ITI LIMITED

Network Systems Unit

ESG Office

C/o. HQ 5 Sig Group,
Opp. HQ Western Air Command,
NH-8, Asmara Lines,
Delhi Cantt. 110010.

www.itiltd-india.com
civil_nsu@itiltd.co.in

CIVIL ENGINEERING DEPARTMENT

Tender for Construction of Buildings [Up Gradation] Electrification IT-related works Roads, Drains, Water supply, and Sewerage works, etc., works for the National Importance project.

Sl. No.	ITEM	DESCRIPTION
1	Tender No.	ITI/NSU/CIVIL-DEL/2024/0112/28 dated 11-06-25
2.	Site Name	Ram Chandra Peak
3.	Sale of Tender document	Available on ITI e-tendering portal www.itiltd.in or https://itilimited.euniwizarde.com/
4.	Bid Submission Start Date	11/06/2025 from 11:00 A.M.
5.	Bid Submission Last Date	02/07/2025 Up to 11: 00 A.M.
6.	Bid Opening Date	02/07/2025 Up to 14:00 P.M.
7.	Tender Fee	Rs. 5,000/- [Exclusive of GST @ 18%, i.e., Rs. 5,900/-]
8.	Tender Opening Address	**Assistant Manager** ITI Limited ESG (ASCON), C/o. HQ 5 Sig Group, Opp. HQ Western Air Command, NH-8, Asmara Lines, Delhi Cantt. 110010.

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

NOTE: COUNTEROFFERS/CONDITIONAL OFFERS IF MADE WILL NOT BE ACCEPTED AND SUMMARILLY REJECTED

Tenderer:

Shri/ M/s
……....
……

Assistant Manager

ITI Limited ESG (ASCON),
C/o. HQ 5 Sig Group,
Opp. HQ Western Air Command,
NH-8, Asmara Lines,
Delhi Cantt. 110010.

Tender for Construction of Buildings [Up Gradation] Electrification IT-related works Roads, Drains, Water supply, and Sewerage works, etc., works for the National Importance project. (Two Bid System)

Dear Sirs,

I/We have read and examined the following documents relating to the above works for the Communication Project.

a. General Notice & intimation to the tenderer.
b. Specifications,Bill/ScheduleofQuantities,andScheduleofrates&Specialconditions.
c. Drawings (Indicative for the tender purpose only)
d. General conditions of contract including Contractor's Labour Regulations, Model Rules for Labour WelfareandSafetyCodeappendedtotheseconditionstogetherwiththeamendmentsthereto.

I/Weherebytenderfortheexecutionoftheworksreferredtointheaforesaiddocumentupontheterms andconditionscontainedorreferredtothereinandinaccordanceinallrespectswiththespecifications, designs, drawings, and other relevant details at ther atescontainedinthescheduleofratesandwithin the period(s) of completion as stipulated for the total sum of Rs----------

InconsiderationofI/Webeinginvitedtotender,I/Weagreetokeepthetenderopenforacceptancefor 120 days from the date of opening of the Technical bid thereof and not to make any modification in its terms and conditions which are not acceptable to the Company.

A sum of Rs ---------- is hereby enclosed a Bank Draft / Banker's pay order as earnest money. If we fail to keep the tender open as aforesaid or make any modifications in the terms and conditions of the tender which are not acceptable to the company, I/We agree that the Company shall without prejudice to any other right or remedy be at liberty to forfeit the full earnest money.

Should this tender be accepted, I/We hereby agree to abide by and fulfil all the terms, conditions, and provision of the aforesaid documents.

I/We further agree that in case my/our tender is accepted to deposit the additional Security amount of 5% in the form of Bank Guarantee Performance Security deposit under the General Terms and Conditions enclosed herewith.

If, after the tender is accepted, I/We fail to commence the execution of the works as provided in the conditions, I/We agree that the company shall without prejudice to any of their right or remedy be at liberty to forfeit the said total earnest money absolutely i.e. Rs. ----------. I/We attach herewith by Me/Us statement showing the details of construction works carried out for reference and to substantiate my/our experience and capacity to carry the work on tender.

Our Bankers
are**……..**
……
……..

I/We also undertake to complete all works and hand over the same in a satisfactory manner to the companyortheirauthorizedrepresentatives**withinthestipulatedtimeasmentionedintheNIT**from the 15th day of the orders issued to start theworks.

I/We understand and note that the decision to entrust the above to the lowest tenderer or otherwise rests with the company.

Yours Faithfully,

(CONTRACTOR/S)

Address:

Dated:

Signed in the presence of

1. Witness**……**

   Address**……...**

   Date:**……**

2. Witness**……**

   Address**……**

   Date**:……**

IMPORTANT PARTICULARS: BUILDING WORKS

SL NO.	DESCRIPTION	INFORMATION
1	Reference No. of Tender Document	ITI/NSU/CIVIL-DEL/2024/0112/28 dated 10-06-2025.
2	Date of Issue of Notice Inviting Tender	11-06-2025
3	Last Date & Time for Submission of Bids	02-07-2025 AT 11:00 AM
4	Date & Time of Opening of Technical Bids	02-07-2025 AT 12.00 PM
5	Pre-Bid Meeting	19-06-2025 AT 11 AM to 13 hrs at the office of AM-CIVIL at scope complex core-6, gate 11, ITI Ltd, New Delhi.
6	Opening of Financial Bids	WILL BE INTIMATED LATER
7	Cost of Tender Document	Rs. 5,000 plus GST @18% i.e., Total Rs. 5,900 (Rupees Five thousand nine hundred only)
8	Earnest Money Deposit (EMD)	Rs. 95,300/-
9	Average Financial Turnover [Last Three Years]	28.59 Lakhs
10	Solvency Certificate Value	38.12 Lakhs [Issued within six months from the original last date of submission of tender.]
11	Security Deposit	Ten percent of contract value.
12	Validity	120 days from the last date of submission opening of financial bid
13	Price Escalation	NIL
14	Performance Guarantee	5% OF CONTRACT VALUE.
15	Period of Completion	04 (Four) Months from handing over the site.
16	Estimated Cost	95.30 lacs. [Excluding GST]

Note: The tender documents can be downloaded from the Company website www. itiltd. inor https://itilimited.euniwizarde.com/**and from Government portal e**procure.gov.in
Corrigendum: Any corrigendum/addendum/errata in respect of the above tender shall be made available at our official website www.itiltd.in. or https://itilimited.euniwizarde.com/**No further press advertisements will be given. Hence, all bidders are advised to check the ITI ltd website regularly. DocumentssubmittedinconnectionwithPre-Qualificationwillbetreatedconfidentialandwillnotbe returned.**

SECTION - I

NOTICE INVITING TENDER

ITIltdinvitesitemrateoffersfromClassI/Class-IIregisteredcontractorsinCPWDorequivalent registration under MES, State PWDs, or Central / State PSUs/ ITI Ltd for the Tender for Construction of Buildings [Up Gradation] Electrification IT related works Roads, Drains, Water supply, and Sewerage works, etc., works for the National Importance project.

Mega Communication Project of the Company which will be in Northern India, Western India, Northeastern states.

The tenders are invited in TWO BIDS, consisting of Technical Bid (Part-A) and Price/ Commercial Bid (Part-B).

ELIGIBILITY CONDITIONS FOR THE BIDDERS

I- MINIMUM ELIGIBILITY CRITERIA FOR PARTICIPATION IN THE TENDER

a. **Class I/Class-II** contractors in CPWD or equivalent registration under MES, State PWDs, or Central / State PSUs/ITI Ltd or having experience in working with Govt./PSUs.

b. Net Worth of company should be positive during last financial year.

II - WORK EXPERIENCE FORELIGIBILITY.

Experience of having completed similar works during the last 7 years ending 01-04-2025.

A. Threesimilarworkseachcostingnotlessthan40%oftheestimatedcostputtotender. OR
B. Two similar works each costing not less than 50% of the estimated costput to tender.
OR
C. One similar work costing not less than 80% of the estimated cost put to tender.

Similar works mean Residential/Non-Residential buildings of any no. ofstories.

1. The experience in similar nature of work should be supported by certificates issued by the client's organization. In case the work experience is other than Govt//Semi Govt./PSU's/autonomous bodies, the completion certificate shall be supported with copies of the letter of work order/Completion certificate and copies of the Corresponding TDS certificate. [Form 26AS] Value of work will be considered equivalent to the amount of TDScertificates.

A. The value executed works shall be brought to the current level by enhancing the actual valueofworkdoneatasimplerateof7%perannum,calculatedfromthedateofcompletion to the previous day of the last day of submission oftenders.

B. Joint venture/Consortia of firms /Companies shall not be allowed and the bidders should meet the criteriathemselves.

III FINANCIALSTRENGTH:

a. Theaverageannualfinancialturnoveronconstructionforthelast3yearsshallbeatleastas specified in the tender. The requisite Turnover shall be duly certified by a Chartered Accountant with his seal/Signatures and registrationnumber.

b. NetworthoftheCompanyason31st MarchofthePreviousFinancialyearshouldbepositive.

c. Bank Solvency Certificate issued from a nationalized or any scheduled Bank should be at leastthevaluespecifiedintheNIT.Thecertificateshouldhavebeenissuedwithinsixmonths from the last date of submission of the tender. **[Annexure-14].**

The tenders are invited in TWO BIDs, consisting of a Technical Bid (Part-A) and Price/ Commercial Bid (Part-B).

The Technical Bid (Part-A) without the Price/Rate shall contain the following details:

1. Bidder'sProfile

2. Acceptance of all the terms & conditions indicated in ourtender.

3. Earnest Money Deposit (EMD) as specified in the tender and Tender document fee of Rs. 5,000 (Rupees Five Thousand Only) plus GST @18% (Total Rs. 5,900) shall be payable with the bid. This shall be submitted before scheduled submission of tender as a Demand Draft or through NEFT or bank transfer or Pay Order drawn at a Scheduled Bank/Post Office in favor of ITI Limited (N S UNIT), Dooravani Nagar, Bengaluru - 560016. The Bank details for crediting/Transferring money to ITIL is as below.

Account No: 10637729843
Bank: State Bank of India
Branch: IFB
IFSC Code: SBIN0009077
MICR Code: 560002016
Type of Account: CC A/c.

4. All the documents regarding eligibility criteria.

5. All pages of the tender document Signed.

The Price/Commercial Bid (Part-B), shall contain the specific rate in figures and words.

NOTE:

- The location of site may vary to any distance of200km.
- **ITI Limited reserves the right to allocate the IT-related works specified in the BOQ at a later stage; however, the L1 bidder will be determined based on the total amount quoted, inclusive of ITworks.**

MANDATORY DOCUMENTS FOR ELIGIBILITY CRITERIA.

Registration certificate	**Class I/Class-II** contractors in CPWD or equivalent registration under MES, State PWDs, or Central / State PSUs/ITI Ltd or having experience in working with Govt./PSUs
Average Financial Turnover certificate of last three financial year fromCA	28.59 Lakhs
Solvency certificate	38.12 Lakhs
EMD	Rs. 95,300/-
Work Experience certificate [Completion] (Similar type of works, RCC buildings)	3 similar works each costing not less than 40% of the estimated cost put to tender
	2 similar works each costing not less than 50% of the estimated cost put to tender
	1 similar work costing not less than 80% of the estimated cost put to tender
Other Documents	As per the Tender Document

Thanking you
Yours faithfully

For ITI Limited

Assistant Manager

----- END OF SECTION –I -----

SECTION - II

GENERAL TENDER NOTICE-INFORMATIONS TO BIDDERS

1. ITI ltd invites item rate offers from Class 1/Class-II registered contractors in CPWD or equivalent registration under MES, State PWDs, or Central / State PSUs/ ITI Ltd for the Tender for Construction of Buildings [Up Gradation] Electrification IT related works Roads, Drains,Watersupply,andSewerageworks,etc.,worksforthe**NationalImportanceproject.**

NAMEOFWORK: TenderforConstructionofBuildings[UpGradation]ElectrificationITrelated works Roads, Drains, Water supply, and Sewerage works, etc., works for the **National Importanceproject.**

2. Tenders not submitted on time will not be considered and will be summarily rejected. Tender documents shall be filled and submitted in original [all pages of tender documents to be sealed and signed. Submitted along with the technicalbid]

3. ELIGIBILITY CONDITIONS FOR THEBIDDERS

I. MINIMUMELIGIBILITYCRITERIAFORPARTICIPATIONINTHETENDER.

Class I/Class-II contractors in CPWD or equivalent registration under MES, State PWDs, or Central / State PSUs/ITI Ltd or having experience in working with Govt./PSUs.

II. WORK EXPERIENCE forEligibility.

Experience of having completed similar works during the last 7 years ending 01-04-2025.

A. Threesimilarworkseachcostingnotlessthan40%oftheestimatedcostputtotender. OR
B. Two similar works each costing not less than 50% of the estimated costput to tender.
OR
C. One similar work costing not less than 80% of the estimated cost put to tender.

Similar works mean Residential/Non-Residential buildings of any no. of stories.

Note: Similar **works mean** Residential/Non-Residential buildings of any no. of stories. [Framed structures]

A. The past experience in a similar nature of work should be supported by certificates issued by the client's organization [Work order and completion certificate]. In case the work experienceis of other than Govt. /Semi Govt./PSU's/autonomous bodies, the completion certificates shall be supported with copies of the letter of work order/ Completion certificate and copies of the CorrespondingTDScertificate[Form26AS].Thevalueofworkwillbeconsideredequivalentto the amount of TDScertificates.

B. The value executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the date of completion to the previous day of the last day of submission of tenders.

C. Joint venture/Consortia of firms /Companies shall not be allowed and the bidders should meet the criteria themselves.

III. Financial Strength:

a. The average annual financial turnover on construction for the last 3 years shall be at least as specifiedintheNIT[Referpage-4,Importantinformation].TherequisiteTurnovershallbeduly certified by a Chartered Accountant with his seal/Signatures and registration number**. [Annexure-7]**

b. Net worth of the Company as on 31stMarch of the Previous Financial year should be positive.

c. Bank Solvency Certificate issued from nationalized or any schedule Bank should be at least value specified in the NIT [Refer page-4, of important Information to bidder]. The certificate should be issued within last 6 months from the last date of submission of tender. **[Annexure-14]**

d. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

i. Made misleading or false representation in the forms, statements, affidavits, and attachments submitted in proof of the qualification requirements, or record of submission of any false/fake documents.

ii. Record of poor performance such as abandoning the works, not properly completing the contract,inordinatedelaysincompletion,litigationhistory,orfinancialfailures,etc.,

iii] Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to the Employer**.**

4. TENDER DOCUMENTS SHALL BE FILLED, SIGNED, AND SUBMITTED INORIGINAL

e-Envelope-I [TechnicalBid]

The submitted Tender shall consist of the following:

i. Cover note by the Bidder indicating name of the Company/Organization, address, communication details (mobile numbers, land line numbers, fax numbers, e-mail ids for correspondence), name of the contact person, designation of the Bid submission authority.The bidder is also required to indicate the groups for which bid is applied.

ii. Complete set of tender documents original as sold dully/downloaded filled and signed by the tenderer as prescribed in the different places of the tender document.

iii. Information regarding the tenderer [organisataion set up] as in the proforma enclosedat **Annexure- 8.**

iv. Declaration regarding the Tenderers work of comparable nature and constructions organization in the proforma enclosed in **Annexure--9**

v. Cost of tender documents, and EMD.

vi. Income Tax Return for the last three financial year.

vii. PAN Number and GST Registration cerfificate

viii. Earnest Money Deposit (EMD) as specified in the tender and Tender document fee of Rs. 5,000/- (Rupees Five Thousand Only) plus GST @18% i.e. Total Rs. 5,900/- (Rupees Fivethousandninehundredonly)shallbepayablewiththebid.Thisshallbepaidwell

in advance of tender submission time through Demand Draft or NEFT or bank transfer or Pay Order drawn at a Scheduled Bank/Post Office in favor of ITI Limited (N S UNIT), Dooravani Nagar, Bengaluru - 560016. The Bank details for crediting/Transferring money to ITIL is as below.

Account No: 10637729843
Bank: State Bank of India
Branch: IFB
IFSC Code: SBIN0009077
MICR Code: 560002016
Type of Account: CC A/c.

Note: The DD no. /Bankers pay order no. shall be clearly indicated on the letter head along with a scanned copy of the above payment must be uploaded during tender submission.

ix. Power of attorneyinthecaseasanauthorisedrepresentativewhohassignedthetender.

x. Solvency Certificate of value as specified in NIT---[**Annexure-14]**

xi. An integrity pact duly signed by the tenderer shall be submitted. Any bid without a signed Integrity pact shall be rejected**.[Annexure-3]**

e-Envelope 2 [Financial BID]

Financial bid- consists of a document with the rate quoted in figures and words only.

5. Clarifications and Amendment of BidDocuments

5.1 Bidders may request clarification on any clause(s) of the Bid documents **within 5 days** from the date of uploading of Tender on the website. Any request for clarification must be sent in writing, or by standard electronic means to ITI LTD's address. ITI LTD will respond in writing, or by standard electronic means and will send written copies of the response (including an explanation of the query but without disclosing the Source of the query) to bidders. Should ITI LTD deem it necessary to amend the bid document as a result of a clarification or any other reasons it shall do so. However, ITILTD reserves the right to respond to the queries after the cut-off date as mentioned above.

5.2 At any time before the submission of tender, ITI LTD may modify/ amend the bid document and extend the last date of submission/ opening of the tender by issuing a corrigendum/addendum.

Any Corrigendum/Addendum thus issued shall form part of tender document and shall be posted only on website www.itiltd.in,or https://itilimited.euniwizarde.com/ or www.eprocure.gov.in, and the bidders are thus advised to update their information by using said website. To give the bidders reasonable time to take an amendment into account in their bids and on account of any other reasonable circumstances, ITI LTD may at its discretion, extend the deadline for the submission/ opening of the tender.

5.3 Bidders desirous of seeking clarifications on the Tender, may send their queries through email to: civil_nsu@itiltd.co.in, also on https://itilimited.euniwizarde.com/, Ph: 7986542127.

5.4 On the Bid opening day, only technical bids will be opened. The Bidders who are desirous of attending bid opening may do so as per the e-Tendering process(TOE).

5.5 Bids without authenticated proof of Bid document fee, EMD and other technical compliances as required and prescribed in this Tender, will be rejected.

5.6 The date for opening the financial bids will be communicated to all technically qualified and eligible bidders separately, through registered email.

5.7 TheaddressforallcorrespondencesregardingthisTendershallbemarkedtoAM,ITILimited through E-mail:civil_nsu@itiltd.co.in

5.8 The offers prepared by the Bidders and all the correspondences and documents relating to the offers submitted/exchanged by the Bidder, shall be written in English language.

5.9 ITI reserves the right to suspend or cancel the Tender process at any stage, or to accept, or reject any, or all offers at any stage of the process and / or to modify the process, or any part thereof, at any time without assigning any reason, without any obligation or liability whatsoever and the same shall be published in the ITI website or intimated through email.

5.10 ITILtddoesnottakeanyresponsibilityforthedelaycausedduetonon-availabilityofinternet connection or sever/traffic jam, etc. for online biding.

5.11 The Bidder shall bear all costs associated with the preparation and submission of its Tender, including cost ofpresentation for the purpose of clarification of the offer, if so desired by ITI.

5.12 At any time prior to the last date for receipt of offers, ITIL, may, for any reason, whether at its owninitiativeorintheresponsetoaclarificationrequestedbytheprospectivebidders,modify the Tender document.

5.13 Also, ITI may, at its discretion, extend the last date and time for the receipt of offers and/or make other changes in the requirements set out in the Invitation for Tender at its own accord or in order to provide reasonable time to bidders to take the amendments into account in preparing their offers.

5.14 If the last day for the bid submission is declared as a holiday, the bid will be opened at the same time on the next working day.

6. SIGNING OFBID

6.1 The bidder shall prepare, as a part of his bid, the bid documents duly signed on each and every page submitted (digital signatures accepted on e-tendering portal), establishing the conformity of his bid to the bid documents of all the works to be executed by the bidder under the contract and the credentials claimed to comply the bid conditions.

6.2 The bid shall contain no inter-lineation, erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be signed with dated by the person or persons signing the bid.

7. DISCLAIMER:

7.1 ITI and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of ITI and/or any of its officers, employees.

7.2 All information contained in this Tender provided / clarified is in good faith and interest. This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party.

7.3 Though adequate care has been taken in the preparation of this Tender document, the interested bidders shall satisfy themselves that the information contained in the document is complete in all respects to enable to make an informed decision to bid. Interested Bidders are required to make their own enquiries and assumptions wherever required.

7.4 Information provided in this document or imparted to any respondent as part of the Tender process is confidential and shall not be used by the respondent for any other purpose, distributed to, or shared with any other person or organization.

8. GENERAL INFORMATION TO THE BIDDER ON EMD, SECURITY DEPOSIT, AND REFUND OF SECURITYDEPOSIT.

8.1 Earnest money deposit of an amount as mentioned in NIT is required to be submitted along with the tender in favor of ITI Ltd NS Unit Bengaluru as per NIT.

8.2 The EMD shall be payable to the ITI without any conditions, recourse, or reservations.

8.3 The bid will be rejected by the ITI a non-responsive and shall not be considered in case if amount of EMD is not received as specified in NIT.

8.4 **Return of Earnest Money deposit**: No interest shall be allowed on the Earnest Money deposit by the Tenderer. The earnest money of the unsuccessful tenderer will be refunded within 15 days on their request after issuance of LOA to the successful bidder.

8.5 The Earnest Moneydepositedbythesuccessfultendererwillberetainedtowardsthesecurity depositforthefulfillmentofthecontract,butshallbeforfeitedifthetendererfailstosubmitthe

Performance Guarantee of 5% of the tendered value, the requisite security deposit as per General Terms and conditions of the contract and/or Fails to start the work within a period of 15 days after issue of the Work Order in writing.
The earnest money deposit of L-1 will be released only after submission of the Performance guarantee of 5% on the award of work and their confirmation from the bank.

8.6 **SecurityDeposit**: Total Security deposit in the work is 10% of the contract value. The security deposit will be recovered by deduction from the running bills of the contractors at the rate of 5% of the gross value of work done. This is in addition to the performance guarantee of 5% mentioned above. Further, the contractor has to furnish the "No Claim Certificate to ITI Ltd at thetimeofclaimingrefundofretentionmoneyinconfirmationofhishavingnoclaimagainstITI Ltd on getting refunded the security deposit

8.7 **Refund of Security Deposit**: S.D deducted from the contractor's bill shall be refunded to the agency on the certificate of Engineer-In – Charge after the expiry of the Defects liability period of**one**year[01]andafterobtainingnodefectcertificatefromtheconcernedofficials.[Engineer in charge]

8.8 The EMD may beforfeited:

a. Ifabidderwithdrawsthebidafterbidopeningduringtheperiodofvalidity.
b. InthecaseofthesuccessfulbidderiftheagencyfailstosigntheAgreementwithinthe15 days from the date of issue of LOA or furnish the required performance security or fails to commence the work within the stipulated period prescribed in thecontract.

8.9 ORDER OFPRECEDENCE:

In case of differences, contradictions, discrepancies with regard to General Conditions of Contract, specifications, Special Conditions, Corrigendum issued, Drawings, bill of quantities, etc., forming part of the contract, the following shall prevail in order of precedence.

a. Letter oftheaward, along with the statement of agreed variationsandits enclosures ifany.
b. Corrigendum Addendum, Clarifications,etc.,
c. Special conditions ofContract
d. Descriptions of the bill of quantities /Schedule ofquantities.
e. General Conditions ofContract
f. Drawings.
g. CPWD specifications [as specified in Technical specification of the tender] updated with correction slips issued up to the last date of receiptof tenders.
h. Relevant IS codes/National buildingcode-2015.

