be published or otherwise circulated without the approval of the Employer in writing.

1. Add other Clauses specific to the work for which bids are invited.]

SECTION XI: SPECIAL CONDITIONS OF CONTRACT

(To be updated and modified by the Employer)

Items marked "N/A" do not apply in this Contract.

GCC Clause Reference	The following documents are also part of the Contract:
	A. General
[1]	The name and identification number of the Contract is <i>Insert name and number as indicated in the Invitation for Bids.</i>
[1], 6.1	The details of Employer are: Employer _____ Authorised Representative : _____ Address _____ Telex _____ E-mail _____ The details of Contractor are: Contractor _____ Authorised Representative _____ Address _____ Telex _____ E-mail _____
[1]	The Intended Completion Date for the whole of the Works shall be <i>insert date</i> <i>If different dates are specified for completion of the Works by section ("sectional completion" or milestones), these dates should be listed here]</i>
[1]	The Site is located at <i>insert address of site</i> and is defined in drawings No. <i>insert numbers]</i>
[t]	The Start Date shall be <i>insert date</i> 21 days from the date of issue of the notice to proceed with the work. The notice to proceed shall be issued within 21 days of signing of agreement.
[1]	The Works consist of <i>insert brief summary, including relationship to other contracts under the Project]</i>
2.2	Sectional Completions are: <i>insert nature and dates, if appropriate]</i>
2.5	The following documents also form part of the Contract: <i>insert the following and any other relevant document]</i>
8.1	Schedule of Other Contractors: <i>insert Schedule of Other Contractors, if appropriate]</i>
S.1	Technical Personnel <i>insert the name/s of each Technical Personnel agreed by the Employer prior to Contract signature.]</i>

13.1	The minimum insurance** amounts and deductibles shall be:		
	Sr.No.	Type of Cover	Miaimura cover for Insurance"
	i	for loss or damage to the Works, Plant and Materials	/The sum stated in the Agreement plus 20%/.
	ii	for loss or damage to Equipment (except the Works, Plant, Materials, and Equipment) in connection with Contract	Pull replacement cost
	iii	for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract	Full replacement cost
	iv	Personal injury or death insurance (a) for Third PQ (b) for Contractor's employees or labour	In accordance with the statutory requirements applicable to State of Uttarakhand
14.i	Site Investigation report/Data are: <i>[list Site Data]</i>		
17, 26	The Works consist of <i>riefsummary, including relationship to other contract under the ProjectJ of die</i> Works is ____ " with the following milestones. Milestone 1 i.e., _____ months Milestone 2 i.e., _____ months Milestone 3 i.e., _____ months		
24.1	The Site Possession timelines" shall be: <i>[insert location(s) and date(s), as required]</i>		
29.1 & 29.2	Appointing Authority for the Adjudicator: <i>[insert name of Auihority]</i> .		
30.2	Adjudicator shall be paid as: Reimbursable expenses payable:		

" Employer to specify as per requirement. Exclusions if any should also be specified.

* Employer to specify as per requirement. Exclusions if any should also be specified.

" Specify an appropriate figure. For normal works it could be Rs.20 lakhs to cover 4 persons @Rs.5 lakhs each.

" At the time of preparation of the bid document give the period required for completion of whole work and the milestones. When the Agreement is drawn after award of contract the dates can be put in.

" At the time of preparation of the bid document give the period after the issue of work order. when the site would be made available to the contractor, for example 'one week after the issue of work order'

30.4	<p>The procedure for arbitration shall be as follows:</p> <p>(a) In case of dispute or difference arising between the Employer and the Contractor relating to any matter arising out of or connected with this agreement it shall be settled in accordance with the Arbitration and Conciliation Act 1996. The disputes or differences shall be referred to a Arbitral Tribunal. One Arbitrator shall be appointed by each party and the Presiding Arbitrator shall selected by both arbitrator with consensus, failing such the Presiding Arbitrator shall be appointed by IRC/IEI or any organization mentioned in agreement.</p> <p>(b) Arbitration proceedings shall be held at.....", Uttarakhand, India and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.</p> <p>(c) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself. <i>Calculation of fees and payment schedule for resolution of dispute between Arbitrator shall be as per Govt. Order letter No. 471HII (2)-19-41 (M /2013, Dehradun Dt 28-01-2020 Government of Uttarakhand, PWD section-2, Dehradun, and its amendments from time to time, which shall be the part of this Contract.</i></p> <p>Performance under the contract shall continue during the arbitration proceedings and payments due the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.</p>
	B. Time Control
31.1	<p>The Contractor shall submit for approval a Program for the Works within 15 days from the date of the Letter of Acceptance.</p> <p>The Program shall also include the Schedule of Key and Critical Equipment to be deployed on the work as <i>per</i> agreed program of construction.</p>
31.4	<p>The period between Program updates is as per instructions</p> <p>The amount to be withheld for late submission of an updated Program is <i>[insert amount]</i>.</p>
	C. Quality Control
40.1	<p>The laboratory to be established at <i>site with following equipment's:-</i> <i>[As per Attached]</i></p>
41	<p>The Defects Liability Period is. 03 years and shall be extended for as long as Defects remain to be corrected.</p>

•• To be filled in by the Employer before issue of the Bid document

" The period should depend up on the period required for testing of the work. In case of building, it could be 12 months (passing of one rainy season); for pipe laying work, tanks, water retaining structures, the time required for testing; for canals, lining works, the passing of one monsoon or running of canal whichever is lower; roads and highways passing of one monsoon (12 months)

	D. Cost Control
45.1, 46.2	<p>The Payments for Variations shall be calculated as follows:</p> <ol style="list-style-type: none"> Payment for increase in the quantities of an item in the BOQ up to [10%] of that provided in the Bill of Quantities in any of the items shall be made at the rates quoted by the Contractor. For quantities in excess of [110%] of the tendered quantity of an item as given in the BOQ, the Contractor shall be paid at the rate entered in or derived from in the Schedule of Rates (applicable for the area of tile work and current at the time of award of contract) or the BOQ rate provided by the contractor, (whichever is lesser) over the current Uttarakhand Public Works Department Schedule of Rates prevalent at the time of award of Contract. If the rates for additional, substituted or altered item of work cannot be determined either as mentioned above, the Contractor shall be requested to submit his quotation for the items supported by analysis of the rate or rates claimed, within 7 days. If there is no rate for the additional, substituted or altered item of the work in the BOQ, efforts would be made to derive the rates from market survey and quotations received and the payment would be made at the derived rate for the item by the Employer. If the Contractor's quotation is determined unreasonable, the Employer may order the Variation and make a change to the Contract Price which shall be based on Employer's own forecast of the effects of the Variation on the Contractor's costs.
49.1	The rate of interest should be [Not Applicable]
49.2	Authority appointed by the Employer to make payment:

53.1	<p>The Contract [insert "is" or "is not"] subject to price adjustment in accordance with GCC Clause 46, and the following information regarding coefficients <i>[specify "does" or "does not"]</i> apply. <i>[Price adjustment is applicable for contracts which provide for time of completion exceeding 18 months]</i></p> <p>Price Adjustment Formula;" R= Value of work as defined in Clause 46.1 of Conditions of Contract.</p> <p><u>Adjustment for labour component'</u> (i) Price adjustment for increase or decrease in the cost due to labour shall be paid in accordance with the following formula:</p> $V_L' = 0.85 \times P / 100 \times R \times (L_i - L_0)$ <p>Where,</p> <p>V_L = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates for local labour;</p> <p>L_i = The average consumer price index² for industrial workers for "Centre for the quarter preceding the date of opening of bids as published by the Labour Bureau, Ministry of Labour, Government of India;</p> <p>L_0 = The average consumer price index for industrial workers for Centre for the quarter under consideration as published by Labour Bureau, Ministry of Labour, Government of India</p> <p>P_c = Percentage of labour component of the work</p> <p><u>Adjustment for Cement Component:</u></p> <p>(ii) Price adjustment for increase or decrease in the cost of cement component procured by the contractor shall be paid in accordance with the following formula.</p> $V = 0.85 \times P_c / 100 \times R \times (C_i - C_0) / C_0$ <p>Where,</p> <p>V_t = Increase or decrease in the cost of the work during the quarter under consideration due to changes in the rates for cement;</p> <p>C = The all India average wholesale price index² for cement (Ordinary Portland Cement) for the quarter preceding the date of opening of the bids as published by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi;</p> <p>C_i = The all India average wholesale price index for cement (Ordinary Portland Cement) for the quarter under consideration as published by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>P_t = Percentage of cement component of the work</p>
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²The Formula becomes nominal coefficients. It should be changed if need be to suit the nature of the work.

³The index numbers are available in the web site <http://www.nippon.co.jp>

* Insert the same of center. The centers for which the indices presently available for Uttarakhand State are _____ 7. Chose the center nearest to the work for which bids are invited.

* The index numbers are available in the web site <http://www.nippon.co.jp>

	<p>Note: For the application of tpls clause index of Ordinary Portland CemenP• has been chosen to represent Cement</p> <p><u>Adjustment for steel component:</u></p> <p>(iii) Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula.</p> $V_s' = 0.85 \times P_s / 100 \times R \times (S_i - S) / S,$ <p>where,</p> <p>V = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for steel;</p> <p>S» = The all India average wholesale price index for steel (M.S.Bars and rods) for the quarter preceding the date of opening of Bids as published by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>Si = The All India average wholesale price index for steel (M.S. Bars and Rods) for the quarter under consideration as published by the Office of Economic Advisor, Minis6y of Commerce and Industry, New Delhi</p> <p>Ps = Percentage of steel component of the work</p> <p>Note: For the application of this clause, index of MS Bars and Rods•• has been chosen to represent steel group.</p>
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" This may be changed to my other type of cement depending on the netum of work.