9. PAYMENT TERMS:

STAGE OFPAYMENT

Payment will be made on completion of the respective stages with the following payment conditions: -

Stage	Description of stage	Payment condition
1st stage	From Ground level to plinth level	Payment will be made for 90% of the work done in 1st stage based on actual measurement.
2nd stage	From plinth level to roof level (after casting of roof slab).	Payment will be made for 90% of the work done in 2nd stage based on actual measurement.
3rd Stage	Finishing Works [plastering/painting/ flooring/ plumbing /electrical/wooden & steel works/IT Related works and waterproofing works.]	Payment will be made for 90% of the work done in 3rd stage based on actual measurement.
4th stage	Completion of the entire building as per specifications and Scope of works, along with submission of As-built Drawing, completion certificate approval by ITIL Handing over and acceptance of the building by the USER	Payment for 10% of works executed in stages 1 to 3, along with payment for 100% of the pending works other than stages 1 to 3 will be made after the completion of the 4th stage.

Note:

- **5% of the gross amount payable to the contractor will be retained from each running bills as a security deposit in addition to the performance guarantee of 5%. The security deposit will be released to the bidders after successful completion of the defect liability period [one year after the date of completion of all the buildings in sub-group].**
- **ITI Limited reserves the right to allocate the IT related works specified in the BOQ at a later stage; however, the L1 bidder will be determined based on the total amount quoted inclusive of IT works.**

10. ITI reserves the right to forfeit of the Performance guarantee in addition to security deposit in the event of the tenderer's failure any of the contractual obligations or in the event of termination of the contract as per terms and conditions of the contract.

11. The Tenderer shall quote rates both in figures as well as in words. In case the tenderer has quoted Two different rates in word and figures, the rates which correspond to the amount worked out by the contractor are taken as correct. When the amount of an item is not worked out by the contractor, or if it does not correspond with the rates written either in figures or in words, then the rate quoted by the contractor in words is taken as correct. When the rate quoted by the contractor in figures and words tallies, but the amount is not worked out correctly, the rates quoted by the contractor is taken as correct and not the amount.

All the corrections and alterations made in the entries by the tenderer must be attested with his/their full signatures and date. Erasures and overwriting are not permissible and may disqualify the Tender.

12. The Tender shall contain the name, address, and place of business or person or persons making the tender and shall be signed by the tenderer with his signature. Partnership firm shall furnish the full name of all partners in the tender. It may, however, be signed in the partnership name by one of the partners or duly authorised representative, followed by the name and designation of the person signing tender. Tenders by a corporation or by a person are signed in the name of the corporation by a person duly authorized to do so. In case it is signed by anauthorized representative, a power of attorney on that behalf shall accompany the tender. A copy of the constitution of the firm with the names of the partner shall be furnished.

13. When the tenderer signs a tender in a language other than English, the total amount of tendered should also be written in the English language only.The signature should be attested by at least one witness.

14. Witnesses and sureties shall be persons of status and property and the names, occupations, and addresses shall be stated below the signature.

All the signatures in the tender document shall be dated and pages of all the sections of the tender document shall be signed at the lower right-hand corner or where ever required in the tender document by the tenderer or his authorised representatives.

15. Before submission of tender, the tenderer is advised to visit the site (with prior arrangement with the officer issuing the tender)and inspect the site of work and its environments, and be well acquainted with the actual working and other prevalent conditions and fluctuations thereof,and to quote his rates accordingly after taking all the factors into account.

It shall be deemed that the tenderer has visited the site, whether he does it or not, and have taken all the aforesaid factors into account while quoting his rates and no claim whatsoever shall be entertained on this account at a later date.

16. The tenders submitted by the tenderer shall remain valid for acceptance for 120 days from thelast date of receipt of bids. The tenderer shall not be entitled during the said period of 120 days,without the consent in writing of the company to revoke or cancel his tender or to vary the tender given or any terms there of.

17. The acceptance of the tender will rest with the accepting authority who does not bind himself to accept the lowest or any other tender and reserves the right to reject any or all the tenders without assigning any reason whatsoever.

18. Rejection of Tender:

a) Tenders in which any of the particulars and prescribed information is missing or incomplete in any respect are liable to be rejected.

b) Canvassingofanykindisstrictlyprohibitedandthetendersubmittedbythetenderer

whoresorts to canvassing is liable to be rejected.

c) Thetendercontaininguncalledremarksforanyconditionsareliabletoberejected.

d) No Page of the tender documents shall be removed or altered and the whole set must be submitted after being duly filled in and signed. Failure to comply with these instructions may result in the rejection of their tender.

19. The Company reserves the right (i) to reject any or all the tenders without assigning any reasons, therein (ii) to distribute the work between more than one contractor. The whole work may be split up and accepted in parts entirely at the sole discretion of the company (In theratioof60:40attherateofL-1).Thetenderershouldspecificallystateincasehewouldbe unwilling to accept a part of the work.

The Company reserves the right to call off the tender process at any stage without assigning any reason.

20. Should tenderer have relative or relatives or in the case of a firm or private limited company one or more of its partner or relatives of the partners employed in the company, the tenderer should furnish complete information to that effect at the time of submission of the tender.

21. The successful tenderer shall be required to execute an agreement in duplicate in the proforma attached with the tender documents as **Annexure-1** In the event of failure of the tenderertosigntheagreementwithin15daysfromthedateissueofthenoticeofacceptance of the tender, the amount of Earnest money shall be forfeited to the company and acceptance of the tender shall be considered as withdrawn.

22. **PERFORMANCE GUARANTEE:** The successful bidder/contractor shall provide to the employer total performance security of Five percent [5%] of the Contract price covering initiallythe period of completion of construction work plus 90 days within 15 days after issue of Letterof acceptance but before signing the contract, performance security of Five percent of the Contract price shall be submitted by the successful bidder to ITI. In case the time for completion of work gets extended, the contractor shall get the validity of the performance Guarantee extended to cover such extended time for completion of work. [**As per Annexure-** **]**

A) Performance security of Three Percent [5%] to be submitted by the successful bidder afterthe receipt of the letter of acceptance shall be either in the form of Bank Guarantee or Fixed deposit receipts in the name of ITI from a scheduled commercial bank or demand draft in favor of ITI Limited, payable atBengaluru.

B) Failure of the successful bidder to comply with the requirement of delivery of Performance Security as per provisions of the tender clause shall constitute sufficient ground for cancellation of award and forfeiture of the Earnest Money. Such a successful bidder who fails to comply with the above requirements is liable to be debarred from participating in bids under ITI Limited for one year.

C) For delay in submission of Performance of guarantee more than 15 days from the date of issue of LOA penal interest of 18% per annum to be charged on the amount of performance guarantee.

23. **Taxes and Duties**: On implementation of GST many of the previously existing taxes have

Been subsumed in the same. However, taxes, duties, cess royalty, if any remaining in vogue which a bearing on the rates should be considered while submitting the tender. **GST as applicable**

will be paid Separately. In the event of non-payment/default of any statutory compliances in payment of any tax or any labor dues, EPF, ESIC, etc., by the contractor or in case of any financial implication on ITI Limited the ITI reserves the right to hold the dues/payment of the contractor and make payment to local/State/Central government authorities or labors as may applicable including penalty thereof.

a) The Contractor Price is inclusive of all taxes, duties, cess, and statutory levies payable under any laws, Other than Goods and Services Tax (GST) levied by Union and State Governments (CGST, SGST, UTGST,IGST.

b) In case of a change in the rate of tax or any provision relating levy of tax resulting in an increased burden of tax on the contractor, the contractor shall not be entitled to receive any compensation cent for such increase in quantum of tax payable by the contractor., however, recovery shall be made from the contractor on account of a decrease in rates oftax.

c) The contractor must be registered under the goods and services tax (GST) laws, and a copy of the registration certificate shall be submitted to ITI.

d) Apart from registration as mentioned at c) above, Contractors shall also obtain all other necessary registration required under any other Local / State/Union Government Statute,for the execution of this contract, ifany.

e) Apart from compliances mentioned above, in the event of non-payment/default in payment of taxes and duties and any other statutory compliances, under any other Local/State/Union Government Statute, ITI reserves the right to withhold the dues/payment of contractor and make payment to Local/State/Union Government authorities or Labourers, as may be applicable.

f) It is clearly understood that the contractor is fully aware of all GST Laws and his liabilities and responsibilities under the said laws including but not restricted to correct HSN/SAC code, the applicable rate of taxes of GST, or otherwise on which his liability hastobepaidanddischarged.ITIshallhavenoliabilityorresponsibilityfromanypenalty or proceedingsor any other liability levied or leviable on the contractor because of lower deduction or anyother such non-compliance of theContractor.

g) Bidders will examine the various provisions of The Central Goods and Services Tax Act, 2017 (CGST)/Integrated Goods and Services Tax Acts, 2017 (IGST)/ Union Territory Goods and Services Tax Act,2017 (UTGST)/ respective states State Goods and Service Tax Act (SGST) also, as notified by Central/State Government and as amended from timeto time and applicable taxes before bidding. Bidders will ensure that the full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quotingrates.

24. Policy for Micro and Small Enterprises[MSE's]

The MSE's who intend to claim benefits under MSE's act shall fulfill the following, otherwise, they run the risk of their bids being passed over as " INELIGIBLE" for the benefit applicable to MSE's and their bid will not be considered forevaluation.

a) MSE's which are specified by the Ministry of Micro, Small, and Medium Enterprises underMSED Act.2006 and Public Procurement Policy 2012 as Manufacturing/Services Enterprises should have registered withNSIC/MSME.

b) Tenderers seeking exemption should enclose a photocopy of valid registration Certificate giving details such as product/Services and Monetary limits failing which they run the risk of their tenders being passed over as ineligible for these concessions.

c) The items of Product/Services mentioned under NSIC/MSME certificate should be the same or similar to the tendered items/Schedule of items of Tender]

d) The monetary limit stipulated in the NSIC/MSME certificate of MSE's should be equal or more than the value of works /supply is/are " In hand progress" awarded under MSME benefits during the financial year plus estimated cost of this tender for availing EMD exemption.

e) If the monetary limit is less than the value of work/Supply " In hand [Progress] awarded under MSME benefits during the financial year plus estimated cost of this tender, they should obtain a "competence Certificate" from participating in this tender as well as avail MSME benefits.

f) During the bid evaluation, EMD exemption shall be granted to the NSIC/MSME registered firm. Incase, the NISC, MSE's registration certificate is found invalid during evaluation the bid of such bidder shall be rejected.

g) ITI may consider the award of work to MSE's as per the provision of Public Procurement Policy for Micro and Small Enterprises [MSE's] order 2012, with special provision for Public Procurement Policy for Micro and Small enterprises owned bythe Scheduled case or the Scheduled tribe enterprises.

25. Consortium/Joint ventures companies shall not be permitted. No single firm shall be permitted to submit two separate applications.

26. If at any stage, any information/documents submitted by the applicant is found to be incorrect, false, or have some discrepancy which disqualified the bidders/firm then, the Company shall take the following action:

- Forfeit the entire amount of EMD submitted by the firm.
- Thebidder/FirmshallbeliablefordebarmentfromtenderingintheCompanyapartfromany other appropriate contractual legal action.

26 The tender award execution and completion of work shall be governed by tender documents consisting of Letter of award/Letter of work order, Bill of quantities, Special Conditions of Contract, General Conditions of Contract, Specifications, Drawings. The tenderer shall be deemed to have gone through the various conditions, including subsoil water conditions, the topography of the land, drainage and accessibility, etc., or any other working conditions/Insurgency which in the opinion of a contractor will affect his price/rates before quoting their rates. No claim whatsoever against the foregoing shall been tertained.

27 SITE VISIT AND COLLECTING OF INFORMATION ON THESITE:

Before submission of tender, the tenderers are advised to visit the site, its surroundings to assess and satisfy themselves about the local conditions such as the working and other constraints at site, approach roads to the site, availability of water & Power supply, application

of taxes, duties, and levies as applicable and any other relevant information required by them to execute the complete scope of work.

a) Site conditions including access to the site, Working time, existing and required roads, and other means of transportation for use by him in connection with thework.

b) Source and extent of availability of suitable materials including water etc., and labor [skilled and un skilled] requiredfor work and laws and regulations governing their use.

c) Geological, Metrological Topographical, and other general features of the site and its surroundings as are about and needed for the performance of the work, with other specifications, drawings for references, andguidance.

28 TESTING OFMATERIALS

a) Samples of various materials required for testing shall be provided free of charge by the contractor. The testing charge shall be borne by the contractor. All the other expenditures required to be incurred for taking the samples conveyance packing etc. shall also be borne by the contractor himself.

b) In case there is any discrepancy in the frequency of testing as given in the list of mandatory tests and that in individual sub-heads of work as per C.P.W.D.latest edition specifications the higher of the two frequencies of testing shall be followed and nothing extra shall be payable to the contractor on this account.

29 The rate for all items in which they use of cement is involve dis inclusive of charges for curing.

30 The contractor is to bear all charges towards the cost of testing. However, ITI Ltd. will be free to engage any other agency towards performing/conducting all tests as per IS/CPWD norms.

31 CLARIFICATIONS AFTER TENDERSUBMISSION:

Tenderer's attention is drawn to the fact that during the period, the tenders are under consideration, the tenderers are advised to refrain from contacting by any means, the ITI and orhisemployees/representativesonmattersrelatedtothetenderunderconsiderationandthat if necessary, ITI will obtain clarifications in writing or as may be necessary. The tender evaluation and process or award of works is done by duly authorized Tender Scrutiny Committeeandthiscommitteeisauthorisedtodiscussandgetclarificationfromthetenderers.

32 The work executed by the contractor shall be subject to audit and quality control checks from Quality Control Division & Technical Audit ITI ltd, Client, and Inspecting Agency of the Client and Chief Technical Examiner of Central Vigilance Commission, Govt. of India. In the eventuality of any defect/ substandard works as brought out in the report or noticed otherwise at any time during execution, maintenance period, etc., the same shall be made good by the contractor without any cost to ITI Ltd. In case the contractor fails to rectify the defect/sub-standard work within the period stipulated by ITI Ltd., ITI Ltd shall get it rectified at the risk and cost of the contractor and shall recover the amount from the dues of thecontractor.

33 The structural and architectural drawings shall at all times be properly correlated before the execution of ay work. However, in case of any discrepancy in the item given in the schedule of the quantities appended with the tender and architectural drawings relating to the relevant item the former shall prevail unless otherwise given in writing by theEngineer-In-charge.

34 The foundation trenches shall be kept free from water while all the works below ground level are in progress.

35 The General Tender notice shall be deemed to form part of the agreement.

36 **Escalation in Price:** No escalation will be paid on account of any increase in price index in the price of material or labour. No price escalation shall be applicable even during extended period for completing the works.

37 **CONFIDENTIALITY:** Information relating to the evaluation of tenderers and recommendations concerning awards shall not be disclosed to the bidders who submitted the tender or to other persons not officially concerned with the process until the publication of the award of the contract. This undue use by any bidder of confidential information related to the process may result in the rejection of its tender and may be debarred from participating.

---- END OF SECTION –II -----

SECTION -III

INFORMATION AND INSTRUCTIONS TO TENDERERS

1. Interpretation to Tender Document before tenders are received:

If any person contemplating submitting a tender for the work covered in these tender documentsisindoubtastothemeaningofanypartofthetenderdocuments,hemaysubmit to the authority inviting tender a written request for interpretation or clarification thereof **within five days** of uploading of the tender. Any interpretation of the tender documents will be made only by a formal addendum issued by the authority inviting the tender whose interpretation shall be final and binding on all parties. The company will not be responsible for any other interpretation and the same will not be binding on the company.

2. Addenda:

a. Addenda to the tender documents may be issued before the date of opening of the Tenders to clarify the documents or to reflect modifications in their design or contract terms which will be published in the Company website only.

b. All the addenda issued by the authority inviting tender shall be part of the tender document.

3. Only One Proposal

The bidder shall only submit one proposal. If a bidder submits or participates in more than one proposal, such proposals shall be disqualified.

4. Proposal Validity

The tender must remain valid for 120 days after the last date fixed for submission of the tender including the extension(s) given if any.

5. Clarifications and Amendment of Bid Documents

5.1 Biddersmayrequestclarificationonanyclause(s)oftheBiddocuments**within5days**from the date of uploading of the Tender on the website. Any request for clarification must be sent in writing, or by standard electronic means to ITI LTD's address. ITI LTD will respond in writing, or by standard electronic means and will send written copies of the response (including an explanation of the query but without disclosing the Source of the query) to bidders. Should ITI LTD deem it necessary to amend the bid document as a result of a clarification or any other reasons it shall do so. However, ITI LTD reserves the right to respond to the queries after the cut-off date as mentioned above.

5.2 At any time before the submission of tender, ITI LTD may modify/ amend the bid document and extend the last date of submission/ opening of the tender by issuing a corrigendum/addendum.

6. The intending tender [s] must read the terms and conditions of the GCC carefully. He should only submit his bid if eligible and in possession of all the documents required.

7. Integrity pact duly signed by the tenderer shall be submitted. Any bid without a signed integrity pact shall be rejected.

8.0 TIME SCHEDULE FOR COMPLETION OFWORK

Up Gradation Buildings. - 4 months from the date of handing over of each site.

The date of commencement will be reckoned from the 15thday of the date of issue of this work order. The time of completion mentioned above will run concurrently and independently

Each station will contain the following ancillary structures/items, which will have to be taken up simultaneously. However, the priority for any work will be decided by the engineer-in- charge.

A. Main building [Technical and Residential block]

B. Kitchen

C. PHE Service (Internal and External)

D. Electrical Services (Internal and External)

E. AC installation

The schedule contains different subheads as indicated below:

a. Civil works for buildings including roads, Water Proofing Treatment works

b. Water supply and sanitary works

c. Electrical works, including AC installation

d. IT Related Works

However, the priority for any work will be decided by the Engineer-In –charge.

9.0 Water supply at the site of work.
Thecontractorhastomakehisarrangementsforthewaterrequiredfortheworkathisown cost.

10.0 Power supply at the site of work:
The Contractor has to make his arrangement for the power required for the work at his own cost.

11.0 Inspection facilities: The contractors while erecting the sheds, storehouses, and yards as per the clause of the contract, shall also provide space of above 20 sq. meters for the inspecting staff of the company.

12.0 Responsibilityofobtainingpermissionfortreecuttingifanywillbethescopeofcontractor.

13.0 The contractor has to take up the work of upgradation of buildings on priority as per ITI Ltd. requirement.

14.0 The project engineer should have past experience of working with Army project.

15.0 Site and Local Conditions:
The sites will be shown to the tenderers by the representatives of the authority inviting tender. However, a tenderer shall finalize the program of his visit to the site with authority inviting tender for necessary arrangements.
The Sites are located in the following locations:

-----END OF SECTION –III -----

SECTION -IV

INSTRUCTIONS FOR ONLINE BID SUBMISSION

1.	Submission of Bids shall be only through online process which is mandatory for this Tender.
1.1	**Tender Bidding Methodology:** **Sealed Bid System** Tender Type: Two bids i.e., Technical and Financial Bids shall be submitted by the bidder at the same time on the portal.
1.2	**Broad outlines of the activities from Bidder's perspective:**
1.2.1	Procure a Digital Signing Certificate (DSC)
1.2.2	Register on Electronic Tendering System® (ETS)
1.2.3	Create Users and assign roles on ETS
1.2.4	View Request for Proposal (Tender) on ETS
1.2.5	Download Official Copy of Tender Documents from ETS
1.2.6	Clarification to Tender Documents on ETS
1.2.7	Query to ITI LTD (Optional)
1.2.8	View response to queries posted by ITI LTD, as an addendum/corrigendum.
1.2.9	Bid Submission on ETS
1.2.10	Attend Public Online Tender Opening Event on ETS Opening of Technical/Financial Part
1.2.11	View Post-TOE Clarification posted by ITI LTD on ETS (Optional) Respond to ITI LTD's Post-TOE queries.
1.3	For participating in this tender online, the following instructions need to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS. **Note 1**: It is advised that all the documents to be submitted are kept scanned or converted to PDF formatinaseparatefolderonyourcomputerbeforestartingonlinesubmission.BOQ(Excel Format) may be downloaded and rates may be filled appropriately. This file may also be saved in a secret folder on yourcomputer. **Note 2:** Whileuploadingthedocuments,itshouldbeensuredthatthefilenameshouldbethename of the documentitself.

1.4	**Digital Certificates:** For integrity of data and its authenticity/ non-repudiation of electronic records, and be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC) also referred to as Digital Signature Certificate (DSC) of Class 3 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer http://www.cca.gov.in].
1.5	**Registration in e-procurement portal:** Bidder has to Register first in https://itilimited.euniwizarde.com/ .and then Tender document can be downloaded from the web site: https://itilimited.euniwizarde.com/ and bid has to be submitted in the e-format.
1.6	**ITI LIMITED has decided to use process of e-tendering for inviting this tender and thus the physical copy of the tender would not be sold.**
1.7	**Special Note on Security of Bids:** SecurityrelatedfunctionalityhasbeenrigorouslyimplementedinETSinamulti-dimensional manner. Starting with 'Acceptance of Registration by the Service Provider', provision for security has been made at various stages in Electronic Tender'ssoftware. Specifically, for Bid Submission, some security related aspects are outlined below: - As part of the Electronic Encrypt functionality, the contents of both the 'Electronic Forms' and the 'Main-Bid' are securely encrypted using a Pass-phrase created by the server itself. The Pass phrase is more difficult to break. This method of bid-encryption does not havethe security and data-integrity related vulnerabilities which are inherent in e-tendering systems which use Public-Key of the specified officer of a User organization for bid-encryption. Bid-encryptioninETSissuchthattheBidscannotbedecryptedbeforethePublicOnlineTender Opening Event (TOE), even if there is connivance between the concerned tender opening officers of the User organization and the personnel of e-tendering serviceprovider.
1.8	**Public Online Tender Opening Event (TOE):** ETSoffersauniquefacilityfor'PublicOnlineTenderOpeningEvent(TOE)'.TenderOpening OfficersaswellasauthorizedrepresentativesofbidderscanattendthePublicOnlineTender Opening Event (TOE) from the comfort of their offices. For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized are requested to carry a Laptop and Wireless Connectivity toInternet. Every legal requirement for a transparent and secure 'Public Online Tender Opening Event (TOE)' has been implemented on ETS. As soon as a Bid is decrypted with the corresponding 'Pass-Phrase' as submitted online by thebidderhimself(duringtheTOEitself),salientpointsoftheBidsaresimultaneouslymade available for downloading by all participating bidders. The work of taking notes during a manual'TenderOpeningEvent'isthereforereplacedwiththissuperiorandconvenientform of 'Public Online Tender Opening Event(TOE)'. ETS has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the User for each Tender. The information in the Comparison Chart is based on the data submitted bytheBiddersinelectronicforms.AdetailedTechnicaland/ orFinancialComparisonChart enhance Transparency. Detailed instructions are given on relevantscreens.

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

	ETShasauniquefacilityofadetailedreporttitled'MinutesofOnlineTenderOpeningEvent (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/Downloading'.
1.9	**Other Instructions:** For further instructions, the vendor should visit the home page of the portal i.e. https://itilimited.euniwizarde.com/ **Important Note**: It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.
1.10	**Thefollowing'FOURKEYINSTRUCTIONSforBIDDERS'mustbeassiduouslyadhered to:**
1.10.1	Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your tender submission deadline on ETS.
1.10.2	Register your organization on ETS well in advance of your tender submission deadline on ETS.
1.10.3	Getyourorganization'sconcernedexecutivestrainedonETSwellinadvanceofyourtender submission deadline onETS.
1.10.4	Submit your bids well in advance of tender submission deadline on ETS to avoid any unforeseen last-minute problems due to internet timeout, breakdown, etc. While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth instruction is relevant at all times.
1.11	**Minimum Requirements at Bidders end:** Computer System with good configuration and OS preferably supporting Windows, Word, Excel & PDF, High Speed Broadband connectivity, Internet Browser and Digital Certificate(s).

NB: SINCE THE WORK IS TO BE EXECUTED FOR AND ON BEHALF OF AN END USER, THE NEED AND EXEGENCIES OF THE USER SHALL PREVAIL UPON ALL THE COVENENTS AND ALL DECISIONS SHALL BE TAKEN WITH THE KNOWLEDGE OF SUCH USER. THE USER HERE BEING INDIAN ARMY AND THE PROJECT BEING OF NATIONAL IMPORTANCE, A SPECIAL CARE AND PREPERATION WILL BE EXPECTED FROM THE BIDDER.

1.0 BID OPENING ANDEVALUATION:

1.1 Opening of bids by theITIL:

The Electronic Envelope marked as 'Bid Security, Bid cost & Authorization Envelope' shall be opened first and examined by the designated Bid Opening Committee (TOC) of ITIL.

The TOC shall as certain that The bidders who has not made payment of bid cost and EMD online then the Physical Envelopes of Bid Security and Bid cost should be submitted to GM (CIVIL) ITILtd at ESG office before tender submission time to meet the preliminary requirement of eligibility otherwise their bids shall not be opened/downloaded from the E-tenderportal.

The Qualifying Bids downloaded shall be evaluated by the designated TEC and the result of evaluation after approval by the competent authority shall be declared for the information of all concerned clearly mentioning the qualified bidders and non-qualified bidders.

2. CLARIFICATION OF BIDS BY THEITIL:

To assist in examination, evaluation and comparison of bids, the ITIL may, at its discretion ask the bidder for clarification of its bid. The request for its clarification and its response shall be in writing. However, no post bid clarification at the initiative of the bidder shall be entertained.

3. VERIFICATION OF BIDS BY THEITIL:

If any of the documents, required to be submitted along with the technical bid is found wanting, the offer is liable to be rejected at that stage. However, the ITIL at its discretion may call for any clarification regarding the document within a stipulated time period. In case of non-compliance to such queries in the given time, the bid will be out rightly rejected without entertaining further correspondence in this regard.

4. PRELIMINARYEVALUATION:

ITIL shall evaluate the bids to determine whether they are complete, whether any computational errors have been made, whether required securities have been furnished, whether the documents have been properly signed/authenticated and whether the bids are generally in order.

Prior to the detailed evaluation, the ITIL will determine the substantial responsiveness of each bid to the bid document. For purpose of these clauses a substantially responsive bid is one which conforms to all the terms and conditions of the bid documents without deviations.

The ITIL may waive any minor infirmity or non-conformity or irregularity in a bid which does not constitute a material deviation, provided sh waiver does not prejudice or affect the relative ranking of the bidder. Bids found technically and commercially compliant and suitable would only be considered for Price bid opening.

Signature of the Contractor
Dated

----- END OF SECTION –IV-----

SECTION -V

GENERAL CONDITIONS OF CONTRACTS

FOR
CIVIL ENGINEERING WORKS

1.0 DEFINITION ANDINTERPRETATIONS:

1.1 Definition:

1.1.1 GENERAL:

In this general conditions of contract, the following terms shall have the meaning hereby assigned to them except where the context otherwise requires**.**

1.1.2 COMPANY:

CompanyshallmeanITILIMITED,havingitsregisteredofficeatITIBhavan,Doorvaninagar, Bengaluru.560016intheStateofKarnatakaandincludesadulyauthorisedrepresentatives of the Company/ or any other person empowered in their behalf by the company to discharge all or any of its functions.

1.1.3 MANAGEMENT:

Management shall mean the officer nominated by the Company to deal with the matters pertainingtothecontract**.**TheOfficersonominatedshallbeintimatedtothecontractorafter the acceptance of the contract**.**

1.1.4 CONSULTANT:

'Consultant' shall mean the Consultant so designed by the company and/ or every other officer authorized by the Consultant for the time being to deal with matters relating to Contract**.**

1.1.5 GENERAL MANAGER(GM):

General Manager shall mean the officer in Administrative charge of the project**.**

1.1.6 CHIEFENGINEER:

Chief Engineer shall mean the officer-In-charge of the Civil Engineering Department of the Project**.**

1.1.7 ENGINEER:

EngineershallmeantheChiefEngineer/ChiefManager,DeputyChiefEngineer/Manager, Senior Engineer / Deputy Manager, Executive Engineer / Assistant Manager, Assistant Executive Engineer / Engineer, Asst**.** Engineer or any other nominee for the execution of the work**.** The term Engineer- in – Charge shall also have the same meaning as the Engineer**.**

1.1.8 ENGINEER'S Representative:

Engineer's Representative shall mean the Assistant Engineer in Direct charge of the works and shall include any Junior Engineer/ Construction Assistant /Junior supervisors etc., appointed by the Company.

1.1.9 CONTRACTOR:

'Contractor' shall mean the person, firm or company who has entered into agreement for the execution of works and shall Include their executor's, successor's, administrator's and permitted assigns.

1.1.10 CONTRACT:

Contract shall mean the contract documents collectively, comprising agreement, Notice Inviting Tender, General terms and conditions, special terms and conditions,specifications, Time schedule of works, information and instructions to tenderers, accepted schedule of rates, and other documents and drawings constituting the tender and accepting thereof.

1.1.11 WORKS:

Work shall mean the works to be executed in accordance with the contract.

1.1.12 SPECIFICATION'S:

Specifications shall mean all directions, provisions and requirements attached to the Contract which pertain to the method and manner of performing the work or works to the quantities and qualities of work or works and the materials to be furnished under the contract for the work or works as may be amplified or modified by the Company or the Engineer during performance of the contract in order to provide for unforeseen conditions or in the best interest of the work or works.

1.1.13 ACCEPTEDSCHEDULE:

Accepted Schedule in relation to the Contract means the schedule or schedules or quantities and the rates quoted / modified by the contractor in respect of which the Tender is accepted.

1.1.14 DRAWINGS:

'Drawings' shall mean the maps, drawings, Plans,and tracings or prints there of annexed to the contract and shall include any modification of such drawings as may be issued or approved in writing by the Engineer from time to time.

1.1.15 CONSTRUCTIONALPLANT:

'Constructional Plant' shall mean all appliances or things of whatsoever nature required for the execution, completions or maintenance of the works or temporary works (as here in after define)but does not include materials or other things intended to form or forming part of the permanent work.

1.1.16 TEMPORARYWORKS:

'Temporary work' shall mean all temporary works of every kind required for the execution, completion or maintenance of the works.

1.1.17 SITE:

'Site' shall mean the lands and other places on or through which the works are to be carried out and any other lands or places provided by the company for the purposes of the contract.

1.1.18 PERIOD OFMAINTENANCE:

Period of Maintenance shall mean a period of 12 months of maintenance from the date of completion of the work as specified by the Engineer in charge.

1.1.19 Letter of Acceptance:

'Letter of Acceptance' is an intimation by a letter to the Tenderer that his/their tender has been accepted in accordance with the provisions contained in that letter**.**

1.1.20 APPROVED:

'Approved' means approved in writing by the Engineer including subsequent written confirmation of previous verbal approval and Approval means approval in writing including as aforesaid**.**

1.1.21 CONTRACTVALUE:

'Contract value' means the sum accepted or the sum calculated in accordance with the prices accepted in the tender and/or the contract rates as payable to the contractor for the entire execution and full completion of the work**.**

1.1.22 WORKORDER:

'Work Order' shall mean the order in writing by the Engineer, intimating the contractor to commence the work wholly or partly, showing the date of commencement and completion of the work as a whole or the part so ordered to be commenced**.**

1.1.23 DATE OFCOMMENCEMENT:

'DateofCommencement'isthedateordatesforcommencingthewholeorpartofthework assetoutinorascertainedinaccordancewiththeindividualworkordersoranysubsequent agreed agreements thereto**.**

1.1.24 DATE OFCOMPLETION:

'Date of Completion' is the date or dates for completion of the whole work as set out in or ascertained in accordance with the individual work orders or the tender documents or any subsequent agreed agreements thereto**.**

1.1.25 DEVIATION:

'Deviation' order means an order given in writing by the Engineer to effect an alteration in addition to or deduction from the scope or nature of the contract**.**

1.1.26 ACCEPTINGAUTHORITY:

'Accepting Authority' is officer nominated by the management to accept a tender/ tenders up to a particular value**.**

1.1.27 MONTH:

'Month' shall mean the calendar month of the Gregorian Calendar**.**

1.2 SINGULAR &PLURAL:

Word imparting the Singular number shall also include the plural and vice versa where the context so requires**.**

1.3 HEADINGS& MARGINALHEADINGS:

TheheadingsandMarginalheadingsintheseGeneralConditionsaresolelyforthepurpose of facilitating reference and shall not be deemed to be part thereof, or be taken into consideration in thereof or the contracts.

2.0 GENERALOBLIGATION:

2.1 EXECUTION CORRELATION & INTENTCONTRACT DOCUMENTS:

The Contract documents shall be signed in duplicate by the accepting authority and the contractor**.** The contract documents are complementary, and what is called for by any one shall be binding as if called for by all the intention of the documents is to include all Labour and materials, equipment and transportation necessary for the proper execution of the work**.** Materialsorworknotcoverednotcoveredbyorpropertyinferablefromanyheadingorclass ofthespecificationsshallnotbesuppliedbythecompanytothecontractorunlessdistinctly specifiedinthecontractdocuments**.**Materialsorworksdescribedinwordswhichsoapplied have a well know technical or trade meaning shall be held to refer to such recognized standard**.**

2.2 LAWS GOVERNING THECONTRACT:

2.2.1 TheContractshallbegovernedbythelawsforthetimebeinginforceintherepublicofIndia

2.2.2 COMPLIANCE TO REGULATION &BYE-LAWS:

The Contractor shall confirm to the provision of any status relating to the works and regulations and bye-laws of any local authority and of any water and electric companies or undertakings with those system the work is proposed to be connected and shall before making any variations from the drawings or the specifications that may be necessitated by so confirming, given to the Engineer notice specifying the variation proposed to be made and the reason for making the variation and shall not carry out such variation until he has receivedinstructionsinwritingfromtheEngineerinrespectthereof**.**Thecontractorshallbe bound to give all notices required by statute, regulations or Bye-Laws as aforesaid and to pay all fees and taxes payable to any authority in respect there of**.**

2.3 COMMUNICATION TO BE INWRITING:

All notices, communications, references and complaints made by the company or the EngineerortheEngineer'sRepresentativeorthecontractorINTERSEconcerningthework shall be in writing and no notice, communication, reference or complaint not in writing shall be recognized**.**

2.4 SERVICE OF NOTICE ONCONTRACTOR:

The Contractor shall furnish to the Engineer the name, designation and address of his authorized agent and all complaints, notices, communications, and references shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorized agent or left at or posted (Registered Post) to the address so given and shall be

deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or on the day on which they were so delivered of left in case of hand delivery**.** In the case of contract by partners, any change in the constitution of the firms shall be forthwith notified by the contractor to the Engineer with a copy of the accepting authority**.**

2.5 OCCUPATION AND USE OFLAND:

No land belonging to or in the possession of company shall be occupied by the contractor without the permission of the Company**.** The Contractor shall not use or to be used, the site for any purpose other than that of executing the works**.**

2.6 ASSIGNMENT OR SUBLETTING OFCONTRACT:

The Contractor shall not assign or sub let the contractor any part there of or allow any person to become interested therein any manner whatsoever without the special permission of the company, provided always that execution of the details of the works by petty contract under the direct and personal supervision of the contractor or his agent shall not be deemed to be subletting under this clause**.** The permitted sub-letting of work by the contractor could not establish any contractual relationship between the sub-contractor and the company and shall not relieve the contractor of any responsibility under the contract**.**

2.7 STORES ARRANGED BY THECOMPANY:

The Company shall render to the contractor assistance of supplying certain materials including tools and plants against payment/ Hire where so provided for in the contract documents already or may do so at a later date to be decided by the company at their sole discretion**.** This however, does not absolve the contractor of his responsibilities of executing the work as per the specifications detailed in the contract**.**

2.8 REPRESENTATIVE ONWORKS:

The Contractor shall when he is not personally present on the site of works, place and keep a responsible agent at the works during working hours who shall on receiving reasonable notice, present himself to the Engineer and orders given by the Engineer or Engineer's representative to the agent shall be deemed to have the same force as if they had been given to the contractor before absenting himself, the contractor shall furnish the name and address of his agent for the purpose of his clause failure on the part of the contractor shall render him liable for the consequences mentioned hereafter**.**

2.9 RELICS:

AllGold, Silver, Oil and other materials of any description and all the precious stones,coins, treasure, relics, antiques and other similar things which may be found in or upon the site shall be the property of the company, and the contractor shall duly preserve the same to suchtothesatisfactionofthecompany,andshallfromtimetotimedeliverthesametosuch person or persons as the company may appoint to receive the same**.**

2.10 EXCAVATEDMATERIALS:

The contractor shall not sell or otherwise dispose of or remove except for the purpose of thiscontract,thesand,Stone,Clay,Ballast,EarthRock,orOthersubstances,ormaterials which may be obtained from any excavation made for the purpose of the works or any building or produce upon the site at the time of delivery of the possession thereof, but all such substances materials, Buildings, and Product shall be the property of the company providedofcoursethatthecontractormaywiththepermissionoftheEngineerusethesame for the purpose of the work by payment of the same at such rates as may be determined by the Engineer**.**

2.11 INDEMNITY ANDCHARGES:

2.11.1 INDEMNITY AND CHARGESPAYABLE:

TheContractorshallindemnifyandsaveharmlessthecompanyfromandagainstallactions, suits, proceedings, losses costs, damages, claims and demands of every nature and description brought or recovered against the company by reason of any act or omission of the contractor, his agents or employees in the execution of the work or in regarding of the same**.** All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to use of the company without references to the actual loss or damage sustained and whether or not damage shall have beensustained**.**

2.11.2 PATENTRIGHT:

The contractor shall fully indemnify the company or the agent/ servant or employees of the company, against any action claim or proceeding relating to infringement or the use of any patent or design or any alleged patent or design rights, and shall pay any royalties which maybepayableinrespectofanyarticleorpartthereofincludedinthecontract**.**Intheevents of any claims being made or action brought against the company or any agent or servant, or employee of the company or in respect of any of the matters aforesaid the contractor shall immediately be notified thereof for taking necessary action provided that the payment of indemnify shall not apply when such infringement has taken place in complying with the specificdirectionsissuedbythecompany,butthecontractorshallpayanyroyaltiespayable in respect of any suchuse**.**

2.11.3 OCTROI AND OTHER DUTIES: [TAXES ANDDUTIES]

AllchargesonaccountofOctroi,terminalorsalestaxand/orotherdutiesoranyotherlevy asthecasemaybeforthematerialsobtainedfortheworksshallbebornebythecontractor.

The Contract price quoted by the contractor is inclusive of all taxes, duties, cess and statutoryleviespayableunderanylawbytheContractorinconnectionwithexecutionofthe contract other thanGST.

The contractors shall comply with all applicable provision of Goods and service Tax[GST] leviedbyUnionGovernmentandStateGovernment[CGST].Thecontractorshallgethimself registered and discharge his obligation for payment of taxes, of returns etc., under the appropriateprovisionoflawinrespectofallthetaxes,duties,levies,cessetc.,ITILtdwould have right to seek necessary evidence that the contractor is registered under the law and dulydischargingitsobligationsunderthetaxlaw,enablingITILtdtoavailinputtaxcredit.

In case any law requires ITI Ltd to pay tax on the contract price on reverse cage basis, the amount of tax deposited by ITI Ltd would be considered as paid to the contractor and accordingly the price payable to the contractor would stand reduced to that extent.

Tax deduction at source if any, shall be made by ITI Ltd. As per law applicable from time to time from the amount payable to the Contractor.

2.11.4 Royalties:

Except where otherwise specified the contractor shall pay all tollage and other royalties, rent, and other payment or compensation (If any) for getting stone, sand, gravel, clay, and other material required for the works or temporary works or any of them.

2.12 EARNEST MONEY AND SECURITY DEPOSITS: Security deposit will be 10% of the contract value. Performance guarantee submitted by the contractor will be 5% of the contract value, balance 5% will be recovered from the running account bills.

2.12.1 THE EARNEST MONEY, PERFORMANCE GUARANTEE AND SECURITYDEPOSITS:

a. Earnest Money Deposit (EMD) as per Tender.

b. The bid will be rejected by ITILtd. As non-responsive and shall not be considered in case EMD is not received.

c. The EMD of bidders other than L-1 will be returned within 15 days on their request after issuance of LOA to the successful bidder.

d. The successful bidder will have to submit a 5% Bank Guarantee as Performance guarantee which shall be submitted within 15 days of issue of Letter ofIntent.

e. Bank Guarantee may beforfeited:

i. The bidder withdraws the bid after bid opening during the period of validity.

ii. Any unilateral revision in the offer made by the tenderer during the validity of theoffer.

iii. Non acceptance of LOA if and when placed.

iv. In the case of a successful bidder, if the bidder fails to sign the Agreement with in the 15 days from the date of issue of LOA or fails to commence the work within the stipulated time period prescribed in the contract.

f. PERFORMANCE GUARANTEE: The successful bidder/contractor shall provide to the employer a total performance security of five percent [5%] of the Contract price covering initially the time period of completion of construction work plus 90 days within 15 days after issue of Letter of acceptance but before signing the contract.

Performance Guarantee Deposit: The total amount of Security Deposit is 10% of the contract value Performance Guarantee payable by the contractor shall be 5% of the total value of the contract..

The Performance Guarantee deposit shall remain at the entire disposal of the company for thesatisfactoryexecutionandcompletionoftheworks,inaccordancewiththeconditionsof thecontract**.**

The company shall be at liberty to deduct and appropriate amount from the Performance Guarantee security deposit such compensations and dues as may be payable by the contractor under the contract and the appropriation will be made good by the further deduction from the contractor's subsequent interim bills.

REFUND OF PERFORMANCE GUARANTEE AMOUNT: Further, the contractor has to furnish No Claim Certificate to ITI at the time of claiming refund of performance guarantee amount after completion of defects liability period of **12-months.**

The Performance Guarantee shall remain at the entire disposal of the company for the satisfactoryexecutionandcompletionoftheworks,inaccordancewiththeconditionsofthe contract.

2.12.2 INTEREST ONACCOUNTS:

No interest will be payable on the Performance Guarantee amount deposited by the contractor under this contract**.**

2.13 TIMELIMITATION:

2.13.1 Subject to any requirement in the contract as to dates of completion of any portion or portions of the work , before completion of the whole, the contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under these conditions) by the dated entered in the work order, provided that, if any modifications have been ordered, which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension may be granted as shall appear totheEngineertobereasonableinthecircumstances,providedhoweverthatthecontractor shallberesponsibleforrequestingsuchextensionofthedateashemayconsidernecessary as soon as a cause thereof shall arise and in any case not less than one month before original dated fixed for completion of the works**.**

2.13.2 DELAY AND EXTENSION OFTIME:

If the contractor has delayed at any time in the progress of the works by any act or neglect of the employees of the company or by any other contractor employed by the company under **Cl-3.2.4** of these conditions, or by strikes, lockouts, fire unusual delay in transportation unavoidable casualties of any cause beyond the contractor's control, or by delaysauthorizedbytheEngineerspendingarbitrationorbyanycausewhichtheEngineer shall decide to justify the delay, then the time of completion of the works shall be extended for such reasonable time as the engineer maydecide**.**

2.13.3 EXTENSION OF TIME ON COMPANYACCOUNT:

In the event of any failure or delay by the company to hand over the contractor possession ofthelands,necessarynoticetocommencetheworksortoprovidethenecessarydrawings or instructions or any other delay caused by the company due to any other cause whatsoever, then such failure of delay shall in no way affect or vitiate the contract or alter thecharacterthereofentitlesthecontractortodamagesorcompensationthereofbutinany suchcaseextensionorextensionsofthecompletiondateasmaybeconsideredreasonable may be granted to thecontractor**.**

2.13.4 TIME TO BE ESSENCE OF THE CONTRACT AND LIQUIDATEDDAMAGES:

The time for completing the works or portions where by their respect dates or extended dates fixed for their completion shall be deemed to be the essence of the contract, and if the contractor shall fail to complete the work within the time prescribed, the company shall ifsatisfiedthattheworkscanbecompletedbythecontractorwithinareasonableshorttime thereafterbeentitled,withoutprejudicetoanyotherrightorremedyavailableonthatbehalf, to recover by way of ascertained and liquidated, damages, a sum equivalent to ONE PERCENT of the contract value of the works or portion thereof for each week or part of week the contractor is in default even though the contract as a whole is completed by the datespecifiedinthecontractforanytimeorgroupofitemsofworksandallowthecontractor such further extension of time for the whole work of portions thereof as the Engineer may decide , if the company is not satisfied that the works can be completed by thecontractors

and in the event of failure on the part of the contractor to complete the works with in the further extension of time allowed as aforesaid the company shall be entitled without prejudicetoanyotherrightorremedyavailableonthatbehalf,toappropriatethecontractors security deposit and rescind the contract **under clause 8.3 of these** conditions, whether or notactualdamageiscausedbysuchdefault**.**Theamountofcompensationwillbeadjusted orsetoffagainstanysumpayabletothecontractorunderthisoranyothercontractprovided alwaysthattheentireamountofcompensationtobepaidunderthisclauseshallnotexceed 10 % of the contract value as awhole**.**

2.14 ILLEGALGRATIFICATION:

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his partner, agent or servant or anyone on his or on their behalf to any officer, oremployeeofthecompanyortoanypersonorhisortheirbehalfinrelationtotheobtaining or the execution of this or any other contract with the company shall in addition to any criminal liability which may incur, subject to the contractor to the recession of the contract and all other contracts with company and to the payment of any loss of damage resulting from such rescission, and the company shall be entitled to deduct the amounts so payable from any money due to the contractor under the contract or any other contracts with the company**.**

2.15 EVERYTHING AT CONTRACTOR'SRISK:

2.15.1 Thecontractorshallundertakeallrisksandliabilitiesofwhatsoevernaturearisingoutofthe worksincludingbywayofimplicationsbutnotbywayoflimitationsallrisksattendantonthe nature of site, sub-soil, the levels and consistency of strata in or on which the works are to be found or constructed**.** Also all risk of fire, Earthquakes, riots, war, gales, storms, winds, variationsorwaterlevel,subsoilandquantitiesofwatertobepumped,dischargedofwater courses, Rains traffic delays and any other causes of whatsoever nature whether within or beyond contractor's control, which may affect or damage the works during the construction and all damages which may happen on any way howsoever to the works shall be made good by the contractor at his own risk andcosts**.**

2.15.2 INSURANCE OFWORK:

Unless otherwise instructed by the accepting authority the contractor shall on signing the contract insure the works and keep them insured until the virtual completion of the contract against loss or damages by fire and / or earthquake in an office to be approved by the acceptingauthorityintheJointnamesoftheacceptingauthorityandthecontractorforsuch amount (Including Consultant fees) as may be called upon to do so by the accepting authority**.** Such policy shall cover the property of the company and shall not cover any property of the contractor or of any Sub- Contractor or Employee**.** The contractor should deposit the policy and receipts of the premium with the accepting authority within 21 Days from the date of signing the contract unless other wise instructed by the accepting authority**.** The default of the contractor insuring as provided above, the company on his behalf may so insure and may deduct the premiums paid from any sum due, or which may be come due to the contractor**.** The contractor shall as soon as the claim on the policy is settled,or the work reinstated by the insurance office should they elect to do so, proceed with all due diligence with the completion of the works in the same manner as though the fire had not occurred and in all respects under the same conditions of contract**.** The contractor in case of rebuilding or reinstatement after fire shall been titled to such extension of time for completion as the Engineer may deem fit**.**

2.16 NO VISITOR ORPHOTOGRAPHER:

The contractor shall neither allow any visitor on the works nor take or allow to be taken any of photographs without the permission of the Engineer in writing.