" This mney be changed depending on the major type of steel used dyonding on the nan of work

	<p><u>Adjustment of Bitumen Component:</u></p> <p>(iv) Price adjustment for increase or decrease in the cost of bitumen shall be paid in accordance with the following formula:</p> $V_{B'} = 0.85 \times P_a / 100 \times R \times (B_i - B_o) / B_o,$ <p>VB' Increase or decrease in the cost of work during the quarter under consideration due to changes in the rate for bitumen.</p> <p>B_o = The official retail price of bitumen at the IOC fHPCL/BPL or any other depot at "on the day 30 days prior to the date of opening of Bids.</p> <p>B_i — The official retail price of bitumen at the IOC/HPCL/BPL or any other depot at..... for the 15* day of the middle calendar month of the quarter under consideration.</p> <p>PB Percentage of bitumen component of the work.</p> <p><u>Adjustment of Fuel and Lubricant component:</u></p> <p>(v) Price adjustment for increase or decrease in cost of Fuel and Lubricants shall be paid in accordance with the following formula:</p> $V_t = 0.85 \times P_t / 100 \times R \times (F - F_i) / F_i,$ <p>Where,</p> <p>V_t = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for Fuel and Lubricants.</p> <p>F = The official retail price of High-Speed Diesel (HSD) at the IOC/HPCL/BPL or other consumer pump at....."on the day 30 days prior to the date of opening of Bids.</p> <p>F_i = The official retail price of HSD at the IOC/HPCL/BPL or other consumer pump at. for the 15* day of the middle calendar month of the quarter under consideration.</p> <p>P_t = Percentage of Fuel and Lubricant component of the work.</p> <p>Note: For the appllcation of this Clause the price of HSD⁵ has been chosen to represent Fuel and Lubricant Group</p>
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" fnsert the nearest location of POL Depot

" Tnsert the location of the nearest POL Consumer pump

• This could be appropriately changed to any other item depending on the nature of work

	<p><u>Adjustment for Plant and Machinery Spares Component:</u></p> <p>(vi) Price adjustment for increase or decrease in the cost of plant and machinery spares procured by the contractor shall be paid in accordance with the following formula:</p> $V_s = 0.85 \times P_s / 100 \times R \times (P_s - P_i) / P_i$ <p>Where,</p> <p>V_s = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for plant and machinery</p> <p>P_s = The all India average wholesale price index for Heavy machinery and parts for the quarter preceding the date of opening of bids, as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>P_i = The all India average wholesale price index for Heavy machinery and parts for the quarter under consideration as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>P_n = Percentage of Plant and Machinery Spares component of the work.</p> <p>Note: For the application of this Clause index of Heavy Machinery and Parts" has been chosen to represent the Plant and Machinery Spares Group.</p> <p><u>Adjustment for Other materials'</u></p> <p>(vii) Price adjustment for increase or decrease in the cost of other materials other than cement, steel, bitumen and Fuel and Lubricants', procured by the contractor shall be paid in accordance with the following formula:</p> $V_m = 0.85 \times P_m / 100 \times R \times (M_i - iV_i) / M_i$ <p>Where,</p> <p>V_m = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for local materials other than cement, steel, bitumen and Fuel and Lubricants.</p> <p>M_s = The all India average wholesale price index for all commodities for the quarter preceding the date of opening of bids, as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>M_i = The all India average wholesale price index for all commodities for the quarter under consideration as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi</p> <p>P_g = Percentage of other material component (Other than cement, steel, bitumen and Fuel and Lubricants) of the work.</p>
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" This could be appropriately changed to any other item depending on the nature of the work.

" Add, delete or change depending on the nature of the work

	<p style="text-align: center;"><u>The following percentages ⁶will govern the price adjustment for the entire contract-³</u></p> <table><tr><td>1.</td><td>Labour— Pr</td><td>..%</td></tr><tr><td>2.</td><td>Cement— Ph</td><td>0</td></tr><tr><td>3.</td><td>Steel — Ps</td><td>..%</td></tr><tr><td>4.</td><td>Bitumen — PB.</td><td>%</td></tr><tr><td>5.</td><td>Fuel and Lubricants — Pt</td><td>..%</td></tr><tr><td>6</td><td>Plant and Machinery Spares - Pt</td><td>..%</td></tr><tr><td>7</td><td>Other materials — Pri ..</td><td>%</td></tr><tr><td colspan="2" style="text-align: right;">TOTAL</td><td>100 %"</td></tr></table>	1.	Labour— Pr	..%	2.	Cement— Ph	0	3.	Steel — Ps	..%	4.	Bitumen — PB.	%	5.	Fuel and Lubricants — Pt	..%	6	Plant and Machinery Spares - Pt	..%	7	Other materials — Pri ..	%	TOTAL		100 %"
1.	Labour— Pr	..%																							
2.	Cement— Ph	0																							
3.	Steel — Ps	..%																							
4.	Bitumen — PB.	%																							
5.	Fuel and Lubricants — Pt	..%																							
6	Plant and Machinery Spares - Pt	..%																							
7	Other materials — Pri ..	%																							
TOTAL		100 %"																							
55	<p>(Retention will be @ [] % per running bill upto max [] % of Contract Price)</p> <p>50% of the Retention money will be released on issuance of Completion Certificate by the Contractor and the remaining 50% of the Retention money will be released within 30 days from the date of expiry of Defects Liability Period.</p>																								
56	<p>The Liquidated damages for each milestone will be calculated and withhold <i>[0.075 percent per day]</i>. If the final milestone has been completed within the prescribed timelines, the liquidated damages so withhold will be paid to contractor. If the final milestone has not been completed within the stipulated timelines, the liquidated damages withhold so for will be forfeited. The maximum amount of liquidated damages for the whole of the Works is <i>[5 percent]</i> of the final Contract Price.</p> <p><i>[Usually liquidated damages are set between 0.05 percent and 0.10 percent per day of the respective milestones amount, and the total amount is not to exceed between 5 percent and 10 per-cent of the Contract Price. If sectional Completion and Damages per Section have been agreed, the latter should be specified here]</i></p>																								
57.1	[Bonus: optional]																								

³ The percentages have to be approximately worked out on the estimates of cost and incorporated in the bid document before issue. It shall not be changed even if there is change of scope of work during execution.

⁴ The components could be added or deleted or changed depending on the feature of the work.

• TO is could vary from 5% for normal works and 10% for highly mechanized operations in the work

⁶ This could vary from 3% for normal works to 30% for highly mechanized operations in the work

* The total of the percentages for the various components of the works should be 100.

58.1	<p>The Advance Payments shall be: <i>[insert amount(s)]</i> and shall be paid to the Contractor no later than <i>[insert date(s)]</i>.</p> <p><i>(S) of advance payment shall be adjusted from each bill. The complete advance payment shall be recovered before I! •J of the work completion</i></p> <p><i>The advance payment shall be given at an interest rate of I •I “</i></p>
59	<p>The Performance Security (including additional performance security for unbalanced bids) shall be in any of the following form viz. Bank Guarantee or FDR issued by any a Scheduled Bank or any other form acceptable to the Employer.</p> <p>The performance security will be <i>[insert related figure]</i> percent of the accepted Contract Price.</p> <p>The retention money will be <i>I!nser related figure]</i> percent of the accepted Contract</p> <p>The additional performance security will be- <i>finsert related rates]</i></p> <p><i>fTlie performance security, retention money and additional performance security will be feed in accordance with the prevailing Procuremeni rules/orders.]</i></p> <p>50% of the Performance Security Deposit will be released on issuance of Completion Certificate by the Contractor and the remaining 50% of the Performance Security Deposit will be released within 30 days from the date of expiry of Defects Liability Period.</p> <p>The additional performiance security shall be returned back to the contractor, once the item has been supplied and the quality of item is found satisfactorily by the procuring authority.</p>
E.	Finishing the Contract
65.1	<p>The date by which operating and maintenance manuals are required is <i>[insert date]J</i>.</p> <p>The date by which “as built” drawings (in scale ...) in 2 sets are requéed is <i>[insert date]</i>.</p>
65.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in GCC 52.1 is <i>finsert aciouni]</i> .
67	The following events shall also be fundamental breach of the contract: [The contractor has contravened Sub-clause 7.1 and Clause 9 of GCC]
68.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is <i>Insert percentage]</i> .

^* date of Interest should not be less than PLIL

" Specify an appropriate sale

" The amount should be sufficient to get the completion drawings or Operating and Maintenance Manuals prepared by alternative agency in case the contractor fails to submit.

SECTION XII: FORMATS

1: BILL OF QUANTITIES (Esfimaie given by Client)

Sl. No.	Description of item (with brief specification and reference to Book of specification)	Quantity	Unit	Rate (Rs)		Amount (Rs)
				In figures	In words	
Total Bld Price (In figures)						
(in words)						

- (1) Where there is a discrepancy between the rates in figures and in words, the amount in words will govern. [ITB Clause 23.1(a)]
- (2) Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITB Clause 23.1 (b)]

2: FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT

To:

(name of Employer)
faddress of Employer]

WHEREAS _____ *[Name and address of Contractor]* (hereinafter called "the Contractor") has undertaken, in _____ pursuant of Contract No. _____ dated _____ to execute _____ *[Title of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contactor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Rs. _____/amount of guarantee] "Rupees _____
 _____[in words], and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____(amount of guarantee)" as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 30 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor _____
 Name of Bank _____
Address _____
Date _____

" **An amount** shall be inserted by the Guarantor, **representing the percentage of the Conner Price specified in the Counter**

"in amount equal to inserted by Ge Guezaator, representing the percentage of the Contract Price specified in the Contract

3: Notification of Award and Letter of Acceptance

To: _____

Sub: Letter of acceptance for contract no: [insert contract number] and contract title: [insert **contract title**]

Dear Sir/ Madam

This is to notify you that your Bid dated _____ for supply **of the** _____ **for the Contract Price in the** aggregate of _____, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted.