2.17 WORK SITE ORDERBOOK:

The Contractor will be required to keep a properly bound book at site of work as work site order book. The pages of the book will be numbered and initialed by the Engineer. Any special orders and instructions to be issued to the contractor shall be recorded in this book by the Engineer or his representative and noted it. The book shall be the property of the company.

3.0 EXECUTION of WORKS:

3.1 CONTRACTOR'SUNDERSTANDING:

3.1.1 It is understood and agreed that the contractor has by careful examination satisfied himself as to nature and location of the work, the confirmation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the execution of the works. The general and local conditions, the Labour conditions, prevailing therein and all the other matters which can in any way affect the works under the contract. No claim whatsoever on this account shall be entertained at a laterdate.

3.1.2 COMMENCEMENT OFWORKS:

The Contractor shall commence the works on the date or dates indicated in the work order in writing to this effect from Engineer and shall proceed with the same with due expedition and without delay.

3.1.3 TIME AND PROGRESSCHART:

a. A detailed time and progress chart for the execution of various items of work within the overall period of completion shall be prepared jointly by the Engineer and the contractor, signed by both the parties and shall adheredto.

b. Time allowed for carrying out all the works as entered in the tender shall be as mentioned in the BOQ which shall be reckoned from the 15thday from date of issue of work order to the Contractor. Time shall be the essence of the contract and contractorshallensurethecompletionoftheentireworkwithinthestipulatedtimeof completion.

c. The Contractor shall also furnish within15days of date of issue of work order a CPM network/PERTchart/ Bar chart for completion of work within the stipulated time.This will be duly got approved from ITI Ltd.This approved network/PERT chart shall form a part of the agreement. Achievement of milestones as well as total completion has to be within the time period allowed.

d. Contractor shall mobilize and employ sufficient resources for completion of all the works as indicated in the BAR Chart/PERT Chart. No additional payment will be made to the contractor for any multiple shift work or other incentives methods contemplated by him in his work schedule even though the time schedule is approved by the Engineer – in–charge.

e. During the currency of the work the contractor is expected to adhere to the time schedule on mile stone and total completion and this adherence will be part of Contractors performance under the contract. During the execution of the work

contractor is expected to participate in the review and updating of the Network/BAR Chart undertaken by the ITI Ltd. These review may be undertaken at the discretion of Engineerinchargeeitherasaperiodicalappraisalmeasureorwhenthequantum of work order on the contractor is substantially changed through deviation order or amendments. The review shall be held at site or any of the office of ITI/Consultant at the sole discretion of ITI Ltd. The contractor will adhere to the revised schedule thereafter. The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to grant extension of time to the contractor.

f. The contractor shall submit [as directed by the Engineer – in –charge] progress reports on a computer based program [Program and software to be approved by Engineer in charge] highlighting status of various activities and physical completion of work. The Contractor shall send completion report with as build drawings to the office of Engineer in charge of ITI in writing within a period of 30 days of completion of work.

The photographs of the project taken on last day of every month indicating progress of work [in soft copies] shall be attached along with the physical progress reports to be submitted to Engineer in charge.

3.1.4 IF THE WORK(S) BE DELAYEDBY

i. Force Majeure or

ii. Abnormally bad weather or

iii. Serious loss or damage by fire, or

iv. Civil commotion, local commotion of workmen, strike, or lock out, affecting any or the trades employed on the work or

v. Delay in part of other contractors or tradesmen engaged by Engineer – in –charge in executing work not forming part of the contractor

vi. Anyothercausewhich,intheabsolutediscretionoftheITIisbeyondthecontractors control then upon the happening of any such event causing delay, the contractor shallimmediatelygivenoticethereofinwritingtotheauthoritybutshallnevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer in charge to proceed with theworks

3.2 COMPLIANCE TO ENGINEER'SINSTRUCTIONS:

3.2.1 The Engineer shall direct the sequence in which the several parts of the works shall be executed and the contractor shall execute without delay all orders given by the Engineer fromtimetotimebutthecontractorshallnotberelievedtherebyfromhis/theirresponsibility for the due performance of the works in all respect**.**

3.2.2 ALTERATIONS TO BEAUTHORIZED:

No alterations in or additions to or omission or abandonment of any part of the work shall be deemed authorized, except under instructions in writing from the Engineer, and the Contractor shall be responsible to obtain such instruction in each and every case**.**

3.2.3 EXTRA WORKS BY ANOTHERAGENCY:

Should works over and above those included in the contract be required to be executed at the site, the contractor shall have no right to be entrusted with the execution of such works which may be carried out by another contractor or contractors or by other means at the option of the company**.**

3.2.4 SEPARATE CONTRACTS IN CONNECTION WITH THEWORKS:

The Company shall have the right to let out other contracts in connection with the works**.** TheContractorshallaffordsuchothercontractorsreasonableopportunityforthestorageof theirmaterialsandtheexecutionoftheirworkandshallproperlyconnectandcoordinatehis work with theirs**.** If any part of the contractor's work depends for proper results upon executionoftheworkofanothercontractor,thecontractorshallinspectandpromptlyreport totheEngineerandanydefectinsuchworkthatrenderitunsuitableforsuchproperresults and execution**.** The contractor's failure to inspect and report shall constitute an acceptance ofothercontractor'sworkasfitandproperforthereceptionofhiswork,exceptastodefects which may develop in the other contractor's works after the execution of hiswork**.**

3.3 INSTRUCTION OF ENGINEER'SREPRESENTATIVE:

3.3.1 Any instruction or approval given by the Engineer's representative to the contractor in connection with the works shall bind the contractor as though it had been given by the Engineer provided always as follows**.**

3.3.1.1 Failure of the Engineer's representative to disapprove any work or materials shall not prejudice the powers of the Engineer thereafter to disapprove such work or materials and order the removal or breaking up thereof**.**

3.3.1.2 If the contractor shall be dissatisfied by reason of any decision of the Engineer's representative, he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision**.**

3.4 ADHERENCE TO SPECIFICATIONS ANDDRAWINGS:

3.4.1 The whole of the works shall be executed in perfect conformity with the specifications and drawings of the contract**.** If the contractor performs any work in a manner contrary to the specifications or drawings or any of them and without such reference to and approval from the Engineer in writing he shall bear all the costs arising or ensuing there from shall be responsible for all loss to thedecision**.**

3.1.2.1 DRAWINGS AND SPECIFICATIONS ON THE WORKS AND OWNERSHIP THEREOF:

Any discrepancy between the specifications and the drawings or any error, omission, or ambiguity in the specifications or the drawings shall not invalidate the contract**.** The contractor shall, immediately on noticing any such discrepancy,error/omissionorambiguity bring the same to the notice of the engineer**.** Any work done by the contractor after discovery by him of such discrepancy, error, omission, or ambiguity, without authorization by the Engineer will be entirely at the contractor's risk and cost**.**

3.1.2.2 Any work for which no specifications or drawings have been prescribed or issued by the company, shall be carried out by the contractor in all respect in accordance with the instructions and requirement of the Engineer**.**

3.1.2.3 Drawings and prints of articles, machinery or fabricated materials or work entering into or forming part of permanent constructions, which are not furnished by the company and which are by the specifications, required to be furnished by the contractor, shall be submitted by the contractor to the Engineer for approval**.** Such approval shall not, however operate to waive or modify the provision or requirements contained in the specifications unless

expressly so stated**.** All such drawings and prints, as also the drawings and specifications that may be furnished by the company to the contractor shall be deemed to be the property of the company and they shall not be used on works other than for the works covered by the contract, shall be returned to the company on completion of the work or termination of the contract**.**

3.1.2.4 The drawings enclosed with the tender documents shall be a part of the specifications and are intended to define the general construction of the work required**.** All the drawings shall be for tender purposes only and shall not be certified for constructions, the contractor will receive the certified construction drawings**.**

3.1.2.5 The drawings for the work as listed in the tender document, show the conditions as they are believed by the company to exist based upon the interpretation of field observations**.** It is notintendedtobeinferredthattheconditionsasshownthereonconstitutearepresentation by the company or its representatives that such conditions do actually exist, not shall the contractor be relieved of the liability under his/their contract to the company nor any of its representative be liable for any loss sustained by the contractor as a result of any variance betweenconditionsasshownonthedrawingsandtheactualconditionsrevealedduringthe progress of the work or otherwise**.** The contractor shall check all the drawings furnished to him immediately upon their receipt and shall promptly notify the Engineer of any omission or discrepancies**.** Omission from the drawings or the misdescription of details of the work which are manifestly necessary to carry out the intent of the drawings, or which is customarily performed shall not relieve the contractor from performing such omitted or mis described details or work, and they shall be performed asiffully and correctly as set forth and describe on the drawings**.** In case of conflict between the specifications and the drawings, the specification shall govern**.**

3.4.2.6 RevisionofthedrawingsmaybemadeaswhendeemednecessarybytheEngineerduring the progress of the work, additional detail drawings will be furnished to the contractor**.**These additional drawings shall be considered as forming a part of the contract**.**

3.4.2.7 One complete set of Drawings furnished for the work, shall be kept in good condition on the job**.** This set shall be designated 'Record Prints' A complete and exact record of any and all differences between the work as actually constructed and erected and the design indicated on the design drawings shall be approved by the Engineer in writing before any alterations work is started**.** All' Record Prints' will be come the property of the company**.**

3.4.3 **COMPLIANCE WITH CONTRACTORS AND REQUEST FORDETAILS**:

The Engineer shall furnish with reasonable promptness after receipt by him of the contractor's request in writing for the same additional instruction by means of drawings or otherwise, necessary for the proper execution of the works or any part thereof**.** All such drawings and instructions shall be consistent with the contract documents and be reasonably inferable there from**.**

3.4.4 MEANING AND INTENT OF SPECIFICATIONS ANDDRAWINGS:

If any ambiguity arises as to the meaning and Intent of any provisions of the specifications and drawings or as to execution or quality of any work of materials of the Engineer thereon shall be final subject to appeal (within 7 days of such decision being intimated to the contractor) to **the Deputy general Manager/ Chief Engineer(Civil)/ Assistant Manager**

---- **who shall** have the powers to correct any errors, Omission, or discrepancies in the specifications, drawings, classifications of work or materials, and those decision in the matter in dispute or doubt shall be final, inclusive and binding**.**

3.5 WORK ON HOLIDAYS AND DURINGNIGHT:

The Contractor shall not carry out any work on holidays and between sunset and sunrise without previous permission of the engineer in writing**.**

3.6 DAMAGE TO COMPANY'S PROPERTY AND PRIVATE LIFE ANDPROPERTY:

Thecontractorshallberesponsibleforallrisktotheworksandfortrespassandshallmake good at his own expense all loss or damage whether to the works themselves or any other propertyoftheCompanyofthelives,personsconnectionwiththeworksuntiltheyaretaken over by the company and this although all reasonable and proper precautions may have been taken by the contractor, and in case the company shall be called upon to make good any such costs, loss and damages, or to pay compensation (including that payable under the provisions of the workman's thereof) to any person or persons sustaining damages as aforesaid by reason of any act, or any negligence or omission of the part of the contractor the amount of any costs or charges(including costs of charges in connection with legal proceedings), which the company may incur in reference thereof shall be charges to the contractor**.** The company shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation or legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to word off or mitigate the effect of such proceeding, charging to the contractor, as aforesaid any sum or sums or money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payments, defense or compromise and the incurring of any such expenses shall not be called in question by the contractor**.**

3.7 SHEDS, STORE HOUSE ANDYARDS:

The contractor shall at his own expenses provide himself with sheds, Store house, any yards in such situations and in such numbers as in the opinion of the Engineer is requisite for carrying on the works**.** He shall obtain from the Engineer in writing approval to the layout of the sheds, store houses and the extent of area to be enclosed by the yards, before undertaking constructions there of**.**

Thecontractorshallkeepateachofsuchsheds,storehousesandyardsasufficientquantity of materials and plant in stock as not to delay the carrying out of the works with the due expeditionandtheEngineerandEngineer'srepresentativeshallhavethefreeaccesstothe sheds, store house or yards at any time for the purpose of inspecting the stock of materials or plant so kept in hand and any materials or plant which the Engineer may object to shall not be brought upon or used in the works, but shall be forthwith removed from the sheds, store house or yards by the contractor**.** The contractor shall at his own expenses provide and maintain suitable construction plant like Mixers, Compressors, Welding Sets, Mortar mills and soaking vats or any other equipment necessary for the execution of theworks**.**

3.8 PROVISION OF EFFICIENT AND COMPETENTSTAFF:

The contractor shall place and keep on the works at all-time efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound proper manner and shall employ only such supervisor, workmen and labourers in or about the execution of any works as are careful and skilled in their various trades and callings**.**

The contractor shall at once remove from the works any agent, permitted sub-contractor, supervisor workmen or labourer who shall be objected to by the Engineer, if any and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him**.** In the event of the Engineer being of the opinion that the contractor is not employing on the works a sufficient number of staff and workmen as is necessary for the proper completion of the works within the time prescribed**.** The contractor shall forthwith or receiving intimation to this effect take on the additional number of staff and labour specified by the Engineer within seven days of being so required and failure on the part of the contractor to company to rescind the contractor under **clause 8.3 of these conditions.**

3.9 URGENTWORKS:

If any work [in respect where of the decision of the Engineer–in–charge shall be final and binding] becomes necessary and the contractor is unable or unwilling at once to carry it out, the Engineer-in –charge may by his own or other work people, carry it out, as he may consider necessary, If the urgent work shall be such as the contractor liable under the contract to carry out at his expenses, all expenses incurred by the company shall be recoverable from the contractor and be adjusted or set off against any sum payable to his.

3.9.1 WORKMANSHIP ANDTESTING:

The whole of the works and /or supply of materials specified and provided in the contract that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best approved quality of their respective kinds agree able to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings as may be found requisite to be given during the carrying on the works and to entire satisfaction of the Engineer according to the instructions and directions which the contractor may from time to time receive from the Engineer.Thematerialsmaybesubjectedtotestsbymeansofsuchmachines,instruments and appliances as the Engineer may direct and wholly at the expenses of the contractor.

3.9.2 REMOVAL OF IMPROPER WORK ANDMATERIAL:

The Engineer and the Engineer's representative shall be entitled to order from time to time:

3.9.2.1 The removal from the site with the time specified in the order of any materials which in his opinion are not in accordance with the specification and drawings.

3.9.2.2 The substitution of proper and suitable materials.

3.9.2.3 The removal and proper re-execution (Not withstanding of previous tests thereof or on account payments thereof) of any work which in respect of materials or workmanship is not in his opinion in accordance with the specification, and in case of default on the part of the contractor in carrying out such orders, the company shall be entitled to rescind the contract under Clause 8.**3 of these co**nditions.

3.10 FACILITIES FORINSPECTION:

The contractor shall afford the Engineer and the Engineer's Representative every facility for entering in upon every portion of the work at all hours for the purpose of inspection or

otherwise and shall provide all labour, materials, planks, ladders, pumps appliances and thingsofeverykindforthepurposeanEngineerandtheEngineer'sRepresentativeshallat all times have free access to every part of the works and to all places at which materials for the works are stored or being prepared.

3.11 EXAMINATION OF WORK BEFORE COVERINGUP:

The contractor shall give notice of not less than 5 days in writing to the Engineer or the Engineer's Representative whenever any work or materials are intended to be covered up intheearth,inbodiesorwallsorotherwisetobeplacedbeyondthereachofmeasurement, in order that the work may be inspected or that correct dimensions may be taken before being so covered/placed beyond the reach of measurement, in default whereof the same shall at the option of the Engineer or the Engineer's Representative be uncovered and measured at the contractor's expenses or no allowance shall be made for such work or material for the purpose ofpayments.

3.12 TEMPORARYWORKS:

All the temporary works necessary for the proper execution of all the works shall be provided and maintained by the contractor and subject to the consent of the Engineer shall be removed by him and at his expense when they are no longer required and in such manner as the Engineer shall direct. In the event of failure on the part of the contractor to remove the temporary works, the Engineer will cause them to be removed and cost as incurred by supervisionandotherincidentalchargesshallberecoveredfromthecontractor.Iftemporary huts are provided by the contractor on the company's land which shall at the request ofcontractorbeallottedbytheEngineerinwritingforlabourengagedbyhimfortheexecution of the works. The contractor shall arrange for handing over vacant possession of the said land after the work is completed, if the contractor's labour refuse to vacate, and have to be evacuated by the company necessary expenses incurred by the company in connection therewith shall be borne by thecontractor.

3.13 CONTRACTOR TO SUPPLY WATER& POWER FORWORKS:

Unless other wise provided for in the contract documents,the contractor shall be responsible for the arrangements to obtain supply of water and power necessary for the works and his workman. The cost of water and power has to be borne by the Contractor.

3.14 PROPERTY IN MATERIALS ANDPLANT:

The materials and plant brought by the contractor upon the site or on the land occupied by thecontractorinconnectionwiththeworksandintendedtobeusedfortheexecutionthereof shall immediately they are brought upon the site or the said land, be deemed to be the property of the company, such of them as during the progress of the works are rejected by the Engineer under **clause 3.9.1 to 3.9.2.3** of these conditions or are declared by him not to be needed for the execution of the works or such as on the grant of the certificates of completion remain un-used shall immediately on such rejection, declaration or grant cease to be the property of the company and the contractor may then (But not before) remove them from the site or the said land. This clause shall not in any way diminish the liability of the contractor nor shall the company be if any way answerable for any loss or damages which may happen to or in respect of any materials or plant either by the same being lost, stolen, injured or destroyed by fire, tempest, orotherwise.

3.15 SUPPLY OF TOOLS, PLANT ANDMATERIALS:

3.15.1 TOOLS, PLANT AND MATERIALS SUPPLIED BYCOMPANY:

The Contractor shall take all reasonable care of all the Tools, Plant and Materials or other property whether of a like description or not belonging to the company and committed to charge for the purpose of the works and shall be responsible for all damage or loss caused by him, his agents or his workmen or others while they are in his charge. The contractor shall sign accountable receipts for tools, plant and materials made over to him by the Engineerandoncompletionoftheworksshallhandovertheunusedbalancedofthesame to the Engineer in good order and repair, fair wear and tear accepted and shall be responsible for any failure account for the same or any damage done there to.

3.15.2 HIRE OF COMPANYPLANT:

The Company may at their discretion hire to the contractor such plant as concrete mixers, compressorsandportableenginesforuseduringexecutionoftheworksorforwhichsmaller periods as the engineer may consider reasonable on such terms as may be specified in agreement for hire of plants.

3.16 PRECAUTIONS:

3.16.1 PRECAUTIONS DURING PROGRESS OFWORKS:

Duringtheexecutionofworksunlessotherwisespecifiedthecontractorshallathisowncost provide the materials for and execute all shoring, Timbering and Strutting work as is necessary for the stability and safety of all structures, excavation works and shall ensure that no damages, injury or loss is caused or likely to be caused to any person or property.

3.16.2 ROADS AND WATERCOURSES:

Existing roads or water courses or pipe, electrical lines and conduits shall not be blocked, cut through altered, diverted or obstructed in any way by the contractor, except with the permission of the Engineer in writing. All compensation claimed for any unauthorized closure,cuttingthrough,alteration,diversionorobstructionstosuchroadsorwatercourses etc., by the contractor or his agent or his staff shall be recoverable from the contractor by deduction from any sums which may become due to him in terms of the contract, or otherwise according tolaw.

3.16.3 PROVISIONS OF ACCESS TOPREMISES:

During progress of work in any street or thoroughfare, the contractor shall make adequate provisionforthepassageoftrafficforsecuringsafeaccesstoallpremisesapproachedfrom such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reason of the execution of the works and shall erect and maintain at hisowncostdiversions,barriers,lightsandothersafeguardsasprescribedbytheEngineer for the regulation of the traffic and provide watchmen necessary to prevent accidents. The work shall in such cases be executed in night and day if so ordered by the Engineer and with such vigor so that traffic may be impeded for as short a time as possible.

3.16.4 SAFETY OFPUBLIC:

The contractor shall be responsible to take all precautions to ensure the safety of the public whether on public of company property and shall post such look out men as may in the opinionoftheEngineerberequiredtocomplywiththeregulationsappertainingtothework.

3.16.5 MOVEMENT OF CONSTRUCTIONS PLANT ANDEQUIPMENT:

The contractor must take sufficient care in moving his construction plants and equipment's from one place to another so that they do not cause any damage to the property of the company, particularly to the overhead and underground cables, in event of any damages, resulting to the property of the company during the movement of aforesaid, the cost of such damagesincludingeventuallossofworkinghoursinanyplantasestimatedbythecompany shall be borne by thecontractor.

3.17 USE OFEXPLOSIVES:

Explosives shall not be used on the works or on the site by the contractor without the permission of the Engineer in writing and then only in manner and to the extent which such permission is given. When explosives are required for the works they shall be stored in a special mezzanine to be provided at the cost of the contractor in accordance with the Explosive rules. The contractor shall obtain the necessary license for the storage and the use of the explosive and all operations in which or for which explosives are employed shall be at the sole risk and responsibility of the contractor and the contractor shall indemnify the company in respect there of.

3.18 SUSPENSION OFWORKS:

3.18.1 The contractor shall on the order of the Engineer in writing suspend the progress of works oranypartthereofforsuchtimesandinsuchmannerasEngineermayconsidernecessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer.

3.18.1.1 If such suspension is provided for in the contract

OR

3.18.1.2 Necessary for the proper execution of the works or by reasons of weather conditions or by some default on the part of the contractor.

OR

3.18.1.3 Necessary for the safety of the works or any part there of,thecontractorshallnotbeentitled to any extra costs if any incurred by him during the period of suspensions of the works, but in the event of any suspension ordered by the Engineer for Reasons other than aforementionedandwheneachsuchperiodofsuspensionsexceeds14daysthecontractor shall be entitled to such extension of time for completion of the works as the engineer may consider proper having regards to the period or periods of such suspensions and such compensation as the Engineer may consider reasonable in respect of salaries or wages paidbythecontractortohisemployeesduringtheperiodsofsuchsuspensions.Contractor

Shall not resume work or part of works o suspended by the Engineer without a written order from the Engineer to that effect.

3.18.2 SUSPENSION LASTING MORE THAN THREEMONTHS:

If the progress of the works or any part thereof is suspended on the order of the Engineer in writing for more than three Months at a time, the contractor may serve a written notice to the Engineer requiring permission within 15 days from the receipt thereof to proceed with the work or part thereof in regards 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 company.

3.19 RATES FOR ITEMS OFWORKS:

Theratesenteredinthe'AcceptedScheduleofRates'ofthecontractareintendedinprovide for works duly and properly completed in accordance with the general and special (if any) conditions of contract and the specifications and drawings, together with such enlargements, extensions, dimintions, reductions, alterations or additions as may be ordered in terms of **clause 4.2.1 of** these conditions and without prejudice to the generally thereof and shall be deemed to include and cover superintendence and Labour, supply, including full freight, of materials, of stores, patterns, profiles, moulds fittings, centering, scaffoldings, shoring, props, timber, machinery, derricks, tackle, ropes, pegs, posts, tools, andallapparatusandplant,requiredontheworks,exceptsuchtools,plantormaterials,as may be specified in the contract to be supplied to the contractor by the company, the erections to maintenance and removal of all temporary works and buildings all watching, lighting, bailing, pumping, and draining, etc. All prevention of or compensation for trespass, all barriers and arrangements for the safety of the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the company, the setting out of all works and of the construction repair and upkeep of all center lines, bench mark and level pegs thereon. Site clearance, all fees, duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures, and all the materials suppliedfortheworkorotherdutiesorexpensesforwhichthecontractormaybecomeliable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract, and all such other incidental charges or contingencies as may have been specially provided for in thespecifications.

3.20 DEMURRAGE AND WHARF AGEDUES:

Demurrage charges calculated in accordance with the scales in the force for the timebeing of the company and incurred by the contractor failing to load or unload any goods or materials within the time allowed by the railways for loading or unloading as also wharf age charges on materials not removed in time as also charges due on consignments booked by or to him shall be paid by the contractor, failing which such charges shall be deducted from any sums which may become due to him in terms of contract.

3.21 RATES FOR EXTRAITEMS:

If any items of work carried out by the contractor on the instructions of the Engineer which is not covered by the 'Accepted schedule of rates' (i.e. the Tendered Rates), rates for such

additional, altered or substituted work shall be worked out in accordance with the following provisions in their respective order.

i) If the rates for the additional altered or substituted work are not specifically provided in the contract for the work the rates will be derived from rates for similar class of work as are specified in the contract for thew ork.

ii) If the altered, additional or substituted work included any work for which no ratesare specified in the contract then such work shall be carried out at the rates entered in the CPWD Schedule of Rates 2018 (Civil) and the latest Schedule of Rates for Electrical Works, New Delhi minus / plus percentage which the total tendered amount bears to the estimated cost of the entire work put totender.

iii) If rates for the altered, additional or substituted work cannot be determined in the manner specified in sub clause (i) or (ii) above then rates for such work shall be worked out on the basis of the schedule of rates specified in sub clause (ii) above minus/plus the percentage which the total tendered amount bears to the estimate cost of the entire work put to tender. Provided always that if the rate for a particular part or parts of the items is not in the schedule of rates, the rates for such part or parts will be determined by the Engineer on the basis of the prevailing market rates, when the work was done.

iv) If rates for the altered, additional or substituted work cannot be determined in the manner specified in sub clause (i) to (iii) above, then the contractor shall within 7 days of the date of receipt of order to carry out the work, inform the Engineer of the rate which it is his intention to charge supported by analysis of the rate or rates claimed and the Engineer shall determine the rates on the basis of prevailing market rates and pay the contractor accordingly. However, the Engineer by notice in writing will be atliberty to cancel his order to carry out such work and arrange to carry out it out in such manner as he may consider advisable, provided always if the contractor commences the work or incur any expenditure before determination of the rate(s) here in be forementioned, then in such case the contractor shall been titled to be paid in respect of the work carried or expenditure incurred prior to date of determination of the rates as aforesaid to such rate or rates as shall be fixed by the company. But under no circumstances the contractor shall suspend the work on plea of non- settlement of rates for items falling under thisclause.

3.22 HANDING OVER OFWORKS:

The contractor shall be bound to hand over the works executed under the contract to the company complete in all respects to the satisfaction of the Engineer. The Engineer shall determine the date on which the work is considered to have been completed in support of which his certificate shall be regarded as sufficient evidence for all purposes.TheEngineer shalldetermine,fromtimetotimethedateonwhichwayparticularsectionoftheworkshall be have been completed, and the contractor shall be bound to observe any such determination of theEngineer.

3.23. CLEARANCE OF SITE ONCOMPLETION:

On the completion of the works the contractor shall clear away and remove from the siteall constructionalplant,surplusmaterials,rubbishandtemporaryworksofeverykindandleave the whole of the site and works clean to the satisfaction of theEngineer.

No Final payment in settlement of the accounts for the works shall be made or held to be due to the contractor till in addition to any other condition necessary for such final payment, site clearance shall have been effected by him and such clearance may be made by the Engineer at the expenses of the contractor. In the event of his failure to comply with this provision within 7 days after receiving notice to that effect, should it become necessary for the Engineer to have the site cleared at the expense of the contractor, the company shall not be held liable for any loss or damage to such of the contractor's property as may be on the site and due to such removal there from, which removal may be effected by means of public sale of such materials and property or in such a way as deemed fit and convenient to the Engineer.

3.24. ACTION AND COMPENSATION PAYABLE IN CASE OF BADWORK

If it shall appear to the Engineer-in-Charge or his authorized subordinate in charge of the work or to the Chief Technical Examiner or to any other inspecting agency of Government/ State Government/ Owner where the work is being executed, that any work has been executedwithunsound,imperfect,orunskillfulworkmanshiporwithmaterialsofanyinferior description, or that any materials or articles provided by him for the execution of the work areunsoundorofaqualityinferiortothatcontractedfororotherwisenotinaccordancewith thecontract,thecontractorshallondemandinwritingwhichshallbemadewithinsixmonths of the completion of the work from the Engineer in-Charge specifying the work,materialsor articles complained of notwithstanding that the same may have been passed, Certified and paidforforthwithrectify,orremoveandreconstructtheworksospecifiedinwholeorinpart asthecasemayrequireorasthecasemaybe,removethematerialsorarticlessospecified and provide other proper and suitable materials or articles at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer- in-Charge in his demand aforesaid, then the Contractor shall be liable to pay compensation at the rate of one percent of the estimated amount put to tender for everyday not exceeding ten days, while his failure to do so shall continue and in the case of any such failure, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and expense in all respects of the contractor.

3.25. POSSESSION PRIOR TOCOMPLETION

3.25.1 ITI LTD shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to beany acceptance of any work not completed in accordance with the contract agreement. If such prior possession or use by ITI LTD delays the progress of work an equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly. The decision of ITI LTD in this case shall be final binding and conclusive.

When the whole of the works or the items or the groups of items of work for which separate periods of completion have been specified have been completed the contractor will give a noticetothateffecttotheEngineer-in-Chargeinwriting.TheEngineerin-Chargeshallwithin 7 days of the date of receipt of such notice inspect the works and either the Engineer-in- Charge issues to the contractor a completion certificate stating the date on which in his opinion the works were completed in accordance with the contract or gives instructions in writing to the contractor specifying the balance items of work which are required to be done by the contractor before completion certificate could be issued. The Engineer-in-Charge shall also notify the contractor of any defect in the works affecting completion.

3.25.2 The contractor shall during the course or execution prepare and keep updated a complete set of 'as built' drawings to show each and every change from the contract drawings, changes recorded shall be countersigned by the Engineer-in-Charge and the contractor. Four copies of 'as built drawings shall be supplied to ITI LTD by the contractor within 30 days of the completion. All costs incurred in this respect shall be borne by the contractor only.

4.0 VARIATION IN EXTENT OFCONTRACT:

4.1 MODIFICATIONS TO THE CONTRACT TO BE INWRITING:

Intheeventofanyoftheprovisionsofthecontractrequiringtobemodifiedafterthecontract documents have been signed, the modifications shall be made in writing and signed by the company and the contractor. Any verbal or written arrangements abandoning, modifying, extending, reducing or supplementing the contract or any of the term thereof shall be deemed conditional and shall not be binding on the company unless and until the same is incorporated in a formal instrument and signed by the company.

4.2 POWER OF MODIFICATIONS TOCONTRACT:

4.2.1 The Engineer on behalf of the company shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character, position,site,quantities,dimensionsorinthemethodoftheirexecutionorinthecombination and use of materials for the execution thereof and to order any additional works to be done or any works not be done as provided on **clause 4.2.2** the contractor will not be entitled to anycompensationforanyreductionsandforapprovedmaterialsfurnishedagainstaspecific order.

4.2.2 VALUATION OFVARIATIONS:

The enlargements extensions, dimintions, reduction, alterations or additions referred to in **clause 4.2.1** shall in no degree affect the validity of the contract but shall be performed by the contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressly included and provided for in the specifications and drawings and the amounts to be paid there for shall be calculated in accordance with the accepted schedule of rates and for extra items of works at the rates determined under the **clause 3.21** of these conditions.

4.2.3 VARIATION INQUANTITIES:

If required,the Contractor shall have to execute additional quantities of items within the site to the extent of 25% [Twenty-five percent] of the accepted contract sum. The said percentageof25%applyseparatelytoCivil,Water supply and Sanitary Installations Internal External Electrical works. No adjustment of rates shall be made up to this limit and the terms and conditions of the contract shall remain unaltered.

If the variation is beyond 25% specified, the quantity of items beyond 25% increase will be considered as extra items and the rates for the same shall be worked out as per clause 3.21- II to IV. The decision of the Engineer in charge in the matter will be final and binding.

5.0 CLAIMS:

5.1 MONTHLY SETTLEMENT OFCLAIMS:

5.1.1 The contractor shall prepare and furnish to the Engineer once in every month an amount giving full and detailed particulars of all claims for any additional expense to which the contractor may consider himself entitled and of all extra or additional works ordered by the Engineer which he has expected up to and including the preceding month under the followingsub-heads:

a) Deviations from items and specifications provided in contract documents.

b) Extra items ofWork.

c) Quantities in excess of those provided in the contract schedule.

d) Items in respect of which the rates have not been settled.

No claim for payment for any such work will be considered which has not been included in such particular.

HeshouldinadditionfurnishaclearcertificatetotheeffectthattheclaimssubmittedbyhimasaforesaidcoverallthecIaimsandthatnofurtherclaimsshallberaisedbyhiminrespectofthe works done up to and including the period underreport.

5.1.2 SIGNING OF 'NO-CLAIMS'CERTIFICATE:

The contractor shall not be entitled to make any claim so ever against the company under or virtue of entertain or considered any such claim, if made by the contractor, after he shall have signed "No Claim" certificate in favour of the company, in such form as shall be required by the company.

5.1.3 SUBMISSION OFBILLS:

The contractor shall submit the bills in quadruplicate on the prescribed form(s) of the company. For "On Account" payment, bill shall be submitted by the contractor periodically depending on the progress of work at site.

All payments due shall be subject to any deductions which may be made under these presents and shall further be subject to unless otherwise required by **clause 2.12** of these conditions, a retention of 5% percent by way of security deposit until the amount of security deposit by way of the retained earnest money *and such retention shall total up to the required amount of the security deposit.*

6.0 MEASUREMENT CERTIFICATES ANDPAYMENTS:

6.1 QUANTITIES IN SCHEDULE ANNEXED TOCONTRACT:

Thequantitiessetoutintheaccountedscheduleofratesaretheestimatedquantitiesofthe works and they shall not be as the actual and correct quantities of the work to be executed by the contractor in fulfillment of his obligations under thecontract.

6.2 MEASUREMENTS OFWORKS:

Thecontractorshallbepaidfortheworksattheratesintheacceptedscheduleofratesand for extra works at the rates determined under **clause 3.21** of these conditions on the measurements taken by the Engineer or the Engineer's representative in accordance with rules prescribed for the purpose by the company.

6.3 ON ACCOUNTPAYMENTS:

6.3.1 No payments shall be made for the works estimated to cost rupees Ten thousand or les still after the whole work shall have been completed and certifications of completion given.

ForworksestimatedtocostmorethanTenthousand,thecontractorshallsubmitabillthere on and be entitled to receive running account payment proportionate to the part there of then executed to the satisfaction of the Engineer whose certificate of the sum so payable shall be final and conclusive against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstruct or re-erected or beconsideredasanadmissionofthedueperformanceofthecontractorthepartthereof in anyrespectortheaccruingofanyclaimnorshallitconclude,determineoraffectinanyway the powers of the engineer under these conditions or any of them as to the final settlement and adjustment of accounts or otherwise, or in any other way or affect thecontract.

6.3.2 ROUNDING OFFAMOUNTS:

In calculating the amount of each item due to the contract in every certificate prepared for paymentsumsoflessthan50Paisashallbeomittedandthetotalamountoneachcertificate shall be rounded off to the nearest rupee, i.e. sums of less than 50 paisa shall be omitted and sums of 50 paisa and more up to one rupees shall be reckoned as onerupee.

6.3.3 'ON ACCOUNT' PAYMENT NOT PREJUDICIAL TO FINALSETTLEMENT:

'OnAccount'paymentsmadetothecontractorshallbewithoutprejudicetothefinalmaking upoftheaccounts(exceptwheremeasurementsarespecificallynotedinthemeasurement book as 'Final Measurement' and as such have been signed by the contractor) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from suchaccountsnorofanyparticularquantityofworkhavingbeenexecutednorofthemanner of its execution beingsatisfactory.

6.3.4 MANNER OFPAYMENT:

Paymentsduetothecontractorshallbemadebyacrossed'A/cPayee'Cheque,forwarding the same to the registered or notified office of the contractor, alternately he may collect it

personally.However,incasethecontractordoesnothaveabankaccount,providedhehas notified the company then ordinary crossed Cheque may be issued. In no case will the companyberesponsibleiftheChequeismislaidormisappropriatedbyunauthorisedperson or persons. Or Payments shall be made throughRTGS/NEFT.

The contractor shall always give a stamped receipt duly signed in token of payment of any sums by the company.

6.4 MAINTENANCE WORKS: [Defects liabilityperiod]

TheContractorshallatalltimeduringtheprogressandcontinuousoftheworksandforthe period of Maintenance [Defects Liability period] which will **be 12 months** after the date of the passing of "Certificate of completion" by the Engineer or any other earlier date subsequenttothecompletionoftheworksthatmaybefixedbytheEngineerberesponsible for and effectually maintain and uphold the sound and perfect conditions all and every part of theworksandshallmakegoodfromtimetotimeandatalltimesasoftenastheengineer shall require any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defects not directly caused by errors in the contracts documents, and the contractor shall be liable for and shall pay and make good to the company or other persons legally entitle theretowheneverrequiredbytheengineertodoso,alllossesdamagescostsandexpenses they or any of them may occur or be put of the preparations of the contractor or his failure in anyrespect.

In case the contractor fails to carry out these rectifications, the same may without pre judice to any other right or remedy available be go trectified by ITI at the costand expenses of the contractor.

6.5 CERTIFICATE OF COMPLETION OFWORK:

6.5.1 As soon as in the opinion of the engineer the work shall have been substantially completed shall have satisfactorily passed any final test that may be prescribed, the engineer shall issueacertificateofcompletioninrespectoftheworksandtheperiodofMaintenanceshall commence from the date of such certificate, provided that the engineer may issue such a certificate with respect to any part of the works before the completion of the whole of the works or with respect to any substantial part of the work which has been both completed to the satisfaction of the engineer and occupier or used by the company and when any such certificate is given in respect of a part of the work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of suchcertificate.

6.5.2 CONTRACTORNOTABSOLVEDBYCOMPLETIONCERTIFICATE:

The Certificate of completion in respect of the work referred in **clause 6.5.1** shall not absolve the contractor from his liabilities to make good any defects , imperfections, shrinkage or faults which may appear during the "Maintenance period" specified in the contract arising in the opinion of the Engineer from materials or workmanship not in accordance with the drawings or specifications for instructions of the Engineer, which defects, imperfections, shrinkages or faults shall upon the directions in writing of the Engineer be amended and made good by the contractor at his own cost and in case of

default on the part of contractor, the engineer may employ labour and materials, or appoint another contractor to amend and make good such defects imperfections, shrinkages or faults and all expenses consequent thereon and incidental thereto shall be borne by the contractor and shall be recoverable from any money due to him under the contract.

6.6 APPROVAL ONLY BY MAINTENCECERTIFICATE:

No due certificate other than "Maintenance Certificate" referred to in ***clause 6.7*** of these condition shall be deemed to constitute approval of any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contract, or any part thereof or of the accuracy of any claim or demand made by the contractor or of additionalorvariedworkhavingbeenorderedbytheengineernotshallanyothercertificate conclude or prejudice any of the power of theengineer.

6.7 MAINTENCECERTIFICATE:

6.7.1 The contract shall not be considered as complete until a Maintenance certificate shall have beensignedbytheengineerstatingthattheworkshavebeencompletedandmaintainedto his satisfaction. The maintenance certificate shall be given by the engineer upon the expiration of the period of maintenance or as soon thereafter as any works ordered during such period pursuant to clause **6.5.2 of** these conditions shall have been completed to the satisfaction of the engineer and full effect shall be given to this clause notwithstanding the taking possession of our using the works or any part thereof by theCompany.

6.7.2 CESSATION OF COMPANY'SLIABILITY:

The company shall not be liable to the contractor for any matters arising out of or in connection with the contract or the execution of the works unless the contractor shall have made a claim in writing in respect thereof before the issue of the Maintenance certificate under this clause.

6.7.3 UNFULFILLEDOBLIGATIONS:

Notwithstanding the issue of the Maintenance Certificate the contractor or/and (subject to clause 6.7.2) the company shall remain liable for the fulfillment of any obligations incurred undertheprovisionsofthecontractorpriortotheissueoftheMaintenancecertificatewhich remains unperformed at the time such certificate is issued and for the purpose of determining the nature and extent of any such obligation the contract shall be deemed to remain in force between the partieshereto.

6.8 PAYMENT:

6.8.1 FINALPAYMENT:

On the Engineer's certificate of completion in respect of the works, an adjustment shall be made and the balance of amount based on the Engineer's representative certified measurement of the total quantity of work executed by the contractor up to the date of completion and on the accepted schedule of rates and for extra works on rates determined under **clause 3.21** of these conditions shall be paid to the contractor subject always to any deductionswhichmaybemadeunderthesepaymentsandfurthersubjecttothecontractor

having delivered to the engineer either a full account in detail of all claims he may have on the company in respect of the works having delivered a 'No Claim' certificate and to the Engineer having after the receipt of such account given a certificate in writing that such claimsarecorrect,thatthewholeoftheworkstobedoneundertheprovisionsofthecontract have been completed, that they have been inspected by him since their completion and found to be in good substantial order, that all properties works and things removed, disturbed or injured in consequence of the works, have been properly replaced and made good and all expenses and demands incurred by or made upon the company for or in the respect of damage or loss by, from or in consequence of the works, have been satisfied agreeably and in conformity with thecontract.

FINAL BILL:

The final bill shall be submitted by the Contractor within one month of the date of certificate of completion furnished by the Engineer and payment shall be made within three months if theamountofcontractplusthatoftheadditionalitemsisuptoRs.2lakhsandinsixmonths if the same exceeds Rs. 2 lakhs of the submission of such bills. If there shall be any undisputed about any item or items of the work, then the undisputed items or items only shallbepaidwithinthesaidperiodofthreemonthsorsixmonthsasthecasemaybe.

6.8.2 REFUND OF SECURITYDEPOSIT:

Security deposit shall be refunded to the contractor on the Engineer-in-Charge certifying in writing that the work has been completed as per Conditions **6.5.1-**hereto etc. On expiry of the defects liability period [referred to in condition **6.4** hereto] or on payment of the amount ofthefinalbillpayableinaccordancewithcondition**6.8.1.1**whicheverislater,theEngineer- in-charge shall on demand from the contractor refund to him the remaining portion of the security deposit provided the Engineer – in –charge is satisfied that there is no demand outstanding against thecontractor.

6.9 COMPANY'S LIEN ON ALL MONEYS DUE AND POST PAYMENTCHECK:

Thecompanyshallhavealienonandalloranymoneysthatmaybecomedueandpayable to the contractor under these presents and/or also on and over the deposit or security amount or amounts made under the contract and which may become repayable to the contractorundertheconditionsinthatbehalf hereincontainedfor,or,inrespectofanydebt sum that may become due and payable to the company by the contractor either alone or jointly with another or others and either under this and under any other contract or transactions of any nature whatsoever between the company and thecontractor.

The company reserves the right to carry out a post payment audit and/ or Technical examinationoftheworksandthefinalbillsincludingallsupportingvouchers,abstractsetc., and to enforce recovery if as a result of such examination, any over-payment is discovered in respect of any work done by the contractor or alleged to have been done by him under the contract and such recovery will be made by the company from the contractor by any or all of the methods presented above. If on the other hand any under payment is discovered the amount shall be duly paid to the contractor by the company. Further the company reservestherighttomakesuchrecoveriesandadjustmentnotwithstandingthefactthatthe amount of the final bill may be included by one of the parties as an item of dispute before

anyarbitratorappointedunderthearbitrationclauseofthecontractandnotwithstandingthe fact that the amount of the final bill figures in the Arbitrators award. And further unless the contractorpaysandcleartheclaimsofthecompanyimmediatelyondemand,thesaiddebit orsumbythecontractorfromthemoneys,securitiesordepositwhichmayhavebecomeor will become payable to the contractor or under these presents or under any other contract or transactions whatsoever between the contractor and thecompany.

6.10 SIGNATURE ON RECEIPTS FORAMOUNTS:

Every receipts for moneys which may become payable or for any security which may becometransferabletothecontractor,underthesepresents,shallnotwithstandinganything to the contrary contained in the partnership deed, if signed in the partners in name by any oneofthepartnersofacontractorsfirmbeagoodandsufficientdischargetothecompany inrespectofthemoneyorsecuritypurportedtobeacknowledged,therebyandintheevent of death of any of the contractor partners during the tendency of contract, it is hereby expressly agreed that every receipt by any one of the surviving contractor partners shall if so signed as aforesaid to be a good and sufficient discharge as aforesaid provided that nothinginthisclausecontainedshallbedeemedtoprejudiceshallbedeemedtoprejudices oraffectanyclaimwhichthecompanymayhereafterhaveagainstthelegalrepresentatives ofthecontractorspartnersodyingorinrespectofanybreachofanyoftheconditionsofthe contract,providedalsothatnothinginthisclausecontainedshallbedeemedtoprejudiceor affect the respective rights or obligations of the contractor partners and of the representatives of any deceasedpartner.

7.0 LABOUR:

LABOUR LAWS:

The contractor shall obtain a valid license under the contract labour [Regulation &Abolition] act 1971 and the contract labour Act [Regulation &Abolition] Central rules 1971 and amended from time to time, and continue to have a valid license until the completion of the work including defects liability period. The contractor shall also adhere by the provisions of child labour [prohibition and regulation] Act 1986 and as amended from time to time.

The contractor shall also comply with the provisions of the building and other construction works [Regulation of Employment & conditions of Service] Act, 1996 and the building and other construction worker's welfare cess Act 1996.

Any failure to fulfil the above requirement shall attract the penal provisions of this contract arising out the resultant for non-execution of the work before the commencement of work. No labour below the age of 18 years **shall be employed on the work.**

7.1 WAGES TOLABOUR:

The contractor shall comply with the provisions of the minimum wages act, (herein after referred to as the "said act") and the rules made thereunder in respect of any employees employed by him on road constructions or in building operations or in stone breaking or stone crushing or any other work being executed for the company by the contractor for the purpose of carrying out this contract.

If, in compliance with terms of the contract, the contractor supplies any labour to be used wholly or partly under the direct orders and control of the company whether in connection withanyworkbeingexecutedbythecontractororotherwiseforthepurposeofthecompany such labour shall for the purpose of this clause, still be deemed to be persons employedby thecontractor.

If any moneys shall, as a result of any claim or applications made under the said act be directed to be paid by the company, such moneys shall be payable to the company by the contractor.Onfailurebythecontractortorepaythecompanyaforesaidamountwithinseven days after a notice writing by the Engineer, the company shall be entitled to recover the same from any moneys due to accruing under this or any contract with thecompany.

a) LABOUR SAFETYPROVISION:

The contractor shall be fully responsible to observe the labour safety provisions.

Thecontractorshallathisowncosttakeallprecautionstoensuresafetyoflifeandproperty by providing necessary barriers, lights, watchmen etc., during the progress of work as directed by Engineer incharge.

In case of all labour directly or indirectly employed in work for the performance on the contractor's part of this contract, the contractor shall comply with all rules framed by Govt. *from time to time for the protection of health and sanitary arrangement for workers.*

7.2 INSURANCE:

Thecontractorshall,athisownexpense,carryandmaintaininsurancetothesatisfactionof the company asfollows:
If and when the Employees State Insurance Act is made applicable to the site of works, the contractor agrees to and does hereby accept the full and exclusive liability for the compliance with all obligations imposed by the Employees State Insurance Act as modified from time to time and the contractor further agrees to ensure the compliance of all sub-contractors with the applications of the said Act. The contractor further agrees to defend, indemnifyandholdharmlessthecompanyfromanyliabilityorpenaltywhichmaybepassed by any State or Local Authority by reason of any asserted violations by the contractor or sub-contractors of the Employees State Insurance Act and also from all claims, suits or proceedings that may be brought against the company arising under, occurring out of/or be CentralorStateGovernmentauthorities,oranypoliticalsubdivisionsthereof.Thecompany shallretainsuchsumsasmaybenecessaryfromthetotalcontractvalueuntilthecontractor shall furnish satisfactory proof that all payments as required by the Employees State Insurance Act have beenpaid.