You are requested to (i) furnish the Performance Security of [insert amount of Rupees in word] by [insert date] and (ii) execute necessary agreement within [] days from the date of issue of this letter in the enclosed agreement form. This notification concludes the legally binding contract between you and *I insert name of Purchaser*, till issue of a formal contract.

Yours truly,

Authorized Signature:

Name and Title of Signatory: _____

Name of Purchaser: _____

Attachment: **Contract Agreement.**

4: Any Modification, Addendum, Pre-Bid Meeting Proceedings

Bid No.				
Date and time of Pre-bid meeting				
S.No.	Section, Clause No, Page No.	Description as per Bid document	Query raised	Remarks / Clarification/ Modification made

SECTION VII: TECHNICAL SPECIFICATIONS

SPECIFICATIONS

SPECIFICATIONS

The specifications for the works under this contract & testing of executed work shall be as per:-

1. Publication entitled “Ministry of Water Resources” & Central Water Commission.
2. Specifications of State PWD, Uttarakhand and MORTH.
3. The Ministry of Rural Development (MoRD) specifications.
4. Relevant IS codes.
5. Sampling of the construction material for the testing shall be done as per prevailing IS codes.

DETAILED TECHNICAL SPECIFICATION

EARTHWORK

1.1 These specification shall be read in conjugation with the MORTH specifications with up to date Correction slips and other relevant specifications.

1.2 Results of the sub-surface investigations conducted at the project site are enclosed with the tender document. This information about the soil and sub-soil water conditions is being made available to the Contractor in good faith and the Contractor is advised to obtain details independently as may be considered by him before quoting rates in the tender. No claim whatsoever on account of any discrepancy between the sub-surface conditions that may be actually encountered at the time of execution of the work and those given in these Tender Documents shall be admissible to the Contractor under any circumstances whatsoever.

1.3 Excavation of rock may be carried out by chiseling, jack hammers, crow bars, wedging and using cutting machine or by any other method approved by the Engineer. Use of non-explosive demolition compounds shall be also be permitted. Open blasting is not permitted under scope of this contract but at discretion of the Engineer, controlled blasting may be permitted only in very special cases where all alternative methods have failed to achieve the satisfactory results. Contractor shall take all necessary precautions to prevent flying of blasted stones outside the excavation pit and damage to adjacent structure etc. by controlling spacing and quantity of explosive charge and covering the sufficient area of blasting by steel plates loaded with adequate number of sand bags. All operations of controlled blasting shall be carried out under the supervision of a responsible authorized blasting agent. Contractor shall be responsible for any damage arising out of blasting operation to workmen, public or any property. Contractor shall obtain all necessary permission from Traffic Police and other concerned authorities for blasting as required. Non-granting of permission for blasting by concerned authorities will not be considered as reason for delay or any claim thereof.

1.4 Excavation for all works and of materials required for filling shall be to the exact width, length and depth shown on the drawings or as directed by the Engineer. Where the nature of soil or the depth of the trench and season of the year, do not permit vertical sides, the contractor at his own expense shall put up the necessary shoring, strutting and planking with due regard to the safety of personnel and works and to the satisfaction of the Engineer. The construction barricading will have a width of 8.0m (outside to outside of barricading). This can be increased at specific locations with approval of Engineer. The Contractor shall submit method statements for approval of Engineer demonstrating how this will be achieved at site. If required, driving of rolled section / sheet pile of suitable size shall be done into the soil to retain earth as directed by Engineer. If excavation is carried out to greater depth than required beyond the level specified, for any reason whatsoever, such volume shall be made good by filling with PCC M10 having coarse aggregates 40mm and downgraded and brought to level to receive the leveling extra width and length shall be filled in by good quality of sand. Propping shall be undertaken when any foundation or stressed zone from an adjoining structure is within a line of 1 vertical to 2 horizontal from the bottom of the excavation. All excavations shall be carried out in conformity with the directions laid hereunder and in a manner approved by Engineer. The work shall be so done that the suitable materials available from excavation are satisfactorily utilized as decided upon beforehand.

1.5 The last 200mm depth of excavation shall be done not earlier than 36 hours before laying the leveling course below foundation.

1.6 The Contractor shall make provision for all shoring, dewatering, dredging, bailing out or draining water whether subsoil or rain or other water and the excavation shall be kept free of water while the masonry work or concrete work is in progress and until the Engineer considers the work well set (Refer IS:3764 Safety Code for excavation Work). The sides of trenches shall be kept vertical and the bottom horizontal and shall be run level throughout of property stepped as directed by the Engineer.

1.7 The contractor shall erect and maintain during progress of works temporary fences with all safety measures around dangerous excavations at contractor's cost. Near habitations and traffic prone areas, trenches and foundation pits or any other excavation work shall be fenced, provided with proper caution signs and marked with red lights, reflectors at night to avoid accidents. The contractor shall take all adequate protective measures to see that excavation operations do not affect or damage adjoining structures.

1.8 Excavation material required for filling shall be stacked or dumped where indicated by the Engineer. Excavated material not required for filling and any surplus material shall be removed or spread on the site as directed by the Engineer or carted away from the site as directed by the Engineer. Dumping of this surplus material shall be in an orderly environmental friendly manner using tarpaulin cover, dumper, placer etc. and according to the levels / grades as indicated by the Engineer. The cost of such removal and spreading shall be borne by the contractor and deemed to be included in the Contract Rates. Necessary approval from the local authorities for catering and dumping surplus material is to be obtained by the contractor.

1.9 The contractor shall notify to the Engineer when the excavation is completed and no base or Concrete or Masonry shall be laid until the Engineer has inspected and approved of the soil conditions obtained for each individual footing or the full raft area.

1.10 The contractor shall ensure the stability of the excavation so that the surrounding ground and all adjoining structures and plants will be safe against settlement, subsidence and damage and that there is no risk of injury to personnel.

1.11 In case of any underground structures that need to be protected (like underground sewer lines etc.) are encountered, the Contractor shall bring the same to the notice of the Engineer immediately and shall take all such steps as the Engineer may instruct for protection of such structures. Such protective measures shall be done at the Contractor's cost. If any damage occur to such items which were required to be protected during execution, the same shall be made good by contractor at his own cost otherwise client will arrange to make it good at the risk and cost of contractor.

1.12 The Contractor may dispose of the surplus earth from the project site to a place / places as may be permitted by the Engineer. The transportation of the surplus earth shall be done by mechanical means only. The Contractor shall at his own cost obtain necessary clearances / permissions statutory or otherwise needed for the purpose. Dumpers may be used for transporting slushy, material excavated from the pile boring / well boring / pile cap / open foundation with precautions for non-spillage of muck.

1.13 In the foundation the backfilling in foundation and plinth, it shall be got approved by the Engineer. In the foundation the backfilling shall be done in layers not more than 200mm thick and shall be thoroughly watered and consolidated by approved method. The rate for backfilling using sand in foundation is deemed to have been included in the excavation rate.

1.14 For open foundation resting on rock, if the sound rock is located at very shallow depth, the contractor is required to cut the rock (of all type or strength) to a depth so that open foundation with a minimum earth cushion of 500mm can be accommodated.

CONCRETE: PLAIN AND REINFORCED

2.1 These specifications shall be read in MOST / MORTH Specifications and other relevant specifications.

2.2 Materials:

Before bringing to the site, all materials for concrete shall be approved by the Engineer. All approved samples shall be deposited in the office of the Engineer before placing orders for the materials with suppliers. The materials brought on to the works shall conform in every respect to their approved samples.

Fresh samples shall be deposited with Engineer whenever type or source of any material changes. The contractor shall check fresh consignment of materials as it is brought on to the works to ensure

that they conform to the specifications and/or approved samples. The Engineer shall have the option to have any of the materials tested to find whether they are in accordance with specifications at the contractor's expense. All bills vouchers and test certificates which in the opinion of the Engineer are necessary to convince him as to the quality of materials or their suitability shall be produced for his inspection when required. Any materials which have not been found to conform to the specifications and not approved by the Engineer shall be rejected forthwith and shall be removed from the site by the contractor at his own cost within the time stipulated by the Engineer. The Engineer shall have the powers to cause the contractors to purchase and use materials from any particular source, as may in his opinion be necessary for the proper execution of work. Contractor shall also ensure that all constituents of exposed concrete shall be taken from same sources to achieve a uniform colour and texture.

2.2.1 Cement:

2.2.1.1 Whenever possible all cements of each type shall be obtained from one constant source throughout the contract, cement of different types shall not be mixed together. Different brands of cement, or the same brand of cement from different sources, shall not be used without prior approval of the Engineer.

2.2.1.2 Packaged cement shall be delivered to the site in original sealed bags which shall be labeled with the weight, name of manufacturer, brand and type. Cement received in torn bags shall not be used. Contractor may obtain cement in bulk and store it in suitable silos of adequate capacity. Each type of cement shall be stored in a separate silo and it shall be ensured, that cements of different quality are not mixed up.

2.2.1.3 All cement shall be fresh when delivered and at ambient atmosphere temperature.

2.2.1.4 In fair faced elements, the cement used in the concrete for any complete element shall be from a single consignment. All cement for exposed concrete shall be from the same approved source and uniform in colour.

2.2.1.5 With each and every delivery of cement the contractor shall provide manufacturer's certificate that the cement conforms to the relevant Indian standard. The contractor shall provide complete facilities at site for carrying out the following tests :

a) Setting time by vicat's apparatus as per IS:4031 and IS:5513.

b) Compressive strength on cement as per IS:4031, IS:650, IS:40080.