7.3 PROVISION OF PAYMENT OF WAGESACT:

The contractor shall comply with the provisions of the payment of wages Act and the rules made the reunder in respect of all employees employed by him on the works. If in compliance with the terms of the contract the contractor supplies any labour to be used whole or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of company such labour shall nevertheless be deemed to comprise persons employed by the contractor and any moneys which may be ordered to be paid by the company shall be payable to the company by the contractor. On failure of the contractor to repay such moneys to the

company within 7 days after a notice in writing by the Engineer, the company shall be entitledtodeductfromanymoneyduetothecontractor(whetherunderthiscontractor any other contract). The decision of the Engineer upon any question arising out of the effect or force of this clause shall be final and binding upon thecontractor.

7.4 REPORTING OF ACCIDENTS TOLABOUR:

The contractor shall be responsible for the safety of all employees employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or them Engineer's representative and shall make every arrangement to render all possible assistance.

7.5 WORKMEN'SCOMPENSATION:

7.5.1 PROVISION OF WORKMEN'S COMPENSATIONACT:

i) Insurance shall be effected for all the contractor's Employees engaged in the performance of this contract. If any of the work is sublet, the contractor shall require the sub-contractor to provide workmen's compensation and Employee Liability Insurance for the latter's employees unless such employees are covered under the contractor'sinsurance,orbyreasonoftheworkprovidedforbythiscontractwhether brought by employees of the contractor by thirdparties.

ii) In every case in which by virtue of the provisions of the workmen's compensation Act, company is obliged to pay compensation to a workman employed by the contractor in executing work the company will recover from the contractor the amount or the compensation so paid, and without prejudice to the right of company under the said Act, company shall be at liberty to deduct it from the security deposit orfromanysumspayabletothecontractor,whetherunderthiscontractorotherwise company shall not be bound to contest any claim made against it under the said act except on the written request of the contractor and upon his giving to company full security for all costs for which company might become liable in consequence of contesting suchclaim.

7.5.2 PROVISIONS OF MINESACT:

ThecontractorshallobserveandperformalltheprovisionsoftheminesActoranystatutory modifications or re-enactment thereof for the time being in force and any rules and regulations made the reunder in respect of all the persons employed by him under this contract and shall indemnify the company from and against any claims under the minesact or the rules and regulations framed the reunder by or on behalf of any persons employed by him orotherwise.

7.6 COMPANY NOT TO PROVIDE QUARTERS FORCONTRACTOR:

No quarters shall normally be provided by the company for the accommodation of the contractor or any of his staff employed on the works. In exceptional cases where accommodation is provided to the contractor at the company's discretion, recoveries shall be made at such rates as may fixed by the company for the full rent of the buildings and equipmentthereinaswellaschargesforelectriccurrent,watersupplyandconservancyetc.

7.7 LABOURSAFTY:

7.7.1 LABOURCAMP:

The contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workmen,and fortemporarycrèche(Balmandir)where50ormorewomenareemployedatatime.Suitable sites at company's land, if available may be allotted to the contractor for the erection oflabourcamps,eitherfreeof chargeoronsuchtermsandconditionsthatmaybeprescribed by the company. All camp-sites shall be maintained in clean and sanitary conditions by the contractor at his cost. The contractor shall have no authority to establish or to issue a concessions or permits of any kind to the third parties establishing commercial amusement or other for establishment upon land owned or controlled by theCompany.

7.7.2 COMPLIANCE TO RULES FOR EMPLOYMENT OFLABOUR:

The contractor shall conform to all laws, bye laws, rules and regulations for the time being inforcepertainingtotheemploymentoflocalorimportedlabourandshalltakeallnecessary precautiontoensureandpreservethehealthandsafetyofallstaffemployedontheworks.

7.7.3 PRESERVATION OFPEACE:

The contractor shall take requisite precautions and use his best endeavors to prevent any riotousorunlawfulbehaviorbyoramongsthisworkmenandothersemployedontheworks and for the preservation of peace and protection of the inhabitants and security of the property in the neighborhood of the work. In the event of the Company requiring the maintenanceofaspecialpoliceforceatorinthevicinityofthesiteduringthetenureofwork, the expenses thereof shall be borne by the contractor and if paid by the company shall be recoverable from thecontractor.

7.7.4 SANITARYARRANGEMENTS:

The contractor shall obey all sanitary rules and carry out all sanitary measures that may from time to time prescribed by the company and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's representatives or the medical staff of the Company, should the contractor fail to make adequate sanitary arrangements these will be provided by the company and the cost thereof recovered from the Contractor.

7.7.5 OUTBREAK OF INFECTIOUSDISEASE:

The contractor shall remove from his camp such labour and their families who are infected asrefugee.Protectiveinoculationandvaccinationshallbearrangedbythecontractorathis own cost when called upon to do so by the Engineer or Engineer's Representative. Should Cholera,Plagueoranyotherinfectiousdiseasebreakoutthecontractorshallburnthehuts, beddings,clothesandotherbelongingsoforusedbytheinfectedpartiesandpromptlyerect newhutsonhealthysitesasrequiredbytheEngineer,failingwhichwithinthetimespecified in the Engineer's requisition, the work may be done by the company and the cost thereof recovered from theContractor.

7.7.6 TREATMENTOFCONTRACTOR'SSTAFFINCOMPANY'SHOSPITALS:

The contractor and his staff, other than labourers and their families requiring medical aid from company's hospitals and dispensaries (if so situated and existing) will be treated as Private Patients and charge accordingly. The contractor's labourers and their families may alsobegrantedmedicaltreatmentinthecompanyhospitalanddispensarieswherenoother hospitals or dispensaries are available, provided the contractor pays the cost of medicines, dressingsanddietaccordingtothenormalscale,asalsoadditionalchargesifanyforspecial examination e.g. X-raysetc.

7.7.7 MEDICAL FACILITIES ATSITE:

The contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the prescribed Medical Authority of the company or any other authority in relation to the strength of the contractor's resident staff and workmen.

7.7.8 USE OFINTOXICANTS:

The sale of ardent spirits or other intoxicating beverages upon the work in any of the buildings encampments or tenements owned, occupied by or within the control of the contractororanyofhisemployeeisforbiddenandthecontractorshallexercisehisinfluence and authority to the utmost extent to secure strict compliance with thiscondition.

7.7.9 NON – EMPLOYMENT OF LABOURERS BELOW THE AGE OF14:

The contractor shall not employ children below the age of 14 as labourers for theexecution ofwork.

7.7.10 RETURN OF LABOURETC:

The contractor shall if required by the Engineer deliver to the Engineer's Representative or at is office a return in detail in such form and such intervals as the Engineer may prescribe, showing the number of the several classes of Labour from time to time employed by the contractor at the site.

8 DETERMINATION ofCONTRACT:

8.1 RIGHTOFCOMPANYTODETERMINETHECONTRACT:

The company shall be entitled to determine and terminate the contract at any time should inthecompany'sopinion,thecessationofworkbecomenecessaryowingtopaucityoffunds or form any other cause whatsoever, in which case the value of approved materials at site and of work done to date by the contractor will be paid for in full at the rates specified in the contract. Notice in writing from the company of such determination and the reasons there for shall be conclusive evidence thereof and binding upon thecontractor.

8.2 PAYMENT ON DETERMINATION CONTRACT BYCOMPANY:

Should the contract be determined under clause 8.1 and the contractor claims payment for expenditureincurredbyhimintheexpectationofcompletingthewholeworks,thecompany shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The contractor shall, however, have noclaim

toanypaymentwhatsoeveronaccountofprofitandadvantagewhichhemighthavederived from the execution of the work in full but which he did not derive in consequence of the determination of the contract. The company's decision on the necessity and propriety of such expenditure shall be final andconclusive.

8.3 DETERMINATIONOFCONTRACTOWINGTODEFAULTOFCONTRACT:

If the contractor should –

8.3.1.1 Become bankrupt orinsolvent

Or

8.3.1.2 Make an arrangement, with or assignment in favour of his creditors, or agree to carry out the contract under a committee of Inspection of hiscreditors.

Or

8.3.1.3 Being a company or corporation, go into liquidation (Other than a voluntary liquidation for the purpose of amalgamation orreconstruction).

Or

8.3.1.4 Have an execution levied on his goods or property on theworks.

Or

8.3.1.5 Assignthecontractoranyparttthereofotherwisethanas[providedincondition2.6ofthese conditions.

Or

8.3.1.6 Abandon thecontract

Or

8.3.1.7 Persistently disregard the instructions of the Engineer, or contravene any provisions of the contract.

Or

8.3.1.8 Failtoadheretotheprogramof workbyamarginof10%of thestipulatedperiod.

Or

8.3.1.9 Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer's notice to the effect that the said materials or work have been condemned or rejected under condition **3.9 of** theseconditions.

Or

8.3.1.10 FailtotakestepstoemploycompetentoradditionalstaffandLabourasrequiredunder **condition 3.8** of these conditions

Or

8.3.1.11 FailtoaffordEngineerorEngineer'sRepresentativeproperfacilitiesforinspectingtheworks or any part thereof as required under **conditions 3.10** of theseconditions.

Or

8.3.1.12 Promiseofferorgiveanybribe,Commission,Giftoradvantageeitherhimselforthroughhis partner,agentorservanttoanyofficeroremployeeofthecompany,ortoanypersononhis or in their behalf in relation to the execution of this or any other contract withcompany.

Then and in any of the aforesaid cases, the Engineer on behalf of the company may serve the contractor with a notice in writing to that effect and if the contractor does not within 7 days after the delivery to him of such notice proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid to the entire satisfaction of the Engineer, the company shall be entitled after giving 42-hour notice in writing under the hand of the accepting authority to rescind the contract as a whole or in a part or parts (asmaybespecifiedinsuchnotice)and adopt either or both of the following courses.

a) To carryout whole or part of the work from which the contractor has been removed by the employment of the required labour and materials, the costs of which shall include lead, lift, freight, supervision and all such incidentalcharges.

b) To Measure up the whole or part of the work from which the contractor has been removed and to get it completed by anothercontractor.

Themannerandmethodinwhichsuchworkiscompletedshallbeintheentirediscretion of theacceptingauthoritywhosedecisionshallbefinalandinbothcases(a)and(b)mentioned above and company shall be entitledto:

i. To forfeit the whole or such portion of the security deposit as it may considerfit.

AND

ii. Torecoverfromthecontractorthecostofcarryingouttheworkinexcessofthesum which would have been payable according to the certificates of the Engineer to the contractors, if the works had been carried out by the contractor under the terms of the contract, such certificate being final and binding upon the contractor, provided however,suchrecoveryshallbemadeonlywhenthecostincurredinexcessismore than the security deposit proposed to be forfeited and shall be limited to the amount by which the cost incurred in excess is more than the security deposit proposed to be forfeited and shall be limited to the amount by which the cost incurred in excess, exceeds the security deposits proposed to be forfeited. The amount thus to be forfeited or recovered may be deducted from any moneys then due or which at any timethereaftermaybecomeduetothecontractorbytheCompanyunderthisorany other contractor orotherwise.

Provided always that in any case, in which any of the powers conferred upon the company bysub-clauseasaboveshallhavebecomeexercisableandthesameshallnotbeexercised, the non-exercise thereof shall not constitute a waiver of any of the conditions thereof, such powers shall not with standing to exercisable in the even to any future case of default by the contractor for which his liability for past and future shall remainunaffected.

8.3.2 RIGHT OF COMPANY AFTER RESCISSION OF CONTRACT OWING TO DEFAULT OF CONTRACTOR.

In the event of any of several of the courses, referred to in conditions **8.3** of this clause, being adopted:

8.3.2.1 TheContractorshallhavenoclaimtocompensationforanylosssustainedbyhimbyreason of his having purchased or procured any materials or entered into any commitments or made any advance on account or with a view to the execution of the works of the performance of the contract and Contractor shall not be entitled to recover or be paid any sumforanyworktheretooractuallyperformedunderthecontractunlessuntiltheEngineer shall have certified the performance of such work and the value payable in respect where of any the Contractor shall only be entitled to be paid the value socertified.

8.3.2.2 The Engineer or the Engineer's representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or brought to have been executed, and to retain and employ the same in the further execution of the works or and part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment there of or for wear and tear or destructionthereof.

8.3.2.3 The Engineer, shall as soon as may be practicable after removal of the Contractor fix and determine ex-party or by or after reference to the parties or after such investigation or inquiries as he may consider fit to make or institute and shall consider fit to make or had at the time or rescission of the contract been reasonably earned by or would reasonably accrue to the Contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any construction plant and temporary works upon thesite.

8.3.2.4 The Company shall not be liable to pay to the Contractor any money on account of the contract until the expiration of the period of maintenance and thereafter until the cost of completion and maintenance damages (if any), and all other expenses incurred by the Company have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount, but if such amount exceeds the sum which would have been payable to the Contractor,shallupondemand,paytotheCompanytheamountofsuchexcessanditshall bedeemedadebitbytheContractortotheCompanyandshallberecoverableaccordingly.

8.3.3 TERMINATION OF CONTRACT FORDEATH:

If the contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the contractor is a partnership concern and one of the partner dies then unless the company is satisfied that the legal representative of the individual contractor or of the proprietor of the proprietary concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the contract, the company shall be entitled to cancel the contract as to its incomplete part without the company being in any way liable to payment of any compensation to the estate of the deceased contractor and/or to the surviving partners of the contractors firm on account of the cancellation of the contract.The decision of the company that the legal representative of the deceased contractor or the surviving partners of the contractor's firm cannot carry out and complete the contract shall be final and binding on the parties. In the event of such cancellation the company shall not hold the estate of the deceased contractor and/or the surviving partners of the contractor's firm liable for damages for not completing the contract.

8.4 EMPLOYMENT OFAPPRENTICES:

TheContractorshallcomplywithprovisionofthe“ApprenticeAct1961”andrulesandorders issued there under from time to time. If he fails to do so, this failure will be construed as breach of contract and the company may at its discretion, cancel the contract without prejudice to the rights of the company. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the saidAct.

9 FORCEMAJEURE:

Anydelayinorfailuretoperformofeitherpartyshallnotconstitutedefaultsoastogiverise to any claim for damages, to the extent such delay or failure to perform is caused by an act or God or by fire, explosion, flood or other natural catastrophe, governmental legislation, orders or regulation etc . Failure of the client/owner to hand over the entire site and / or releasefundsfortheprojecttoITIshallalsoconstituteformajeure.Thetimeforperformance of the obligation by the parties shall be deemed to be extended for a period equal to the duration of the force majeure event. Both parties shall make their best efforts to minimize the delay caused by the force majeure event. If the failure/delay of the client/owner in handing over the entire site and /or in releasing the funds continues even on the expiry of the stipulated date of completion ITI may at the request of the contractor, foreclose the contract without any liability to either party. In the event of such foreclosure the contractor shall not be entitled to any compensation whatsoever, If prior to such foreclosure the contractor has brought any materials to the site, the Engineer in charge shall always have the option of taking over all such materials at their purchase price or at the local current rates, whichever islower.

10 SETTLEMENT OFDISPUTES:

10.1 MATTERS FINALLY DETERMINED BY THECOMPANY

All disputes or difference of any kind whatever arising out of or in connection with the contract, whether during the progress of the works or after completion and whether before orafterthedeterminationofthecontract,shallbereferredbytheContractortotheCompany and the Company shall within a reasonable time after their representation make and notify decision thereon in writing. The decisions, direction and certificates with respect to any conditions given and made by the Company or by the Engineer on behalf of the Company which matters are referred to herein after as accepted matters shall be final and binding upon the Contractor and shall not be set aside or be attempted to be set aside on account of any informality, omission, delay of error in proceeding in about the same or any other ground or for other reason and shall be withoutappeal.

10.2 DEMAND FORARBITRATION:

10.2.1 If the Contractor be dissatisfied with the decision of the Company, on any matters in question, dispute or difference on any account or as to the withholding by the Company ofanycertificatestowhichtheContractormayclaimtobeentitledtooriftheCompanyfails to make a decisions within a reasonable time, when and in any such cases but except in any of the expected matters with in ten days of the receipt of communication or such decisions or after the expiry of reasonable time (which reasonable time will in no case exceed three months) as the case may be shall demand in writing that such matters in question, dispute or difference be referred to Arbitration. Such demand for Arbitrationshall

be delivered to the Company by the Contractor and shall specify the matters which are in question, dispute or difference and such disputes or difference of which the demand has been made and no other matter shall be referred to arbitration.

10.2.2 OBLIGATION DURING PENDENCY OFARBITRATION:

Work during the contract shall unless otherwise directed by the Engineer, continue during proceedings and no payment due or payable by the Company shall be withheld onaccount ofsuchproceedingsprovided, however,itshallbeopenforthearbitratortodecidewhether such work should continue or not during arbitrationproceedings.

10.2.3 ARBITRATION:

Except where otherwise provided for in the contract, all questions and dispute relating to the meaning of the specifications, designs, drawings, estimates, instructions and conditions herein mentioned and as to the quality of workmanship, or materials used on the work or as any way arising out of or relating to the contract, designs, drawings, specifications, estimates, Instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of work or after the completion or abandonment thereof shall be referred to the sole arbitration of the General Manager and if the General Manager is unable or unwilling to act, to the sole arbitration of some other person appointed by the General Manager willing to act as such arbitrator. There will be no objection if the arbitrator so appointed is an employee of the ITI LIMITED and that he had to deal with the matters to which the contract relates and that in the course of his duties as such he has expressed viewsonalloranyofthemattersindisputesofdifference.TheArbitratortowhomthematter is originally referred being transferred or vacating his office being unable to act for any reason, the accepting authority as aforesaid at the time of such transfer, vacation of office or inability to act shall appoint another person to act as Arbitrator in accordance with the termsofthecontract.Suchpersonshallbeentitledtoproceedwiththereferencefromstage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by General Manager, as aforesaid, should act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to Arbitration at all. In all cases where the amount of the claim on dispute is Rs. 50,000/- (Rupees fifty thousand) and above, the arbitrator shall give reason for the award. The venue of the arbitration shall be Corporate Office of ITI Limited, Dooravaninagr, Bengaluru,560016.

It is term of the contract that the party invoking arbitration shall specify the dispute or disputestobereferredtoarbitrationunderthisclausetogetherwiththeamount oramounts claimed in respect of each suchdispute.
It is also a term of the contract that if the Contractor(s) does/do not make any demand for Arbitration in respect of any claim(s) in writing within ninety days [90] of receiving the intimation from the Company, that the bill is ready for payment the claim of the contractors will be deemed to have been waived and absolutely be barred and the Company shall be discharged of all liabilities under the contract in respect of these claims.

The arbitrator(s) may from time to time with the consent of the parties enlarge the time for making and publishing the award.

Subject as aforesaid the provisions of the Arbitration Act 1996 or any statutory modification or re-enactment thereof & the rules made there under & for the time being in force shall apply to the arbitration proceedings under this clause.

Jurisdiction of Courts: For any legal matters arising out of this contract, the designated courts in Bangalore only shall have jurisdiction.

The decision of the Arbitrator shall be final and binding on the parties to this Contract.

Each party shall bear its own cost of preparing and presenting its case. The cost of Arbitration including the fees and expenses of the Arbitrator shall be shared equally by the Contractor and the Company.

Accepting Authority

Dated

----- END OF SECTION –V -----

SECTION –VI

ANNEXURES

Sl.Nos.	ANNEXURES	Descriptions	Page Nos.
1	ANNEXURE - 1	Proforma of Agreement	
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4	ANNEXURE - 4	Proforma of Bank guarantee in lieu of EMD	
5	ANNEXURE - 5	Declaration of Tenderer	
6	ANNEXURE - 6	Proforma of work completion certificate from clients,	
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9	ANNEXURE - 9	Details of work completed in last five years	
10	ANNEXURE - 10	Details of ongoing works	
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12	ANNEXURE – 12	Accepting terms and condition	
13	ANNEXURE – 13	Affidavit connecting to submission of documents	
14	ANNEXURE - 14	Format pf Solvency certificate.	
15	ANNEXURE – 15	CHECKLIST	

ITI LIMITED

Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

ANNEXURE-1

Proforma of Agreement

An AGREEMENT made this the ..... between M/s **……** and M/s ITI LIMITED, **……..** (hereinafter called the "COMPANY") of the second part**.**

Whereas the Contractors have by tender dated.....offered to execute and fully complete the intended works in connection with the construction of **……**for the company as set forth in the tender as amended and the drawings, general conditions, special conditions, specifications, bill of quantities and schedule hereto annexed according to the terms, obligations, and conditions therein contained at and for an approximate total sum of RS **……..……..** **(**Rupees **……..……**)andthecompanyhasaccepted such itemized rate tender in terms of its letter no.....Dated **……**

Now, this AGREEMENT witnesseth as follows :

1. The CONTRACTORS covenant and agree with the COMPANY that the CONTRACTORS willwithinthetimeof.....monthsfromthedatestipulatedintheworkorderandinthe manner and pursuant and subject to all and singular the terms, obligations and conditions in the said tender as amended and the drawings, general conditions, special conditions, specifications, bill of quantities and schedule provided, contained and referred to execute and fully complete all and singular the works specified, described or referred to in and by the said tender as amended and the drawings, general conditions, special conditions, specifications, bill of quantities and schedule and will well truly observe, perform, fulfill, submittoandkeepallthesaidterms,obligations,conditions,andmattersinthesaidtender as amended and drawings general conditions, special conditions, specifications, bill of quantities and schedule contained and referred to and on the part of the CONTRACTORS to be observed, performed, fulfilled, submitted to or kept according to the true intent and meaning of the said tender as amended and the drawings general conditions, special conditions, specifications, bill of quantities and schedule. Any items not covered by the tendered rates will be worked out as per special conditions attached to the tender documents.

In case the work is not completed in the manner mentioned above to the complete satisfaction of the COMPANY in every respect within the aforesaid time limit .....of months from the date stipulated in the work order, the CONTRACTORS agree to pay a penalty of..... % of the value of the work order for each week of delay beyond the date stipulated for the completion, subject, however to a maximum of..... % of the work order. It is agreed that time is the essence of the contract.

2. In consideration of the premises the COMPANY covenants with the CONTRACTORS that it will pay to the CONTRACTORS at the several times and in the sums, proportions and mannerinthesaidgeneralconditions,specialconditionsinthatbehalf providedtheamount accruing from time to time, but subject to conditions thereincontained.

3. This agreement further witnesseth that the CONTRACTORS hereby covenant with the COMPANYthatintheeventofthenon-fulfillmentinanyrespectbytheCONTRACTORSof

the said covenants, terms, agreements, obligations will pay to the COMPANY all loss, damages, costs, charges and expenses as the COMPANY may be directly or indirectly put to in consequence of such non-fulfillment by the CONTRACTORS.

4. IftheCONTRACTORSfailtoperformthecontractorcarryoutthecontracttothesatisfaction of the COMPANY within the period fixed for the purpose or at any time repudiates the contract before the expiry of such period, the General Manager-Ascon or any officer of the COMPANY so authorized may, without prejudice to the right of the COMPANY to recover from the CONTRACTORS damages for the breach of the contract, terminate the contract as a whole or terminate a part of the contract at the risk and cost of the CONTRACTORS without prior notice and get the balance work executed through some other agencies and held the CONTRACTORS liable for all the loses and expenses incurred by the COMPANY. ThedecisionoftheGeneralManager-Asconisfinalconcerningthesatisfactoryperformance of the contract and is binding on both theparties.

5. In the event of any disputes arising in connection with this contract, it is further agreed that such disputes shall be referred to the sole arbitrator as per the arbitration clause in the general terms and conditions of thecontract.

6. The following documents are deemed to form part and parcel of the agreement viz., the tender dated **……..** and letter no **…….**dated .....the general terms and conditions, special conditions, the specifications, the priced bill of quantities, the scheduleofratesandprices,andthedrawingsmentionedinthespecifications,acceptance letter no**……..** dated**……..** all of which for identification have been signed by the **……..** on the behalf of the COMPANY, and **……** onbehalfofacceptanceandallllettersreferredthereinwillalsoformapartofthisagreement.

7. This agreement further witnesseth that the CONTRACTORS are responsible for any accident or other compensation payable to the workman employed by the working under thecontrolofCONTRACTORSfeattheCOMPANYhasnosortofliabilityinthematter,and thatifanypaymentwouldhavetobemadebytheCOMPANY,thesameshallbereimbursed by the CONTRACTORS.

In witness whereof, the said parties hereto have hereunto set their hands.

ForITILIMITED, For**PROPRIETOR……..**

Witnesses:

Witness	
1. ……..	**1.** ……..
2. ……	**2.** ……

Place:
Date:

ANNEXURE-2

I T I LTD.
(A Government of India Enterprise)
Network Systems Unit, Dooravaninagar
BENGALURU – 560 016.

NON-DISCLOSURE AGREEMENT

This Agreement ismadeon_____dayof_____2025 between ITILIMITED,NETWORK SYSTEMS UNIT a Government of India Enterprise, having its registered and corporate office at ITI BHAVAN, DOORAVANINAGAR, BENGALURU – 560 016**.** hereinafter called ITI LIMITED which expression shall unless repugnant to the subject or the context mean and included its successor, nominees or assigns and M/s_____acompanyincorporated under the Indian Companies act, 1956, and having its registered office at _____Herein after called"Bidder"which expression shall unless repugnant to the subject or the context mean and include its successors, nominees or assigns**.**

Whereas a Tender was floated by ITI LIMITED for **Construction of Buildings [Up Gradation], Electrification. Roads, Drains, Water supply, and Sewerage works, etc.,**
andM/s_____is one of the Bidders**.** The Bidder will be issued a tender document, which contains highly classified and confidential information**.** The information is to be protected from unauthorized use anddisclosure:

In consideration of this, the Bidder agrees as follows:

1. This Agreement will apply to any information attached hereto about project disclosed by ITI LIMITED to the Bidder in writing or otherwise, information consists of tender document, specifications, designs, plans drawing, software, prototypes and/or technical information, and all copies and derivatives containing such Information, that may be disclosed to Bidder for and during the purpose**.** Information may be in any form or medium, tangible or intangible, and may be communicated/disclosed in writing, orally, or through visual observation, or by any other means by ITI LIMITED to theBidder**.**

2. The Bidder shall use the information about this project only for the purpose and shall hold information in confidence using the same degree of care as it normally exercises to protect itsproprietaryinformation,butnotlessthanreasonablecare,takingintoaccountthenature of the information and shall grant access to information only to its employees who need to know, but only to the extent necessary to carry out the business purposes of this project as defined in**.** The Bidder shall cause its employees to comply with the provisions of this Agreement applicabletohisandshallnotreproduceinformationwithoutpriorpermissionof ITI LIMITED**.** The permission to reproduce shall only be given if considered necessary and to the extent essential for fulfilling the purpose**.** The Bidder may, however, disclose the information to its consultants and contractors with a need to know; provided that by doing so, the Bidder agrees to bind those consultants and contractors to terms at least as restrictiveasthosestatedherein,advisethemoftheirobligationsandindemnifyITILIMITED for any breach of thoseobligations**.**

3. TheBiddershallnot discloseanyinformationpertainingtothisprojecttoanythirdparty**.**

ITI LIMITED Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

4. UpontherequestofITILIMITED,heshallreturnallinformationtoITILIMITEDimmediately, provided, however, that an archival copy of the information may be retained in the files of the Bidder's counsel, solely to provide the contents of theinformation**.**

5. IncasetheBidder isnotselectedforawardingtheworkofthis project,heshallreturntoITI LIMITEDalltheoriginaldocumentsthathavebeenmadeoverbyITILIMITEDtohim about this project Within 15 days of the outcome of the tender and/or shall destroy all hard/soft copies)oftheinformationaboutthisproject**.**IntimationinthisregardistobegivenbyBidder to ITILIMITED**.**

6. The Bidder recognizes and agrees that all the information about this project is highly confidential and is owned solely by ITI LIMITED, Govt of India and that the unauthorized disclosure or use of such confidential information would cause irreparable harm and significant injury, the degree of which may be difficult to ascertain**.** Accordingly, the Bidder agrees that ITI LIMITED will have the right to obtain an immediate injunction enjoining any breach of this Agreement, as well as the right to pursue any other rights and remedies available at law or in equity for such abreach**.**

7. The Bidder's failure to enforce any provision, right, or remedy under this agreement shall not constitute waiver of such provision, right, orremedy**.**

8. ThisAgreementwillbeconstruedin,interpretedandappliedinaccordancewiththelawsof India**.**

9. This Agreement and **Appendix A** attached hereto constitutes the entire agreement with respect to the Bidder's obligations in connectionwith information disclosed hereunder**.**

10. The Bidder shall not assign this Agreement without first securing ITI LIMITED's written consent**.**

11. This agreement will remain in effect for ten years from the date of the last disclosure of confidential information, at which time it will terminate, unless extended by ITI LIMITED in writing**.**

IN WITNESS WHEREOF, the parties hereto have executed this agreement by their duly authorized officer or representatives**.**

ITILIMITED	ITILIMITED
M/s……..	M/s……..
Signature……..	Signature……..
PrintedName……..	Printed Name……..
Title……...	Title……...
Signed	Signed

Appendix-A

Business Purpose: Construction of Buildings [Up Gradation], Electrification. Roads, Drains, Water supply, and Sewerage works, etc.,

1.0 Confidential Information of ITILimited.

1.1 Tender document for Construction of buildings [UpGradation]

1.2 The technical specifications / Bill of quantities for civilworks.

1.3 Detaileddrawings.

1.4 Details ofLocations

1.5 AllInformation'ssharedinoralorinwrittenbyITILimitedwithM/s ----------

For ITI Limited

ForM/s_____

Signatures. ----------

Signature_____

Name ----------

Name_____

ANNEXURE-3

PRE-CONTRACT INTEGRITY PACT

PURCHASE ENQUIRY / ORDER No. ITI/NSU/CIVIL-DEL/2025/0112/01 dated xx-05-2025.

THIS Integrity Pact is madeon……dayof..... 20...

BETWEEN:
ITI Limited having its Registered & Corporate Office at ITI Bhavan, Dooravaninagar, Bangalore 560 016 and established under the Ministry of Communications, Government of India (hereinafter called the Principal), which term shall unless excluded by or is repugnant to the context, be deemed to include its Chairman & Managing Director, Directors, Officers or any of them specified by the Chairman & Managing Director in this behalf and shall also include its successors and assigns) ON THE ONE PART

AND:**……..** represented by.....Chief Executive Officer (hereinafter called the Contractor(s), which term shall unless excluded by or is repugnant to the context be deemed to include its heirs, representatives, successors and assigns of the bidder/contract ON THE SECOND PART.

Preamble
WHEREAS the Principal intends to award, underlaid down organizational procedures, contract for **……** of ITI Limited (name of the Stores/equipment/items). The Principal, values full compliance with all relevant laws of the land, regulations, economic use of resources, and fairness/ transparency in its relations with its Bidder(s)/ Contractor(s).

ToachievethesegoalsthePrincipalhasappointedanIndependentExternalMonitor(IEM),whowill monitor the tender process and the execution of the contract for compliance with the principles as mentioned herein in thisagreement.

WHEREAS, to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact the terms and conditions of which shall also be read as integral part and parcel of the Tender Documents and contract between the parties.

NOW, THEREFORE, IN CONSIDERATION OF MUTUAL COVENANTS STIPULATED IN THIS PACT THE PARTIES HEREBY AGREE AS FOLLOWS AND THIS PACT WITNESSETH AS UNDER:

Section 1 – **Commitments of the Principal**

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the followingprinciples:

a. No employee of the Principal, personally or through family members, will in connection withthetenderfororthecontractexecutionofthecontract,demand,takeapromiseforoaccept, forselforthirdperson,anymaterialorimmaterialbenefitwhichthepersonisnotlegally entitledto.

b. The Principal will, during the tender process treat all bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all bidder(s) the same information and will not provide to any bidder(s) confidential/additional information through which the bidder(s) could obtain an advantage about the tender process or the contractexecution.

c. The Principal will exclude from the process all known prejudicedpersons.

1.2 If the Principal obtains information on the conduct of any of its employee, which is a criminal offense under IPC/PC Actor if there be a substantive suspicion in this regard, the Principal willinformtheChiefVigilanceOfficerandalso,caninitiatedisciplinaryactionasperitsinternal laid down Rules/Regulations.

SECTION 2 – COMMITMENTS OF THE BIDDER/CONTRACTOR

1.1 The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during the participation in the tender process and the execution of thecontract.

a. The bidder(s)/contractor(s) will not, directly or through any other person or firm offer, promise, or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of thecontract.

b. The bidder(s)/contractor(s) will not enter with other bidders/contractors into an undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids, or any other actions to restrict competitiveness or to introduce cartelization in the biddingprocess.

c. The bidder(s)/contractor(s) will not commit any offense under IPC/PC Act, further, the bidder(s)/contractor(s) will not use improperly, for purposes of competition of personal gain,orpassontoothers,anyinformationordocumentprovidedbythePrincipalaspart of the business relationship, regarding plans, technical proposals and business details, including information contained or transmittedelectronically.

d. The Bidder(s)/Contractor(s) of the foreign original shall disclose the name and address of the agents/representatives in India if any. Similarly, the Bidder(s)/Contractor(s) of IndianNationalityshallfurnishthenameandaddressof theforeignprincipals, ifany.

e. TheBidder(s)/Contractor(s)will,whenpresentingthebid,discloseanypaymentsmade, are committed to or intend to make to agents, brokers, or any other intermediaries in connection with the award of thecontract.

f. TheBidder(s)/Contractor(s)willnotbringanyoutsideinfluenceandGovtbodiesdirectly or indirectly on the bidding process in furtherance of hisbid.

g. The Bidder(s)/Contractor(s) will not instigate third persons to commit offenses outlined above or to be an accessory to suchoffenses.

SECTION 3 – DISQUALIFICATION FROM TENDER PROCESS &EXCLUSION FROM FUTURE CONTRACTS

3.1 If the Bidder(s)/Contractor(s), during the tender process or before the award of the contract or during execution has committed a transgression in violation of Section 2, above or in any other form such as to put his reliability or credibility in question the Principal is entitled to disqualify Bidder(s)/ Contractor(s) from the tenderprocess.

3.2 If the Bidder(s)/Contractor(s), has committed a transgression through a violation of Section 2 of the above, such as to put his reliability or credibility into question, the Principal shall be entitledexcludeincludingblacklistingforfuturetender/contractawardprocess.Theimposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case, particularly taking into account the number of transgressions, the position of the transgressor within the Company hierarchy of the Bidder(s)/Contractor(s) and the amount of the damage. The exclusion will be imposed for a period of a minimum of oneyear.

3.3 The Bidder(s)/Contractor(s) with its free consent and without any influence agrees and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusionandfurtheracceptsandundertakesnottochallengeorquestionsuchexclusionon any ground including the lack of any hearing before the decision to resort to such exclusion istaken.Theundertakingisgivenfreelyandafterobtainingindependentlegaladvice.

3.4 A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that based on facts available there are no materialdoubts.

3.5 The decision of the Principal to the effect that breach of the provisions of this Integrity Pact hasbeencommittedbytheBidder(s)/Contractor(s)shallbefinalandbindingontheBidder(s)/ Contractor(s), however the Bidder(s)/ Contractor(s) can approach IEM(s) appointed for the purpose of thisPact.

3.6 Ontheoccurrenceofanysanctions/disqualificationsetcarisingoutfromviolationofintegrity pact Bidder(s)/ Contractor(s) shall not be entitled to any compensation on thisaccount.

3.7 subject to the satisfaction of the Principal, the exclusion of the Bidder(s)/ Contractor(s) could be revoked by the Principal if the Bidder(s)/ Contractor(s) can prove that he has restored/ recouped the damage caused by him and has installed a suitable corruption preventative system in hisorganization.

SECTION 4 – PREVIOUS TRANSGRESSION

4.1 The Bidder(s)/ Contractor(s) declares that no previous transgression occurred in the last 3 yearsimmediatelybeforesigningofthisIntegrityPactwithanyotherCompanyinanycountry conforming to the anti-corruption/ transparency International (TI) approach or with any other Public Sector Enterprises/ Undertaking in India of any Government Department in India that could justify his exclusion from the tenderprocess.

4.2 If the Bidder(s)/ Contractor(s) makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Section-3 of the above for transgressions of Section-2 of the above and shall be liable for compensation for damages as per Section- 5 of thisPact.

SECTION 5 – COMPENSATION FOR DAMAGE

5.1 IfthePrincipalhasdisqualifiedtheBidder(s)/Contractor(s)fromthetenderprocessbeforethe awardaccordingtoSection3thePrincipalisentitledtoforfeittheEarnestMoneyDeposit/Bid Security/ or demand and recover the damages equitant to Earnest Money Deposit/Bid Security apart from any other legal that may have accrued tothe Principal.

5.2 Inadditionto5.1abovethePrincipalshallbeentitledtotakerecoursetotherelevantprovision ofthecontractrelatedtotheterminationofContractduetoContractordefault.Insuchacase, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor or demand and recover liquidate and all damages as per the provisions of the contract agreement againsttermination.

SECTION 6 – EQUAL TREATMENT OF ALL BIDDERS/CONTRACTORS

6.1 ThePrincipalwillenterintoIntegrityPactonallidenticaltermswithallbiddersandcontractors for identicalcases.

6.2 The Bidder(s)/Contractor(s) undertakes to get this Pact signed by its sub-contractor(s)/sub-vendor(s)/associate(s), if any, and to submit the same to the Principal along with thetender

document/contract before signing the contract. The Bidder(s)/Contractor(s) shall be responsibleforanyviolation(s)oftheprovisionslaiddownintheIntegrityPactAgreementby any of itssub-contractors/sub-vendors/associates.

6.3 The Principal will disqualify from the tender process all bidders who do not sign this Integrity Pact or violate itsprovisions.

SECTION 7 – CRIMINAL CHARGES AGAINST VIOLATING BIDDER(S)/ CONTRACTOR(S)

7.1 If the Principal receives any information of conduct of a Bidder(s)/Contractor(s) or sub-contractor/sub-vendor/associates of the Bidder(s)/Contractor(s) which constitutes corruption or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer of the Principal for appropriate action.

SECTION 8 – INDEPENDENT EXTERNAL MONITOR(S)

8.1 ThePrincipalappointscompetentandcredibleIndependentExternalMonitor(s)forthisPact. ThetaskoftheMonitoristoreviewindependentlyandobjectively,whetherandtowhatextent the parties comply with the obligations under thispact.

8.2 The Monitor is not subject to any instructions by the representatives of the parties and performs his functions neutrally and independently. He will report to the Chairman and Managing Director of thePrincipal.

8.3 TheBidder(s)/Contractor(s)acceptsthattheMonitorhastherighttoaccesswithoutrestriction to all product documentation of the Principal including that provided by the Bidder(s)/Contractor(s). The Bidder(s)/Contractor(s) will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The Monitor is under contractual obligation to treat the information and documents Bidder(s)/Contractor(s) withconfidentiality.

8 .4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the project provided such meeting could have an impact on the contractual relations between the Principal and the Bidder(s)/Contractor(s). As soon as the Monitor notices,orbelievestonotice,aviolationofthisagreement,hewillsoinformtheManagement of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations.Beyondthis,theMonitorhasnorighttodemandfromthepartiesthatthey act in a specific manner, refrain from action, or tolerateaction.

8.5 TheMonitorwillsubmitawrittenreporttotheChairman&Managing DirectorofthePrincipal within a reasonable time from the date of reference or intimation to him by the principal and, should the occasion arise, submit proposals for correcting problematicsituations.

8.6 If the Monitor has reported to the Chairman & Managing Director of the Principal a substantiated suspicion of an offence under relevant IPC/PC Act, and the Chairman & Managing Director of the Principal has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central VigilanceCommissioner.

8.7 Theword 'Monitor' would include both singular and plural.

8.8 DetailsoftheIndependentExternalMonitorappointedbythePrincipalatpresentisfurnished below:-

Shri Javeed Ahmad, IPS(Retd.)
M-1101, Shalimar Gallant Apartment,
Vigyanpuri ,Mahanagar,Lucknow-226006

Any changes to the same as required/desired by statutory authorities is applicable."

SECTION 9 – FACILITATION OF INVESTIGATION

1.1 In case of any allegation of violation of any provisions of this Pact or payment of a commission, the Principal or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder(s)/Contractor(s) and the Bidder(s)/Contractor(s) shall provide necessary information and documents in English andshallextendallhelptothePrincipalforthepurposeofverificationofthedocuments.

SECTION 10 – LAW AND JURISDICTION

10.1 The Pact is subject to the Law as applicable in Indian Territory. The place of performance and jurisdiction shall the seat of thePrincipal.

10.2 The actions stipulated in this Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminalproceedings.

SECTION 11 – PACT DURATION

11.1 This Pact begins when both the parties have legally signed it. It expires after 12 months on completion of the warranty/guarantee period of the project/work awarded, to the fullest satisfaction of thePrincipal.

11.2 IftheBidder(s)/Contractor(s)isunsuccessful,thePactwillautomaticallybecomeinvalidafter three months on the evidence of failure on the part of theBidder(s)/Contractor(s).

11.3 If any claim is lodged/made during the validity of the Pact, the same shall be binding and continue to be valid despite the lapse of the Pact unless it is discharged/determined by the Chairman and Managing Director of thePrincipal.

SECTION 12 – OTHER PROVISIONS

12.1 ThispactissubjecttoIndianLaw,theplaceofperformanceandjurisdictionistheRegistered & Corporate Office of the Principal atBengaluru.

12.2 Changesandsupplements,aswellasterminationnotices,needtobemadeinwritingbyboth parties. Side agreements have not beenmade.

12.3 If the Bidder(s)/Contractor(s) or a partnership, the pact must be signed by all consortium members andpartners.

12.4 Should one or several provisions of this pact turn out to be invalid, the remainder of this pact remains valid. In this case, the parties will strive to agree with their originalintentions.

12.3 Any disputes/ difference arising between the parties concerning the term of this Pact, any actionwastakenbythePrincipalunderthisPactorinterpretationthereofshallnotbesubject to anyArbitration.

12. 4 The action stipulates in this Integrity Pact are without prejudice to any other legal action that may follow under the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pactat the place and date first done mentioned in the presence of the witnesses:

ForPRINCIPAL	ForBIDDER(S)/CONTRACTOR(S)
……..	……
(Name &Designation)	(Name &Designation)
Witness	Witness
1) ……	**1)**……...
2) ……..	**2)**…….....

ANNEXURE-4

ITI LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)

PROFORMA OF BANK GUARANTEE IN LIEU OF E M D
(Judicial Stamp paper of appropriate value as per Stamp Act - of the respective state)

ITI Limited, (Address as mentioned in Notice Inviting Tender)

In consideration of ITI Limited, having ITI Corporate Office, ITI Bhawan, -Bengaluru -560 016 (hereinafter called ITI" which expression shall unless repugnant to the subject or context include its successors and assigns) having issued Notice Inviting Tender No..... and M/s ……having its Registered Head Office at..... (hereinafter called the"TENDERER'")istoparticipateinthesaidtenderfor.....WhereasITI,asaspecial case, has agreed to accept an irrevocable and unconditional Bid Bond Guarantee for an amount of Rs..... valid up to..... from the tenderer in place of Cash Deposit of Rs required to be made by the tenderer, as a condition precedent for participation in the said tender. We the.....(hereinaftercalledthe"BANK")havingitsRegistered,Officeat.....andbranchofficeat..... do hereby unconditionally and irrevocably undertake to pay to ITI on demand in writing and without demur/protest any amount but not exceedingRs.....

Any such demand made by ITI shall be conclusive and binding on us irrespective of any dispute or differences that may be raised by the tenderer. Any change in the constitution of the tenderer or the Bank shall not discharge our liability under the guarantee.

We,the Bank, lastly undertake not to revoke this guarantee during its currency withouttheprior consent of ITI in writing and upon expiry of which, we shall be relieved of our liability under this guaranteethereafter.

FOR AND ON BEHALF OF BANK

PLACE :

DATED :

WITNESS.

1. **……**

2. **……**

ANNEXURE-5

DECLARATION OF TENDERERS

FROM **……**

TO

……
……

1. I/We**……**
…….**.**have read the conditions of the tender and tender documents attached hereto and agree to abide by such conditions**.** I/We offered to do .....at the ratesquoted in the attached schedule to complete the works on or before the dates mentioned in the schedule for completion of works**.**

2. I/We further agree to sign an agreement, bind to abide by the general conditions of the contract, and to carry out all works according to the specifications laid down in the tender papers**.** I/We hereby pay the earnest money of.....by demand draft/banker's cheque**.** I/We bind myself/ ourselves to deposit the security deposit [Performance security] as prescribed within 15 days after receiving the notice that the contract has been awarded to me/us failing which I/We have no objection to the forfeiture of theearnestmoneyinfull; otherwisethesaidearnestmoneyshallberetainedbythesaid company towards security deposit as specified in the conditions**.** I/We further bind myself /ourselves to execute the contract document and to commence the work with 15 days after issue of the work order in writing as aforesaid failing I/We agree to the company forfeiting the earnest money and security deposit deposited with them**.** The accepting authority shall also be at liberty to cancel the acceptance of the tender if I/We fails to deposit the security amount as specified or to execute an agreement or to start work as stipulated in the tender documents**.**

3. I/We hereby enclose a declaration of my/our experience of execution of works of similar natureandmagnitudecarriedoutbyme/usintheprescribedproforma,andalsotheincome tax and sales tax clearancecertificates**.**

4. The offer shall remain open for acceptance by the Accepting Authority for a **period of 4 months** from the date of opening of the tender**. [120days]**

Date:

Signature of tenderer
with the seal of the firm

witness**……**
(Name in block letters)
Power of attorney in case the tender is signed by the authorized nominee must be enclosed**.**

Address:
Occupation:

ANNEXURE-6

Name of the Clients with Address, E-mail, and Phone No.

PROFORMA FOR WORK EXPERIENCE CERTIFICATE FROM CLIENTS,

Name of the Contractor:

1	**Name of work/project location**	
2	**Name and address of the client**	
3	**Agreement amount**	
4	**Cost of work on completion**	
5	**Date of start**	
6	**Stipulated date of completion**	
7	**The actual date of completion**	
8	**Type of work [Residential/Commercial]**	
9	**Plinth area of /Built-up area of construction**	
10	**Performance Report**	
A	**Quality of work**	
B	**Resourcefulness**	
C	**Financial soundness**	
D	**Technical proficiency**	
E	**General behavior**	

Date, Name, & Designation,

Signature with Seal of the Issuing Authority

ANNEXURE-7.

TURN OVER FOR LAST THREE YEARS.

Sl.no.	Financial year	Turnover	Average of three years
1	2022-23		
2	2023-24		
3	2024-25		
		Average turnover	

Note:

In addition to the above, the applicant has to submit the following documents/information,

a. Copy of the balancesheets
b. Copy of the valid GSTno.
c. Copy of thePAN/TAN
d. Details of litigation ifany.
e. Other relevant details ifany.