2.2.1.6 Total chloride content in cement shall in no case exceed 0.05 percent by mass of cement. Also, total sulphur content calculated as sulphuric anhydride (SO₃), shall in no case exceed 2.5 percent and 3.0 percent when tri-calcium aluminates per cent by mass is up to 5 or greater than 5 respectively.

2.1.2 Aggregate :

Aggregates from natural sources shall be in accordance with IS:383. The contractor shall submit to the Engineer certificates of grading and compliance for all consignments of aggregate. In addition at site from time to time, the contractor shall allow for carrying out such tests and for supplying test records to the Engineer. The aggregates shall be procured from approved sources only as directed by the Engineer from time to time. For fair faced concrete, the contractor shall ensure that aggregates are free from iron pyrites and impurities, which may cause discoloration. Aggregates shall be stores on paved areas in different compartments according to their nominal size.

2.1.2.1 Fine Aggregate :

The contractor shall provide complete facilities at site for determining grading of aggregates by sieves as per IS:383, IS:460, IS:1607 and IS:2386. The fine aggregate shall be river sand pit sand, stone dust or other approved sand. It shall be free from clay, loam, earth or vegetable matter, salt or other harmful chemical impurities. It shall be clean, sharp, strong, angular and composed of hard siliceous material. The grading of fine aggregate when determined as described in IS:2386 (part I), shall be within the

grading zones I, II, III. The contractor shall provide complete facilities at site for carrying out the following tests:

- a) Proportion of clay, silt and fine dust by sedimentation method as per IS:2386 part II.
- b) Moisture content in fine aggregate as per IS:2386 part III.
- c) Bulk density / Bulkage.

2.1.2.2 Coarse Aggregate :

The coarse aggregate shall be crushed stone, crushed gravel, natural gravel or a suitable combination thereof. Coarse aggregate obtained from crushed or broken stone shall be angular, hard, strong, dense, durable, clean and free from soft, friable, thin plate, elongated or flaky pieces and any deleterious material. River gravel or pit gravel shall be sound, hard, clean, non-porous, suitably graded in size with or without broken fragments and free from flat particles of shale, clay, silt, loam and other impurities. Except where it can be shown to the satisfaction of the Engineer that supply of properly graded aggregate of uniform quality can be maintained over the said period of the works, the grading of aggregate shall be controlled by obtaining the coarse aggregate in different sizes and blending them in correct proportions as and when required. All coarse aggregate shall conform to IS:383 and tests for conformity shall be carried out as per IS:2386, parts I to VIII. The maximum size of coarse aggregate shall be such that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of formwork. Unless otherwise permitted by the Engineer the nominal maximum size shall not exceed 20mm.

2.1.2.3 Water :

Water used in the works shall be potable water and free from deleterious materials. Water used for mixing and curing concrete as well as for cooling and/or washing aggregate shall be fresh and clean free from injurious amounts of oil, salts, acids, alkali, other chemicals and organic matter. Water shall be from the source approved by the Engineer and shall be in accordance with clause 5.4 of IS:456. However, chloride content in water shall not exceed 500 mg/litre. Before starting any concreting work and wherever the source of water changes, the water shall be tested for its chemical and other impurities to ascertain its suitability for use in concrete for approval of the Engineer. No water shall be used until tested and found satisfactory. Cost of all such tests shall be borne by the contractor.

2.2 Blending of Aggregates :

In order to obtain optimum workability, individual aggregates of nominal size 20mm, 10mm, 4.75mm and 2.36mm will be blended in such a way that the grading curve for all aggregates will be a smooth curve from size 0.15mm to 25mm falling within the established envelop grading curve. Contractor shall establish envelop grading curve for each grade of concrete for given maximum size of aggregates and get it approved by Engineer before finalizing the mix design.

2.3 Admixtures :

1. Chemical admixtures are not to be used until permitted by the Engineer. In case their use is permitted, the type, amount and method of use of any admixtures proposed by the contractor shall be submitted to the Engineer for approval. The minimum cement content specified shall not be reduced on account of the use of the Admixtures.

2. The contractor shall further provide the following information concerning each admixture to the Engineer.

- a) Normal dosage and detrimental effects if any of under dosage and over dosage.
- b) The chemical names of the main ingredients in the admixtures.
- c) The chloride content, if any, expressed as a percentage by weight of admixture.
- d) Whether or not the admixture leads to the entrainment of air when used in the manufacturer's recommended dosage.

e) Where two or more admixtures are proposed to be used in any one mix, the manufacturer's written confirmation of their compatibility.

3. In reinforced concrete, the chloride of any admixture used shall not exceed 2 percent by weight of the admixture as determined in accordance with IS:6925 and the total chloride and sulphate contents in concrete mix shall not exceed 0.15 and 4.0 percent respectively by weight of cement.

4. The admixtures when used shall conform to IS:9103. The suitability of all admixtures shall be verified by trial mixes.

5. The addition of calcium chloride to concrete containing embedded metal will not be permitted under any circumstances.

6. Retarding admixtures when used shall be based on lingo-sulphonates with due consideration to clause 5.2 and 5.3 of IS:7861.

2.4 Batching Plants, Mixers and Vibrators :

1. Unless specified in the schedule of items, for all structural concreting work the contractor shall provide automatic weigh-batching plant of suitable capacity. The plant used shall conform to IS:4925.

2. The contractor shall provide concrete mixers (IS:1791 – Batch type concrete mixers, IS:2438 – Roller pan Mixer) and Vibrators (IS:2505 – Concrete Vibrators Immersion Type, IS:2506 – Screed Board Concrete Vibrators, IS:4656 – Form Vibrators for Concrete) supplied by recognized manufacturers.

2.5 Grade of Concrete :

The concrete is designated as follows: Concrete M 35/30/25/20 as applicable. The letter M refers to the mix. The number 30 represents the characteristic compressive strength of 15cm cubes at 28 days in MPa (Mega Pascal : 1 MPa : 10Kg/cm² approximately). M30 concrete thus has a characteristic strength of 300 Kg./cm². Other mix design will also be denoted in same way. The number 20 represents the nominal size of the aggregate in +9mm.

2.6 Mix Design : It is the complete responsibility of the contractor to design the concrete mixes by approved standard methods and to produce the required concrete conforming to the specifications and the strength, workability requirements approved by the Engineer. Mix Design once approved must not be altered without prior approval of Engineer. However, should the contractor anticipate any change in quality of future supply of materials than that used for preliminary mix design, he should inform the Engineer quite in advance and bring fresh samples sufficiently in advance, to carry out fresh trial mixes. Design mix will indicate by means of graphs and curves etc., the extent of variation in the grading of aggregates which can be allowed.

Limits of Water and Cement Contents : Maximum water / cement ratio

a) For RCC members – 0.40 **Cement Content :** Cement content in concrete shall not be less than 320 Kg/cum for RCC work under normal exposure. Ordinary Portland Cement (OPC) of 43 and 53 grade conforming to IS:8112 and IS:12269 respectively shall be used. As regards trial mixes, acceptance criteria, acceptance specification, lot size, sampling and testing the requirement of the relevant codes, standards and directions of the Engineer shall be followed.

2.7 Additional tests for Concrete :As frequently as the Engineer may require, additional testing shall be carried out for concreting in addition to mandatory test specified in IS Code / MOST / MORTH Specifications.

Permeability test for Concrete :The concrete will be verified for permeability by the following procedure and shall confirm to IS:3085-1965 – 'Permeability of Cement Mortar & Concrete', Section 1716.5 of MOST Specification and DIN1048.

1. The Engineer shall select random batches of concrete for examination at his discretion and sampling will generally be done at the point of discharge from the mixer and at placing point.

2. From the batches thus selected two concrete cylinders shall be made in accordance DIN 1048.

3. All cylinders shall be made, cured, stored, transported and tested in accordance with clause 1716.5 of MOST Specifications. The tests shall be carried out in a laboratory approved by the Engineer.

4. At least two cylinders shall be made on each day's concreting until 60 cylinders have been made for each grade of concrete. The cylinders will be tested as per the procedure, given in clause 5 next.

5. Test Procedure : The permeability of concrete will be verified by the following procedure :

- a) Prepare a cylindrical test specimen 150mm dia and 160mm high.
- b) After 28 days of curing, test specimen will be fitted in a machine such that the specimen can be placed in water under pressure up to 7 bars. The typical machine shall be similar to one shown in Appendix 1700/II of MOST.
- c) At first a pressure of one bar is applied for 48 hours, followed by 3 bars for 24 hours and 7 bars for next 24 hours.
- d) After the passage of the above period, the specimen is taken out and split in the middle by compression applied on two round bars on opposite sides above and below.
- e) The water penetration in the broken core is measured with scale and the depth of penetration assessed in mm (max permissible limit 25mm).

6. Acceptability Criteria : The concrete shall pass the permeability test if it is properly compacted and is not considered permeable when tested as per DIN, and the water penetration in the broken core is less than 25mm. No extra payment shall be made for this test and cost of the same will be included in his rate for concrete work.

2.8 Batching of Concrete Ingredients :

Unless permitted by the Engineer, all concreting shall be either produced in automatic weight batching plant installed at site or ready Mix Concrete manufactured in automatic weight batching plant.

2.9 Placing temperatures : During extreme hot or cold weather, the concreting shall be done as per procedures set out in IS:7861, Parts I & II. In hot weather with temperature exceeding 40 degree C, the stock piles of fine and coarse aggregates for concreting shall be kept shaded from direct rays of sun and the concrete aggregates sprinkled with water for a sufficient time before concreting in order to ensure that the temperature of these ingredients is as low as possible prior to batching. The mixer and batching equipment shall be also shaded and if necessary painted white in order to keep their temperatures as low as possible. The placing temperature of concrete shall be as low as possible in warm weather and care shall be taken to protect freshly placed concrete from overheating by sunlight in the first few hours of its laying. The time of day selected for concreting shall also be chosen so as to minimize placing temperatures. In case of concreting in exceptionally hot weather the Engineer may in his discretion specify the use of ice either flaked and used directly in the mix or blocks used for chilling the mixing water. In either case, the contractor shall not be paid extra for cost of ice, additional labour involved in weighing and mixing etc. All salt and saw dust shall be removed from ice before use. Quality of water used for making ice shall conform to IS:456.

2.10 Transporting, Placing, Compacting and Curing :

Transporting, placing, compacting and curing of concrete shall be in accordance with IS:456.

1. Transporting :

The mix after discharging from the mixer shall be transported by transit mixers, buckets, pumps etc. or as approved by the Engineer without causing segregation and loss of cement slurry and without altering its desired properties with regard to water cement ratio, slump, air content, cohesion and homogeneity. It should be ensured that the concrete is moved to its final destination before it attains an initial set. The transportation is to be done by agitating transit mixers, pumps or other approved methods.

2. Placing : The method of placing shall be such as to prevent segregation by providing windows in the formwork for pouring concrete or by Tremie pipe. The thickness of horizontal layers shall not exceed

300mm. High velocity discharge of concrete causing segregation of mix shall be avoided. The concrete shall be placed in the forms gently and not dropped from a height exceeding 1.5m except in columns where the maximum allowed will be 2.0m. Each layer of concrete shall be compacted fully before the succeeding layer is placed and separate batches shall follow each other so closely that the succeeding layer shall be placed and fully compacted before the layer immediately below has taken initial set. For piers and pier heads, portal columns the concreting is to be carried out in single-stage i.e. in first stage concreting will be from kicker to just below pier head bottom and second stage of concreting will be pier head including shear key and cross girder (in station zone stages as given in drawings for all heights by using tremie / pumps at the rate not more than 1.5m/hr or as approved by the Engineer. Concreting of any portion or section of the work shall be carried out in one continuous operation and no interruption of concreting work will be allowed without approval of the Engineer.

3. Compaction : Internal (needle) and surface (screed board) vibrators of approved make shall be used for compaction of concrete. Internal vibrators shall be used for compaction of concrete in foundations, columns, buttresses arch section, slabs etc. and if required surface vibrators shall also be used. Depending on the thickness of layer to be compacted, 25mm, 40mm, 60mm and 70mm dia internal vibrators will be used. The concrete shall be compacted by use of appropriate diameter vibrator by holding the vibrator in position until :

- a) Air bubbles cease to come to surface.
- b) Resumption of steady frequency of vibrator after the initial short period of drop in the frequency, when the vibrator is first inserted.
- c) The tone of the vibrated concrete becomes uniform.
- d) Flattened, glistening surface, with coarse aggregates particles blended into it appears on the surface.
- e) Use of curing compounds may be permitted with specific approval of Engineer. After the compaction is completed, the vibrator should be withdrawn slowly from the concrete so that concrete can flow into the space previously occupied by the vibrator. To avoid segregation during vibration the vibrator shall not be dragged through the concrete not used to spread the concrete. The vibrator shall be made to penetrate, into the layer of fresh concrete below if any for a depth of about 150mm. The vibrator shall be made to operate at a regular pattern of spacing. The effective radii of action will overlap approximately half a radius to ensure complete compaction.
- f) To secure even and dense surfaces free from aggregate pockets, vibration shall be supplemented by tamping or Roding by hand in the comers of forms and along the form surfaces while the concrete is plastic.
- g) A sufficient number of spare vibrators shall be kept readily accessible to the place of deposition of concrete to assure adequate vibration in case of breakdown of those in use.
- h) Form vibrators whenever used shall be clamped to the sides of formwork and shall not be fixed more than 450mm above the base of the new formwork and concrete shall be filled not higher than 230mm above the vibrator. The formwork must be made specially strong and watertight where this type of vibrator is used. Care must be taken to guard against over vibration especially where the workability of the concrete mix is high since this will encourage segregation of the concrete.
- i) Plain concrete in foundations shall be placed in direct contact with the bottom of the excavation, the concrete being deposited in such a manner as not to be mixed with the earth. Plain concrete also shall be vibrated to achieve full compaction.

4. Concrete placed below the ground shall be protected from falling earth during and after placing. Concrete placed in ground containing deleterious substances shall be kept free contact with such ground and with water draining there from during placing and for a period of seven days or as otherwise instructed thereafter. Approved means shall be taken to protect immature concrete from damage by debris, excessive loading, abrasion, vibrations, deleterious ground water, mixing with earth or other materials, and other influences that may impair the strength and durability of the concrete.

5. Curing :

- a) Curing of concrete shall be complete and continuous using potable water free from chlorides and sulphates water that is free of harmful amounts of deleterious materials that may attach, stain or discolor the concrete as per IS:456. Minimum wet curing will be for seven days by ponding water followed by moist

curing by spraying water which shall be maintained up to a total period for at least 21 days from the date of casting.

b) Immediately after compaction and completion of any surface finishes the concrete shall be protected from the evaporation of moisture by means of polythene sheathing, wet Hessian or other material kept soaked by spraying. As soon as the concrete has attained a degree of hardening sufficient to withstand surface damage moist curing shall be implemented and maintained for a period of at least 15 days after casting.

c) Method of curing and their duration shall be such that the concrete will have satisfactory durability and strength and members will suffer a minimum distortion, be free from excessive efflorescence and will not cause undue cracking in the works by shrinkage.

d) Steam curing with approved methodology can be adopted if required, for precast segments. No extra payment will be made for adopting steam curing.

e) Curing compounds may be permitted with Engineer's approval. However it is required to be proved that using curing compound the concrete shall not have less strength than concrete cured by water curing. It shall not leave any discoloration on the structural concrete.

2.11 Construction Joints : Construction joints in all concrete work shall be made as directed by the Engineer. Where vertical joints are required, these shall be shuttered as directed and not allowed to take the natural slope of the concrete. Before fresh concrete is placed against a vertical joint, the old concrete shall be chipped, cleaned and moistened. No separate payment shall be allowed to the Contractor for forming joints or chipping and cleaning them. When a horizontal construction joint is formed, provision shall be made for interlocking with the succeeding layer by the embedment of saturated wooden blocks or wooden strips beveled on four sides to facilitate their removal. Prior to the next pour the wooden pieces shall be loosened and removed in such a manner as to avoid injury to the concrete. Construction joints in concrete walls and slabs for liquid retaining structures shall be prepared in a similar manner to normal construction joints. If use of metal, rubber or plastic water stops is specified, this shall be cast into joints. Measures shall be taken by the Contractor to ensure that no displacement or distortion of water stops takes place during placing of concrete. The construction joints shall ensure proper bond and leak proof joint.

2.12 Cracks : If cracks, which in the opinion of the Engineer may be detrimental to the strength of the construction, develop in concrete construction, the contractor at his own expense shall test the structure. If under such test loads the cracks develop further, the contractor shall dismantle the construction, carry away the debris, replace the construction and carry out all consequential work thereto. If any cracks develop in the concrete construction, which in the opinion of the Engineer, are not detrimental to the stability of the construction, the Contractor at his own expense shall grout the cracks with neat cement grout or with other composition as directed by Engineer and also at his own expense and risk shall make good to the satisfaction of the Engineer all other works such as plaster, moulding, surface finish, which in the opinion of the Engineer have suffered damage either in appearance or stability owing to such cracks. The Engineer's decision as to the extent of the liability of the Contractor in the above matter shall be final and binding.

2.13 Defective Concrete : Should any concrete be found honeycombed or in any way defective, such concrete shall be cut out partially or wholly by the Contractor and made good at his own expense. If Engineer feels that repaired structure will not be having same strength or shape or uniformity with other exposed surface as original desired structure / original structure, the same shall be rejected by Engineer and required to be dismantled and disposed by contractor at his own cost as instructed by Engineer. Decision of the Engineer shall be final and binding in this regard.

2.14 Exposed Faces, Holes and Fixtures : On no account shall concrete surfaces be patched or covered up or damaged concrete rectified or replaced until the Engineer or his representative has inspected the works and issued written instructions for rectification. Failure to observe this procedure will render that portion of the works liable to rejection. Holes for foundation or other bolts or for any other purposes shall be moulded and steel angles, holdfasts or other fixtures shall be embedded, according to the drawing or as instructed by the Engineer.

2.15 Finishes : Unless otherwise instructed the face of exposed concrete placed against formwork shall be

rubbed down immediately on removal of the formwork to remove irregularities. The face of concrete for

which formwork is not provided other than slabs shall be smoothed with a float to give a finish equal to that of the rubbed down face, where formwork is provided. The top face of a slab which is not intended to be covered with other materials shall be leveled and floated to a smooth finish at the levels or falls shown on the drawings or as directed. The floating shall be done so as not to bring an excess of mortar to the surface of the concrete. The top face of a slab intended to be surfaced with other material shall be left with a spaded finish. Faces of concrete intended to be plastered shall be roughened by approved means to form key.

2.16 Grouting of base plates & bolt holes :

1. Mixing : Dry grout should be mixed in a mechanical mixer : the conventional 200/400 – litre capacity concrete mixer can be used to mix four bags of dry grout; alternatively, paddle type mortar mixers can be used. The quantity of grout to be mixed at one time should not exceed that amount which can be placed in approximately 10 to 15 minutes.

2. Batching : Batching of grout by fraction of a bag is not allowed. The quantity of mixing water should be the minimum commensurate with workability, compaction, and filling of the grout in all corners and crevices. Mixing should be done for a minimum of three minutes to obtain a fluid grout of uniform consistency.

3. Cleaning and preparation of the surface : The base concrete should be clean and strong, and its surface should be properly hacked; all dust should be removed suction or compressed air. The surface should be thoroughly wetted with water for several hours. Before the grout is poured, all free water should be removed and the flat surface coated with a thin cement slurry.

4. Restraint : Heavy back-up blocks of timber or concrete should be fixed on all sides of the base plate to prevent escape of the grout, when poured through the openings provided in the base plate. Adequate restraint must be ensured on all the sides for a period of 7 days to obtain effective expansion and shrinkage compensation.

5. Curing : The grout should not dry out where external restraint is provided in the form of formwork, the top opening and all stray openings should be covered with wet sack for at least 7 days.

6. Placing and Compaction : The grout should be placed quickly and continuously either through the holes in the base plates or from one side only to ensure complete filling without entrapment of air. Grout should be properly spread and compacted by rodding. Excessive vibration should be avoided.

Below the bed plates the grout should be compacted using long pieces of doubled-over flexible steel strapping or chains. The forward and backward movement of the strap or chain will assist in the flow of the grout into place. Steps must be taken to keep the grout in full contact with the underside of the bed plate until the grout sets; maintaining a small head of fresh grout in the forms.

7. Shrinkage Compensated Grout : Shrinkage compensated grout or non-shrinkable grout of Associated Cement Companies Limited or any other approved manufacturer (Fosroc, Roff, and Sikka) should be used. The batching shall be as per the manufacturer's specifications, other procedures being as above.

2.17 Ready Mix Concrete and Pumping : **1.** Ready-mixed concrete may be manufactured in a central automatic weight Batching plant and transported to the place of work in agitating transit mixers. The maximum size of coarse aggregate shall be limited to one-third of the smallest inside diameter of the hose or pipe used for pumping; provision shall be made for elimination of over-sized particles by screening or by careful selection of aggregates. To obtain proper gradation it may be necessary to combine and blend certain fractional sizes of aggregates. Uniformity of gradation throughout the entire job shall be maintained. The quantity of coarse aggregate shall be such that the concrete can be pumped, compacted and finished without difficulty.

2. Fine aggregates:- The gradation of fine aggregates shall be such that 15 to 30 percent should pass the 0.30mm screen and 5 to 10 percent should pass 0.15mm screen so as to obtain pumpable concrete. Sands, which are deficient in either of these two sizes, should be blended with selected finer sands to produce these desired percentages. With this gradation, sands having a fineness modulus between 2.4 and 2.8 are generally

satisfactory. However, for uniformity, the fineness modulus of the sand should not vary more than 0.2 from the average value used in proportioning.

3. Water, Admixtures and Slump:- The amount of water required for proper concrete consistency shall take into accounts the rate of mixing, length of haul, time of unloading and ambient temperature conditions. Additions of water to compensate for slump loss should not be resorted to nor should the design maximum water-cement ratio be exceeded. Additional dose of retarder be used to compensate the loss of slump at contractor's cost, when permitted by Engineer. Retempering water shall not be allowed to be added to mixed batches to obtain desired slump.

4. Transportation:- The method of transportation used should efficiently deliver the concrete to the point of placement without significantly altering its desired properties with regard to water-cement ratio, slump and homogeneity.

5. Pumping of Concrete:- Only approved pumping equipment, in good working condition, shall be used for pumping of concrete. Concrete shall be pumped through a combination of rigid pipe and heavy-duty flexible hose of approved size and make. The couplings used to connect both rigid and flexible pipe sections shall be adequate in strength to withstand handling loads during erection of pipe system, misalignment, and poor support along the lines. They should be nominally rated for at least 3.5MPa pressure and greater for rising runs over 30m. Couplings should be designed to allow replacement of any section with no construction or crevices to disrupt the smooth flow of concrete. All necessary accessories such as curved sections of rigid pipe, swivel joints and rotary distributors, pin and gate valves to prevent backflow in the pipe line, switch valves to direct the flow into another pipe line, connection devices to fill forms from the bottom up, extra strong couplings for vertical runs, transitions for connecting different sizes of pipe, air vents for downhill pumping, clean-out equipment etc. shall be provided as and where required. Suitable power controlled booms or specialized crane shall be used for supporting the pipe line.

6. Field control:- Sampling at both truck discharge and point of final placement shall be employed to determine if any changes in the slump and other significant mix characteristics occur. However, for determining strength of concrete, cubes shall be taken from the placement end of line.

7. Planning:- Proper planning of concrete supply, pump locations, line layout, placing sequence, and the entire pumping operation shall be made and got approved. The pump should be as near the placing area as practicable, and the entire surrounding area shall have adequate bearing strength to support concrete delivery pipes. Lines from pump to the placing area should be laid out with a minimum of bends. For large placing areas, alternate lines should be installed for rapid connection when required. Standby power and pumping equipment should be provided to replace initial equipment, should breakdown occur. The placing rate should be estimated so that concrete can be ordered at an appropriate delivery rate. As a final check, the pump should be started and operated without concrete to be certain that all moving parts are operating properly. A grout mortar should be pumped into the lines to provide lubrication for the concrete, but this mortar shall not be used in the placement. When the form is nearly full, and there is enough concrete in the line to complete the placement the pump shall be stopped and a go-devil inserted and shall be forced through the line by water under pressure to clean it out. The go-devil should be stopped at a safe distance from the end of the line so that the water in the line will not spill into the placement area. At the end of placing operation, the line shall be cleaned in the reserve direction.

2.17 Embedded Parts of Gates:- Contractor as per direction of engineer in charge will embed with Concrete the embedded parts of the gates. No extra charges will be given to contractor for the same.

FORM WORK

3.1 These specifications shall be read in conjunction with the MOST / MORTH Specifications and other relevant specifications.

3.2 Materials : Formwork shall be of timber, plywood (including marine plywood), steel or any other suitable material capable of resisting damage to the contact faces under normal conditions of erecting forms, fixing steel and placing concrete. The selection of materials suitable for formwork shall be made by the Contractor based on the quality consistent with the specified finishes and safety. For designated areas prominently if public view like piers, pier caps, portals, viaduct (cast-in-situ or pre-cast), parapet etc., only steel shuttering shall be used. Special finishes like grooves, logos, floral designs, engraving in inset and outset shall be provided by fixing monolithic rubber forms fixed on entire surface of the formwork. The minimum shore hardness of rubber shall be A-55 to ensure strength, flexibility & elasticity. The contours, design and edges of rubber form should be smooth to ensure minimal disposition of grime or dust. The material shall be approved by the Engineer before erected at site. However, the entire responsibility of planning, designing, erection, dismantling, shifting and safety of false work lies with the contractor. All formwork and formwork supports (centering, props, scaffolds etc.) shall only be in structural steel and preferably of pipes conforming to IS:806, IS:1161, IS:1239, IS:2750. Wooden ballies shall not be permitted as props / formwork supports. All props shall be properly braced using x & k bracings.

Timber :

Timber used for formwork shall be easily workable with nails without splitting. It shall be stable and not liable to warp when exposed to sun and rain or wetted during concreting.

Plywood : Plywood used for formwork shall be minimum 12mm thick. Shuttering quality plywood complying with IS:4990 and of make approved by the Engineer. Suitable stiffeners and walers shall be provided depending on the shuttering design.

Steel : Steel formwork shall be made of minimum 4mm thick black sheets stiffened with angle iron frame made out of M.S. angles 40mm x 40mm x 6mm supported at suitable spacing.

3.3 Design & Drawings : All temporary works such as formwork, false work staging, launching girder, cantilever form traveler scheme etc. shall be designed by the Contractor. The permissible stresses in materials of formwork, false work, staging, launching girder & cantilever form traveler shall be limited as same as for permanent structure. All calculations and drawings of the same including construction sequence shall be checked and verified by independent agency appointed by contractor. Only after the checking of the same, the calculations and drawings (along with soft copy in CD ROM) shall be submitted to engineer for approval well in advance of work. All temporary works shall be also inspected by the independent agency and independent report shall be submitted to Engineer. All temporary works shall be constructed so that the concrete can be properly placed and thoroughly compacted to obtain the required shape, position and level subject to specified tolerances. It is the responsibility of the contractor to obtain the results required by the Engineer, whether or not some of the work is subcontracted. Approval of the temporary works by the Engineer shall not diminish the Contractor's responsibility for the satisfactory performance of the same, nor for the safety and co-ordination of all operations. For pier formwork, it shall be ensured that total deflection (taking account of combined deflection of plate, stiffeners, walers or any other supporting arrangement) shall not be more than 3mm. All the formwork, launching truss and cantilever form traveler and other selected temporary works shall be tested for the load including factor of safety for which the truss / formwork is designed before use in works. The design of false work should be such as to facilitate easy and safe access to all parts for proper inspection. Methodology for removal of form should be planned as a part of total form work design. In case of pre-stressing concrete, careful consideration shall be given to re-distribution of loads due to pre-stressing.

3.4 Formwork for Exposed Concrete Surfaces : The facing formwork, unless indicated otherwise on drawings, or specifically approved by the Engineer in writing, shall generally be made with materials not less than the thickness mentioned below for different elements of the structure :

1. Plain slab soffit and sides of beams, girders, joists and ribs and side of walls, fins, parapets, pardis, sun-breakers etc. shall be made with :

a) Steel plates not less than 4mm thick of specified sizes stiffened with a suitable structural framework, fabricated true to plane.

b) Timber planks of 20mm actual thickness and of specified surface finish, width and reasonable length,

c) Plywood not less than 12mm thick (IS:4990 – Specification for Plywood for Concrete Shuttering Work) or 3mm thick plywood with a 20mm timber plank backing, of specified sizes stiffened with a suitable timber framework. At joints 6mm / 10mm sponge to be provided.

2. Bottoms of beams, girders and ribs, sides of columns shall be made with :

a) Steel plates not less than 5mm thick of specified sizes stiffened with a suitable structural framework, fabricated true to plane.

b) Timber planks of 35mm actual thickness and of specified surface finish, width and reasonable length.

c) Plywood plates not less than 12mm thick, of specified sizes stiffened with a suitable timber framework.

3. For precast segments, piers, pier heads, portals etc. suitable steel form work is to be used unless as specified by Engineer.

3.5 Formwork for Sloped Surfaces :

1. Forms for sloped surfaces shall be built so that the formwork can be placed board-by-board immediately ahead of concrete placement so as to enable ready access for placement, vibration inspection and finishing of the concrete.

2. The formwork shall also be built so that the boards can be removed one by one from the bottom up as soon as the concrete has attained sufficient stiffness to prevent sagging. Surfaces of construction joints and finished surfaces with slopes steeper than 2 horizontal : 1 vertical shall be formed as required herein.

3.6 Formwork for Curved Surfaces :

1. The contractor shall interpolate intermediate sections as necessary and shall construct the forms for that the curvature will be continuous between sections. Where necessary to meet requirements for curvature, the form lumber shall be built up of laminated splices cut to make tight, smooth form surfaces.

2. After the forms have been constructed, all surface imperfections shall be corrected and all surface irregularities at matching faces of form material shall be dressed to the specified curvature.

3.7 Formwork for Waffle Slab :

Shuttering for Waffle Slab / Coffered Slab shall be with Fiber Glass moulds of approved design. They can also be of Pre-cast concrete unit as per design to form as part of structural concrete. The moulds shall be of uniform shape and dimension to give the desired shape of Coffered Slab.

3.8 Erection of Formwork : The following shall apply to all formwork :

1. To avoid delay and unnecessary rejection, the Contractor shall obtain the approval of the Engineer for the design of forms and the type of material used before fabricating the forms. (Ref. ACI 347 Formwork for Concrete or equivalent I. S. Code).

2. All shuttering planks and plates shall be adequately backed to the satisfaction of the Engineer by sufficient number and size of walers or framework to ensure rigidly during concreting. All shutters shall be adequately strutted, braced and propped to the satisfaction of the Engineer to prevent deflection under deadweight of concrete and superimposed live load of workmen, materials and plant, and to withstand vibration.

3. Vertical props shall be supported on wedges or other measures shall be taken where the props can be gently lowered vertically during removal of then formwork. Props for an upper level shall be placed directly over those in the level immediately below, and the lowest props shall bear on a sufficiently strong area. Care shall be taken that all formwork is set plumb and true to line and level or camber or better where required and as specified by the Engineer.

4. Provision shall be made for adjustment of supporting struts where necessary. When reinforcement passes through the formwork care should be taken to ensure close fitting joints against the steel bars so as to avoid loss of fines during the compaction of concrete.

5. If the formwork is held together by bolts, there shall be so fixed that no iron will be exposed on surfaces against which concrete is to be laid. In any case wires shall not be used with exposed concrete formwork. The Engineer may at his discretion allow the Contractor to use tie-belts running through the concrete and the Contractor shall decide the location and size of such tie-belts in consultation with the Engineer. Holes left in the concrete by these tie-belts shall be filled as specified by the Engineer at no extra cost. These tie-belts are not to be provided in structures with exposed surfaces.

6. Provision shall be made in the shuttering for beams, columns and walls for a port hole of convenient size so that all extraneous materials that may be collected could be removed just prior to concreting.

7. Formwork shall be so arranged as to permit removal of forms without jarring the concrete. Wedges, clamps and bolts shall be used wherever without disturbing the beam bottoms or props under beams.

8. Surfaces of forms in contact with concrete shall be oiled with a mould oil of approved quality, form realizing agent or clean diesel oil. If required by the Engineer the contractor shall execute different parts of the work with different mould oils to enable the Engineer to select the most suitable. The use of oil which results in blemishes on the surface of the concrete shall not be allowed. Oil shall be applied before reinforcement has been placed and care shall be taken that no oil comes in contact with the reinforcement while it is being placed in position. The formwork shall be kept thoroughly wet during concreting and the whole time that is left in place. Nothing extra shall be paid to contractor for oiling.

9. Immediately before concreting is commenced, the formwork shall be carefully examined to ensure the following :

- a) Removal of all dirt, shavings, sawdust and other refuse by brushing and washing.
- b) The tightness of joints between panels of sheathing and between these and any hardened core.
- c) The correct location of tie bars, bracing and spacers, and especially connections of bracing.
- d) That all wedges are secured and firm in position.
- e) That provision is made for traffic on formwork not to bear directly on reinforcing steel.

10. The contractor shall obtain the Engineer's approval for dimensional accuracies of the work and for the general arrangement of propping and bracing (IS:3696 – Safety Code of Scaffolds and Ladders, IS:4014 – Steel Tubular Scaffolding I & II). All scaffolding and staging shall be either of steel tubes or built up section of rolled steel with adequate bracing at several levels in each perpendicular direction connecting each prop. In addition to this diagonal bracing should be provided in elevation ideally at 45 degrees or between 30 and 60 degree. The Contractor shall be entirely responsible for the adequacy of propping and for keeping the wedges and other locking arrangements undisturbed through the de-centering period (IS:8989 – Safety Code for Erection of Concrete Framed Structures).

11. Formwork shall be continuously watched during the process of concreting. If during concreting any weakness develops and formwork shows any distress the work shall be stopped and remedial action as directed by the Engineer shall be taken.

3.9 Concrete Finishes : This section deals with the surface of concrete on which forms had been fixed while concreting.

1. Formed Surface : Allowable deviation from plumb level and from the alignment profile, grades and dimensions shown on the drawings is defined as “tolerance” and is to be distinguished from irregularities in finishes as described herein. Tolerance concrete constructions are specified elsewhere. The classes of finish and requirements for finishing of concrete surface shall be as shown on the drawings or as hereinafter specified. In the event of finishing not being definitely specified herein or in the drawings, finishes to be adopted shall be as directed by the Engineer. Completed concrete surface shall be tested, where necessary to determine whether surface irregularities are within the limits specified hereinafter. Surface irregularities are classified as “Abrupt” or “Gradual”. Offsets caused by displaced or misplaced from sheathing, or from sections or by loose knots or otherwise defective timber from will be considered as abrupt irregularities, and

shall be tested by direct measurements. All other irregularities shall be considered as gradual irregularities and will be tested by use of template, consisting of a straight edge or the equivalent thereof for curved surfaces. The length of the template shall be 150cm for testing of formed surfaces or indicated on drawings, these classes of finish shall apply as follows :

Finish F1 : This finish applies to surfaces where roughness is not objectionable, or surface that will otherwise be permanently concealed. Surface treatment shall be the repair of defective concrete, correction of surface depressions deeper than 25mm and filling of tie rods holes. Form sheathing will not leak mortar when concrete is vibrated. Forms may be manufactured with a minimum of refinement.

Finish F2 : This finish is required on surfaces permanently but not prominently exposed to public view for which other finishes are not specified except F1. Forms shall be manufactured in a workmanlike manner to the required offsets or bulges. Surface irregularities shall not exceed 5mm for abrupt and 8mm for gradual irregularities measured with a 1.5 template.

Finish F3 : This finish is required for coarse textured concrete surfaces intended to receive plaster, stucco or wainscoting. Surface irregularities shall not exceed 5mm for both abrupt and gradual irregularities.

Finish F4 : This finish is designated for surfaces prominently exposed to public view where appearance is also of special importance. This shall include piers of bridges, viaducts, beams, parapets, railings and decorative features on the structure and on the bridges. To meet with requirements for F4 finish, forms shall be manufactured in a skilful, workmanlike manner, accurately to dimensions. There should be no visible offsets, bulges or misalignment of concrete. At construction joints, the forms shall be rightly set and securely anchored close to the joint. Abrupt and gradual irregularities shall not exceed 3mm. Irregularities exceeding this limit shall be reduced by grinding to a level of 1:20 ratio of height to length. Jute bag subbing or sand blasting shall not be used.

2. Unformed Surfaces : The classes of finish for unformed surfaces are designated by symbols U1, U2, U3 and U4. Unless otherwise specified or indicated on drawings, these classes of finish shall apply as follows :

Finish U1 : This finish applies to unformed surfaces that will be concealed permanently or otherwise where a screed surface finish meets the functional requirements. Finish U1 is also used as the stage of finishes for U2 and U3. Finishing operations shall consist of sufficient leveling and screed to produce an even uniform surface. Surface irregularities shall not exceed 10mm.

Finish U2 : This is floated finish, and used on all outdoor, unformed surfaces. Finish U2 is also used as the second stage of finish for U3. Floating to be performed manually or mechanically on stiffened screed surface shall be minimum to produce textured surface. If finish U3 is to be applied, floating shall be continued till a small amount of mortar without excess water is brought to the surfaces so as to permit effective trowelling. Surface irregularities shall be removed as directed by the Engineer.

Finish U3 : This is a trowel finish and shall be used for tops of parapets etc. prominently exposed to view. When the floated surface has hardened sufficiently, steel trowelling shall be started. Steel trowelling on hardened, floated surface shall be performed with firm pressure to produce a dense uniform surface free from blemishes and trowel marks and having slightly glossy appearance. Surface irregularities shall not exceed 5mm.

Finish U4 : This is a steel-trowel finish, similar to Finish U3, except that light surface pitting and light trowel marks such as obtained from the use of machine trowelling will be acceptable, provided that surface irregularities do not exceed the limits specified for Finish U3. Unformed surfaces which are nominally level shall be sloped for drainage as shown on drawings or as directed by Engineer unless the use of other slopes or level surface is indicated on drawings. Narrow surface such as tops of parapets, walls and kerbs shall be sloped approximately 1cm per 30cm of width. Broader surface such as roadways, platform and decks, shall be sloped approximately half centimeter per 30cm width. Finishes of floor and roof slabs shall be sloped, if required, by the Engineer.

3.10 Exposed Concrete Work : Exposed concrete surfaces shall be smooth and even originally as stripped without any finishing or rendering. Where directed by the Engineer, the surface shall be rubbed with

Carborundum stone immediately on striking the forms. The Contractor shall exercise special care and supervision of formwork and concreting to ensure that the cast members are made true to their sizes, shapes and positions and to produce the surface patterns desired. No honeycombing shall be allowed. Honeycombed parts of the concrete shall be removed by the contractor as directed by the Engineer and fresh concrete placed without extra cost, as instructed by the Engineer. Contractor shall ensure that no air bubbles are formed on the exposed surface. Concrete pouring sequence, vibration methodology etc. shall be planned to avoid air bubbles. All materials, sizes and payouts of formwork including the locations of their joints shall have prior approval of the Engineer.

3.11 Age of Concrete at removal of Formwork : Age of concrete at removal of formworks shall be in accordance with CPWD Specifications 96 or IS:456. The Engineer may vary the periods specified if he considers it necessary. Immediately after the forms are removed, they shall be cleaned with a jet of water and a soft brush.

3.12 Stripping of Formwork : The work of formwork removal should be planned and a definite scheme of operation worked out. Formwork shall be removed carefully without jarring the concrete, and curing of the concrete shall be commenced immediately. Concrete surfaces to be exposed shall, where required by the Engineer, be rubbed down with Carborundum stone or bush-hammer to obtain a smooth and even finish. Where the concrete requires plastering or other finish later the concrete surface shall be immediately hacked lightly all over as directed by the Engineer. No extra charge will be allowed to the Contractor for such work on concrete surfaces after removal of forms.

3.13 Reuse of Forms : The Contractor shall not be permitted reuse of timber facing formwork brought new on the works more than 5 times for exposed concrete formwork and 8 times for ordinary formwork. 5 or 8 uses shall be permitted only if forms are properly cared for, stored and repaired after each use. The Engineer may in his absolute discretion order rejection of any forms he considers unfit for use for a particular item irrespective of no. of items the shuttering has been used and order removal from the site of any forms he considers unfit for use in the Works. Used forms brought on the site will be allowed proportionately fewer uses as decided by the Engineer. Use of different quality boards or the use of old and new boards in the same formwork shall not be allowed. If any other type of special or proprietary formwork is used, the no. of times they can be used will be determined by the Engineer.

3.14 Formwork for Pre-cast Concrete :

1. The provisions in this section shall be considered supplementary to the general provisions stated above and additional Technical Specifications for pre-cast segments. Pre-cast concrete members and panels shall be made in accurately constructed moulds, on a properly prepared casting bed. All aspects of the making, curing and erection of pre-cast units shall be subject to the approval of the Engineer. The contractor shall submit detailed drawings of formwork for the approval of the Engineer. Finishing with cement mortar shall not be allowed.

2. The effect of curing on the formwork should be given special consideration. Depending on care, curing erection and maintenance after stripping, the following number of uses can be made with different types of formwork. Plywood with timber backed formwork – As per satisfaction of Engineer
Steel moulds – do – No. of uses of shuttering be as per approval of the Engineer
In cases concrete moulds can be satisfactorily provided by the contractor, the Engineer's approval shall be obtained before use on the works.

3. Stripping : As soon as the pre-cast units have attained sufficient strength, the formwork shall be stripped. The pre-cast unit shall be lifted uniformly out of the formwork without being subjected to titling or restraint effects.

3.15 If proprietary system of formwork is used, detailed information as given in Annexure 4.1 shall be furnished to Engineer for approval before use.

ANNEXURE 4.1 INFORMATION TO BE SUPPLIED BY MANUFACTURERS OF PROPRIETARY SYSTEMS OF FORMWORK

1. General

1.1 The information which the manufacturer is required to supply shall be in such details as to obviate unsafe erection and use of equipment due to the intention of the manufacturer not having been made clear or due to wrong assumptions on the part of the user.

1.2 The user shall refer unusual problems of erection / assembly not in keeping with intended use of equipment, to the manufacturer of the equipment.

2. Information Required

2.1 The manufacturers of proprietary systems shall supply the following information :

- a.** Description of basic functions of equipment.
- b.** List of items of equipment available, giving range of sizes, spans and such like, with manufacturer's identification number or other references.
- c.** The basis on which safe working loads have been determined and whether the factor of safety given applies to collapse or yield.
- d.** Whether the supplier's data are based on calculations or tests. This shall be clearly stated as there may be wide variations between results obtained by either method.
- e.** Instructions for use and maintenance, including any points which require special attention during erection, especially where safety is concerned.
- f.** Detailed dimensional information, as follows :
 - i.** Overall dimensions, depths and widths of members.
 - ii.** Line drawings including perspectives and photographs showing normal uses.
 - iii.** Self weight.
 - iv.** Full dimensions of connections and any special positioning and supporting arrangements.
 - v.** Sizes of members, including tube diameters and thickness of material.
 - vi.** Any permanent camber built into the equipment.
 - vii.** Sizes of holes and dimensions giving their positions.
 - viii.** Manner of fixing including arrangements for sealing joints.
- g.** Data relating to strength of equipment as follows :
 - i.** Average failure loads as determined by tests.
 - ii.** Recommended maximum working loads for various conditions of use.
 - iii.** Working resistance moments derived from tests.
 - iv.** Working shear capacities derived from tests.
 - v.** Recommended factors of safety used in assessing recommended loads and deflections based on test results.
 - vi.** Deflections under load together with recommended pre-camber and limiting deflections.
 - vii.** If working loads depend on calculations, working stresses should be tested. If deflections depend on theoretical moments of inertia or equivalent moments of inertia rather than tests, this should be noted.
 - viii.** Information on the design of sway bracing against wind and other horizontal loadings.
 - ix.** Allowable loading relating maximum extension of bases and /or heads.
 - x.** Any restrictions regarding usage of any component or full assembly with regard to spans, heights and loading conditions.

REINFORCEMENT

4.1 These specifications shall be read in conjunction with the MOST / MORTH Specifications and other relevant specifications. Any steel specified for reinforcement shall conform in every respect to the latest relevant Indian Standard Specifications and shall be of tested quality under the ISI Certification Scheme. All reinforcement work shall be executed in conformity with the drawings supplied and instructions given by the Engineer and shall generally be carried out in accordance with the relevant Indian Standard Specifications IS:2502 – Bending and Fixing of Bars for Concrete Reinforcement. The reinforcement steel shall be from primary producers and no re-rolled steel shall be supplied.

4.1.1 Mechanical couplers of threaded type with enlargement at connection by cold forging may be used at appropriate locations after prior approval of Engineer.

4.2 Inspection & Testing : Every bar shall be inspected before assembling on the works and any defective, brittle, excessively rusted or burnt bars shall be removed. Cracked ends of bars shall be cut out. No work shall be commenced without the Engineer's approval of the bar bending schedule. Manufacturer's Certificate shall be supplied for each lot of supply. Specimens sufficient for three Tensile Tests for each different size of bar for each consignment delivered, or for 10 tonnes of supply of that size, whichever is less shall be sampled and tested by the Contractor. Batches shall be rejected if the average results or each batch are not in accordance with the specifications.

4.3 Bar Bending and Bar Bending Schedule : All bars will be carefully and accurately bent by approved means in accordance with IS:2502, and relevant drawings. It shall be ensured that depth of crank is correct as per the bar cutting and bending schedule and bent bars are not straightened for use in any manner that will injure the material. Prior to starting bar bending work, the Contractor shall prepare bar bending schedule from the structural drawings supplied to him and get the same approved by Engineer. Any discrepancies and inaccuracies found by the Contractor in the drawings shall be immediately reported to the Engineer whose interpretation and decision there to, shall be accepted.

4.4 Lapping & Welding : / Mechanical Splicing :

1. As far as possible bars of the maximum length available shall be used. Laps shown on drawings or otherwise specified by the Engineer will be based on the use by the Contractor of bars of maximum length. In case the Contractor wishes to use shorter bars, laps / couplers shall be provided in the manner and at the locations approved by the Engineer.

2. Bars having butt or lap welds shall be provided as specified in the drawings or as instructed by the Engineer.

4.5 Spacing, Supporting and Cleaning :

1. All reinforcement shall be placed and maintained in the positions shown on the drawings to be prepared by contractor.

2. The contractor shall provide approved types of supports for maintaining the bars in position and ensuring required spacing and correct cover of concrete to the reinforcement as specified on the drawings. Cover blocks of required shape and size, M.S. Chairs and spacer bars shall be used to ensure accurate positioning of reinforcement. Cover blocks shall be cast well in advance and shall consist of approved proprietary pre- packaged free flowing mortars (Conbextra HF of Fosroc or equivalent). They shall be circular in shape for side cover and square for bottom cover. The cost of cover block shall be deemed to have been included in the rates.

3. Bars must be cleaned, before concreting commences, of all scale, rust or partially set concrete which may have been deposited there during placing of previous lift of concrete.

4. Only TMT bars shall be provided.

5. Annealed steel wire shall be used for binding reinforcement.

4.6 Welding : 1. Wherever specified all lap and butt welding of bars shall be carried in accordance with IS:2571. Only qualified welders shall be permitted to carry out such welding.

2. For cold twisted reinforcement welding operations must be controlled to prevent a supply of large amounts of heat larger than that can be dissipated. The extreme non-twisted end shall be cut off before welding. Electrodes with retile coating should be used.

3. Bars shall be free from rust at the joints to be welded.

4. Slag produced in welding after alternative run should be chipped and removed by brush.

5. Electrode should not be lighted by touching the hot bar.

6. The welding procedure shall be approved by the Engineer and tests shall be made to prove the soundness of the welded connection.