The requisite Turnover certificate shall be duly certified by a Chartered Accountant with his seal /Signature and Registration No.

Signature of the bidder with Seal

ANNEXURE-- 8

ORGANISATION SET UP OF THE COMPANY.

Sl.No.	Name	Designation	Qualification	Professional Experience	Registration	Years with the firm	Remarks

Signature of the bidder with Seal

ANNEXURE- 9

DETAILS OF THE WORK COMPLETED DURING THE LAST 5 YEARS

Sl. No.	Name of work	Scope of services	Value of Construction	Date of start/completion	Name and address of the client	Value of TDS in case of private work	Remarks

NOTE:

THE FOLLOWING DOCUMENTS ARE TO BE ENCLOSED FOR EACH OF THE ABOVE WORKS.

a. Completioncertificate.
b. Copy of awardletter.
c. Other relevant documentary evidence, ifany.

Signature of the bidder with Seal

ANNEXURE- 10

DETAILS OF ONGOING WORKS.

Sl.No.	Name of work	Scope of services	Value of Construction	Date of start/completion	Name and addressof theclient	Remarks

NOTE:]

(1) The following documents are to be enclosed for each of the aboveworks.

a. Copy of Awardletter.
b. Other relevant documentary evidence ifany.

Signature of the bidder with Seal.

ANNEXURE -11

ITILIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)

PROFORMA OF BANK GUARANTEE (PERFORMANCE)
(judicial Stamp per Stamp Act - paper of appropriate value as a respective state)

ITI LIMITED,
(Address as mentioned in Notice Inviting Tender)

'Whereas the ITI Limited (hereinafter called ITI" which expression shall include its successors and assigns) having awarded a work order/contract/supply order No. dated (hereinafter called the contract) to M/S..... (hereinafter called the Contractor/ firm) at a total price of RS ..... subject to the terms and conditions contained in the contract.

WHEREAS,thetermsandconditionsofthecontractrequirethecivilContractor/firmtofurnishabank guarantee for RS **……..**(RUPEES.....} Being ..... 5% of the total value of the contract for proper execution and due fulfillment of the terms and conditions contained in the contract.

We, the Bank,(hereinafter called the"Bank") do here by unconditionally and irrevocably under take to pay to ITI Ltd. immediately on demand in writing and 'without protest/or demur all sums of money payable by the Contractor/firms to ITI in connection with the execution/supply of and performance of the works/equipment, inclusive of any loss, damages, charges, expenses, and costs caused to or suffered by or which would be caused to or suffered by ITI Ltd. because of any breach by the Civil Contractor/firms., of any of the terms and conditions contained in the contract as specified in the notice of demand made by ITI Ltd. to the bank. Any such demand made by ITI on the bank shall be conclusiveevidenceoftheamountdueandpayablebytheBankunderthisguarantee.However,the Bank's liability under this guarantee shall be limited to Rs .....in the aggregate and the Bank hereby agrees to the following terms and conditions:-

i) ThisguaranteeshallbeacontinuingguaranteeandirrevocableforallclaimsofITILtdasspecified above and shall be valid during the period specifiedfor the performance of the contract**.**

ii) We, the said bank further agree with ITI Ltd. that ITI shall have the fullest liberty without our consent and without affecting in any manner our obligations and liabilities hereunder to vary any of the terms and conditions of the said contract or to extend the time for performance of contractCivilcontractor/firmfromtimetotimeortopostponeforanytimeorfromtimetotime any of the powers exercisable by ITI Ltd. against the Civil contractor/ firm under the contract and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability because of any such variations or extension being granted to the CivilContractor.

Civil contractor/firm or for any forbearance, actor omission on the part of ITI Ltd. or any indulgencebyITItotheCivilcontractor/firmorbyanysuchmatterorthingwhatsoever,which under the law relating to the sureties would, but for this provision, have **the effect of so relievingus.**

(iii) This guarantee/undertaking shall be in addition to any other guarantee or security whatsoever ITI may now or at any time have concerning the performance of the works/equipment and the company shall have a full re-course to or enforce this security in performance to any other security or guarantee which ITI may have or obtained and there shallbenoforbearanceonthepartofthecompanyinenforcingorrequiringenforcementof any other security which shall have the effect of releasing the Bank from its full liability, It shall not be necessary for ITI Ltd. to proceed against the said Civil contractor/ firm before proceeding against theBank**.**

(iv) Thisguarantee/undertakingshallnotbedeterminedoraffectedbytheliquidationorwinding up, dissolution or change of constitution or insolvency of the Civil contractor/ firm, but shall in all respects and for all purposes be binding and operative until payment of all sums of money payable to ITI in terms thereof are paid by theBank**.**

(v) The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee andtheobligationsofthebankintermshereof,shallnotbeotherwiseeffectedorsuspended by reasons of any dispute or disputes having been raised by the Civil contractor/firm (whether or not pending before any Arbitrator, Tribunal or Court) or any denial of liability by the civil contractor firm stopping or preventing or purporting to stop or prevent anypayment by the Bank to ITI in termshereof**.**

We, the said Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of ITI Ltd. in writing upon expiry of which, we shall be relieved from all liabilities under this guarantee thereafter.

Signed this **.....** day of **……..** at **……..**

For and on behalf of Bank

WITNESS.

1. **……**
2. **……**

ANNEXURE-12

ACCEPTANCE OF TENDER CONDITIONS

From: (To be submitted in ORIGINAL on the letterhead of the company by the authorized officer having power of attorney)

To,

Assistant Manager

ITI Limited ESG (ASCON),
C/o. HQ 5 Sig Group,
Opp. HQ Western Air Command,
NH-8, Asmara Lines,
Delhi Cantt. 110010.

Sub: Construction of buildings/roads for**.....**

1. This has reference to the above-referred tender. I/We are pleased to submit our tender for the above work and I/We hereby unconditionally accept the tender conditions and tender documents in their entirety for the abovework.

2. I/we are eligible to submit the bid for the subject tender and I/We have all the documents required.

3. I/WehaveviewedandreadthetermsandconditionsofITILtd.carefully.

- **a.** Notice Inviting tender, General conditions of contract with price bidsheet.
- **b.** Special conditions ofcontract
- **c.** Instructions tobidder
- **d.** Integrity Pact
- **e.** Corrigendum, ifany
- **f.** Other documents, ifany

4. I/We have submitted mandatory documents such as cost of bid documents, EMD of the requisite amount, and other documents as per Notice invitingTender.

Yours faithfully

[Signature of the tenderer]
With rubber stamp

Dated.

Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

ANNEXURE – 13

AFFIDAVIT

(To be submitted by the bidder on non-judicial stamp paper of Rs. 100/- (Rupees Hundred only) duly attached by Notary Public) (To be submitted in Envelop-1)

Affidavit of Mr .....S/o **.....** R/o **.....** I, the deponent above named do hereby solemnly affirm and declare as under:

1. That I am the Proprietor/Authorized signatory of M/s ..... Having its Head Office/Regd. Office at **…….....**

2. That the information/documents/Experience certificates submitted by M/s **……..…** along withthetenderfor**……**(*Nameofwork*).....ToITIltd. aregenuineand true and nothing has beenconcealed.

3. I shall have no objection in case ITI Ltd. verifies them from issuing authorities. I shallalso have no objection in providing the original copy of the document(s), in case ITI Ltd. demand so for verification.

4. I hereby confirm that in case, any document, information & / or certificate submitted by me is foundtobeincorrect/false/fabricated,ITILtdatitsdiscretionmaydisqualify/reject/terminatethe bid/contract and also forfeit the EMD / Alldues.

5. I shall have no objection in case ITI Ltd verifies any or all Bank Guarantee(s) under any of the clause(s) of Contract including those issued towards EMD and Performance Guarantee from the Zonal Branch /office issuing Bank and I/We shall have no right or claim on my submitted EMD before ITI Ltd receives saidverification.

6. That the Bank Guarantee issued against the EMD issued by (name and address of the Bank) isgenuineandiffoundatanystagetobeincorrect/false/fabricated,ITI.Ltd.shallrejectmybid, cancelpre-qualification anddebarmefromparticipatinginanyfuturetenderforthreeyears

7. I hereby confirm that our firm/Company is not blacklisted /barred/banned from tendering by ITI or other government organizations. If this information is found incorrect, ITI Ltd at its discretion may disqualify /reject /terminate the bid contract and forfeit theEMD.

8. The person who has signed the tender documents is our authorised representative. The Company is responsible for all of his acts and omissions in thetender.

I, **.....,** the Proprietor / Authorised signatory of M/s .....do hereby confirm that the contents of the above affidavit are true to my knowledge and nothing has been concealed therefrom**.....**and that no part of it is false. Verified at **.....**.this**.....**day of **.....**

DEPONENT
ATTESTED BY (NOTARY PUBLIC)

ANNEXURE- 14

Dispatch number of bank/Date:

SOLVENCY CERTIFICATE ON LETTERHEAD OF BANK

This is to state that the best of our knowledge and information that

M/s_____having /registered office address_____is a customer of the bank and has been maintaining his accounts with our branchsince----------. As per records available with the bank, M/s---------- can be treated as solvent up to a limit of Rs----------[Rupees in words ----------]

It is clarified that the above information is furnished and this certificate is being issued at the specific request of the customer.

Name Designation signature with seal

Note: The certificate shall have been issued within 6 months from the original last date of the submission of the tender.

ANNEXURE- 15

CHECKLIST FOR THE SUBMISSION OF TENDER:

Whether the following documents are enclosed:

Sl. Nos.	Discerption	Yes	No	Page No.
1	Documents in support of the submission of cost of tender document			
2	Documents in support of submission of EMD			
3	Copy of Power of Attorney of authorized signatory of the bid on stamp paper duly notarized			
4	EPF registration certificate			
5	GST registration certificate			
6	Average annual financial turnover for the last three years certified by the Chartered Accountant with registration number			
7	Bank Solvency certificate on or after ----------			
8	Work completion certificate during the last five years			
9	Organization set up of the company [as per annexure]			
10	Details of ongoing works			
11	Signed Integrity Pact			
12	Any Litigation History			
13	All the pages of tender documents signed			
14	Signed non-disclosure agreement			
15	CHECKLIST			
16	Price Bid – Part II (Separate)			

Note: Bidder has to take notice of the above points and checkmark Yes / No. The checklist shall be placed in the technical bid.

----- END OF SECTION –VI -----

ITI LIMITED

Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

SECTION VII

SPECIAL CONDITIONS

General

1 ThesespecialconditionsshallbereadinconjunctionwiththeGeneralTermsandConditions of thecontract.Wheretheprovisionsoftheseconditionsareatvariancewiththeprovisions of the General Conditions of the Contract, the provisions of these special conditions shall takeprecedence.

2 Theworkshallbeexecutedinstrictaccordancewiththeacceptedconditionsofthecontract, bill of quantities, specifications, and orders as may be issued by the Engineer-in-Charge and hisrepresentatives

3 The Bill of quantities is to be read in conjunction with the form of Tender, Drawings, Conditions of Contract, specifications as these documents are jointly explanatory and descriptive of the works included in thecontract.

4 The rates quoted in the bill of Quantities are to be for the full inclusive value of the work described under the several items, including all costs and expense which may be required inandfortheconstructionandfullprotectionoftheworkdescribed,togetherwithallgeneral risks, liabilities, and obligations set forth or implied in the documents on which the tender is based. The quoted rates will be for all heights, lifts, and leads unless otherwise mentioned specifically in the description ofthem.

5 The quantities of work in the schedule are not to be considered as limiting the amount of work to be done by the contractor. The quantities are an estimate of the amount of work to be executed and the work will be measured on completion and the Contract amount adjustedaccordingly.

6 **The quantity variation: quantities given in the tender documents may increase/decrease up to any extent. However, rates shall remain firm for variation in quantities whatever may be the percentage of increase or decrease in the quantities of any item. Rates shall remain firm even if certain items are required to be deleted. No claim in this regardadmissible.**

7 The contractor shall fully cooperate with all personal and agencies engaged by ITI Ltd for carrying out the other works. The structural and architectural drawings shall at all times be properly correlated before the execution of any work. However, in case of any discrepancy in the items given in the schedule of the quantities appended with the tender and architecturaldrawingsrelatingtotherelevantitem,theformershallprevailunlessotherwise given in writing by the Engineer incharge**.**

8 General directions and descriptions of work and materials have given elsewhere in the contractdocumentsarenot necessarilyrepeatedintheSchedule.Reference istobemade to the other documents for fullinformation.

8.1 The contractor will be held to have visited the site before preparing the tender and to have examinedforhimselftheconditionsunderwhichthework willbecarriedout,includinglocal conditionsaffectinglaborandtohavestudiedtheitemsofthebillofquantities,theDrawings and specifications, clauses relating to them and to have satisfied himself that the rates quotedbyhimprovideforallminoraccessoriesandcontingentworksorservicesnecessary for the works described even though they are not preciselydefined.

8.2 Theworkshallbeexecutedinstrictaccordancewiththeacceptedconditionsofthecontract, billofquantities,specifications,andordersasmaybeissuedbytheEngineer-in-chargeand hisrepresentatives.

8.3 Specification shall include relevant provisions in all the following shall be supplementary to eachother.Inthecaseofconflictamongsttheprovisionsforanyitemofworkinthevarious documents under reference, the following precedence shall befollowed:

a) Latest Indian Standard Specifications and code orpractice.
b) Latest CPWD Specifications for works atDelhi.
c) Latest MESspecifications.

9 Note: **Earthing Protection. The Bidders will undertake all civil works related with installation, provision of good earth and lightning protection system at the FC Hub. Chemical Earthing Systems such as the Bonded/Faraday's cage earthing system will be catered for. The earthing should be within permissible value of 1 ohm.**

10 If Specifications for any item of work are not covered by any of the documents mentioned in para above the same shall be decided and conveyed by the Engineer-in-charge to the contractor.

9.1 In case of conflict amongst the provisions of the bill of quantities, specifications, and drawings the following precedence shall befollowed.

a) Descriptions of the item in the bill ofquantities.
b) Provisions in the specifications, Special conditions, ifany.
c) Provisions in thedrawings
d) CPWDspecifications,
e) Indian Standard Specifications ofBIS

9.2 In the case of conflict amongst the various drawings, the decisions of the Engineer-In--Charge shall be final andbinding.

9.3 Samplesof allthematerialsandworkmanshipproposedtobeemployedintheexecutionof works shall be got approved by the Engineer-In-Charge in writing. The Engineer or his representative will reject all materials or workmanship not corresponding in quality or character with the approved samples. All expenses in this connection shall be borne by the contractor.

11 TESTS & INSPECTION: If so required by the Engineer, the contractor shall provide all facilities at the site or manufacture's works or in an approved Laboratory for testing of material/and/or workmanship. All the expenditure in respect of this shall be borne by the contractor unless specified otherwise in the contract. The contractor shall when required to dosobytheEngineer,submitathisowncost,manufacturer'scertificateoftests,proof

sheets, mill sheets, etc. showing that the materials have been tested in accordance with the requirements of this specification.

10.1 C.P.W.D specifications for works at Delhi in respect of Civil/Electrical/ Public health works which will be generally followed for execution of works. These are kept in the office of ITI andtenderersmustinspectandreadcarefullybeforesubmittingtheirtender.Itwillbetaken thatthespecificationshavebeenfullyreadandunderstoodbythetenderers,irrespectiveof thefactwhethertheyhavesodoneornot,andnoclaimonthisaccountshallbeentertained at a laterdate.

A. Wherever cement is used. The rate for that item of work shall be deemed to include proper curing of the cementwork.

12 BENCHMARKS: Masonry pillars will be erected at suitable points in the area to serve as BenchMarks.Thesebenchmarksshallbeconnectedwithpermanentbenchmarksapproved by the Engineer-in-Charge. These benchmarks shall be maintained during the execution of thework.Whenrequiredthecontractorshallarrangefornecessaryequipmentandlaborfor erecting thesame.

12. MATERIAL TESTING –APPROVAL OFSAMPLES

12.1 AllmaterialstobeprovidedbytheContractorshallconformwiththespecificationslaiddown in thecontract.

12.2 TheContractorshallathisownexpenseandwithoutdelaysupplytotheEngineer-in-charge samplesofmaterialsproposedtobeusedintheworks.TheEngineer-in-chargeshallwithin 7daysofsupplyofsamplesorfurtherperiodashemayrequireintimatingtotheContractor in writing whether samples are approved by him or not. If samples are not approved the Contractor shall forthwith arrange to supply to the Engineer-in-charge for his approval fresh samples complying with the specification laid down in theContract.

12.3. The Engineer-in-charge shall have full powers for removal of any or all of the materials brought to the site by the Contractor which are not under the Contract specifications or do not confirm in character or quality of samples approved by him. In case of default on the Contractor in removing rejected materials, the Engineer-in-charge shall have full powers to procure other proper materials to be substituted for rejected materials and in the event of the Contractor refusing to comply, he may supply by other means. All costs, incurred upon such removal and/or substitution, shall be borne by theContractor.

12.4 Thefollowingproprietarymaterialsshallbebroughttothesiteaftertheapprovalof ITILtd.

- **i.** Waterproofingcompound.
- **ii.** Cement.
- **iii.** Steel.
- **iv.** Primer/Paints/Varnishetc.
- **v.** Bitumen
- **vi.** Chemical for anti-termitetreatment.
- **vii.** Any other materials as per discretion of ITILtd.

Cement and Steel required for the work are to be procured by the contractor and the materialsshouldconformtotherelevantIndianStandards.**OrdinaryPortLandCementof Grade 43 with ISI Mark to be used for the works and steel of TMT bars ofFe.500**

12.5 The contractor shall submit documentary evidence e.g. challans, bills, etc. against the proprietarymaterialsbroughttothesiteasachecktoensurethattherequiredquantitiesas required for the execution of works as per specification have been brought to the site for incorporation in thework.

12.6 Proprietary materials brought at the site shall be stored as directed by ITI Ltd and those already recorded shall be suitably marked foridentification.

12.7 The contractor shall ensure that the proprietary materials are brought to the site in original sealedcontainersorpackingbearingmanufacturesmarkingsandbrands(exceptwherethe Quantity required is a fraction of the smallest packing). Materials not complying with this requirement shall be rejected. The empty containers of such proprietary materials shall not be destroyed /disposed of without the permission of ITILtd.

12.8 The contractor shall produce receipted vouchers showing quantities of the materials to satisfy the Engineer-in-charge that the materials comply with the specifications. These vouchers shall be endorsed, dated, and initiated by the Engineer-in-charge giving the contract number and name of work and a certified copy of each such voucher signed both by ITI Ltd and the Contractor shall be kept onrecord.

12.9 When the cost of each category of materials is less than Rs.500/- production of vouchers maynot beinsisteduponiftheITILtdisotherwisesatisfiedwiththequantityofmaterials.

12.10 Reinforcementsteelbarsshallbeofgradefe-500&cement(excludingwhitecement) shall be of OPC 43 gradeonly.

13 RECORDS OF CONSUMPTIOON OF CEMENT&STEEL.

A. For the purpose of keeping a record of cement and steel received at the site and consumed in works, the contractor shall maintain a properly bound register in the formapprovedbytheITILtd,showingcolumnslikequantitybroughttothesite,used in work, and balance in hand, etc. This register shall be signed duly by the Contractors representative and ITI Ltd.'srepresentative.

B. The register of cement and steel shall be kept at the site in the safe custody of ITI Ltd.'s Engineer during the progress of the work. This provision will not however absolve the contractor from the quality of the finalproduct.

C. In case cement or steel quantity consumed is lesser as compared to the theoretical requirementofthesameasperCPWDspecification/normstheworkwillbedevalued and/or a penal (i.e. double the rate at which cement/steel purchased last) recovery for lesser consumption of cement/steel shall be made in the item rates of the work done subject to the condition that the results of the test fall within the acceptable criteria as per CPWD specification otherwise the work shall have to be dismantled and redone by the contractor at no extra cost. In the case of cement, if actual consumption is less than 98% of the theoretical consumption, recovery shall be effected from the contractors' dues at the penal rate as actual quantity is lower than 98% of theoreticalconsumption.

14 MATERIALS ANDSAMPLES:

A. All materials, articles, fittings and accessories, etc. shall comply with the relevant

Indian Standard Specifications and shall bear the ISI mark and wherever specified shall be of approved make. The Engineer of ITI Ltd and the owner shall have the discretiontochecktheequalityofmaterialsandequipment'stobeincorporatedinthe workatthesourceof supplyorsiteof workandevenafterincorporationinthework. They shall also have the discretion to check the workmanship of various items of worktobeexecutedinthiswork.Thecontractorshallprovidethenecessaryfacilities and assistance for thispurpose.

B. The above provision shall not absolve the contractor from the quality of the final product and in getting the material and workmanship quality checked and approved by the Engineer-in-charge of ITILtd.

C. The contractor shall well in advance, produce samples of all materials, articles, fittings, accessories, etc. that he proposes to use and get them approved in writing by ITI Ltd., The materials articles, etc. as approved shall be labeled as such and shall be signed by ITI Ltd., and the contractor'srepresentative.

D. The approved samples shall be kept in the custody of the Engineer in charge of ITI Ltd., till completion of the work. Thereafter the samples except those destroyed during testing shall be returned to the contractor. No payment will be made to the contractor for the samples or samples destroyed intesting.

E. The brand of all materials, articles, fittings, etc. approved together with the name of the manufactures and firms from which suppliers have been arranged shall be recorded in the site orderbook.

The contractor shall provide all equipment to be compatible with the testing requirements specified. The contractor shall maintain all the equipment in good working condition for the duration of the contract.

The contractor shall provide qualified personnel to run the laboratory for the duration of the contract.Thenumberofstaffandequipmentavailablemustatalltimesbesufficienttokeep pace with the sampling and testing program as required by the Engineer-in-charge. The contractorshallfullyservicethesitelaboratoryandshallsupplyeverythingnecessaryforits proper functioning, including all transport needed to move equipment and samples to and from sampling points on the site,etc.

The contractor shall re-calibrate all measuring devices whenever so required by the Engineer-in charge and shall submit the results of such measurements without delay. All field tests shall be carried out in the presence of ITI Ltd's representative.

15 TESTS ANDINSPECTION

The contractor shall carry out the various mandatory tests as per specification and the technicaldocumentsthatwillbefurnishedtohimduringtheperformanceofthework.Allthe tests, either on the field or outside laboratories concerning the execution of the work and supply of materials shall be got carried out by the contractor or ITI Ltd., at the cost of the contractor.Thistestingwillberequiredinadditiontothemanufacturetestcertificate.

16 WORKS TO BE OPEN TOINSPECTION

Allworksexecutedorunderthecourseofexecutioninpursuanceofthiscontractshallatall times be open to inspection and supervision of the ITI Ltd., The work during its progress or after its completion may also be inspected by Chief Technical Examiner of Governmentof

India (CTE) The compliance of observations/improvements as suggested by the inspecting officers of ITI Ltd/CTE/ shall be obligatory on the part of the contractor.

17 SETTING UP OF FIELDLABORATORY:

The contractor shall set up and maintain at his cost a field testing laboratory for all day to day tests at his costs to the satisfaction of the Engineer in charge. This field testing laboratory shall be provided with equipment and facilities to carry out all mandatory field testsasperCPWDspecifications.Thelaboratorybuildingshallbeconstructedandinstalled with the appropriate facilities. Temperature and humidity controls shall be available wherever necessary during the testing ofsamples.

The contractor shall provide all equipment to be compatible with the testing requirements specified. The contractor shall maintain all the equipment in good working condition for the duration of the contract. The contractor shall provide qualified personnel to run the laboratory for the duration of the contract.

18 TESTING OFMATERIALS:

All the tests on materials, as recommended by various relevant Indian Standard Codes or other standard specifications [Including amendments current at the last date of issue of tenderdocuments]shallbegotcarriedoutbythecontractoratthefieldtestinglaboratoryor anyotherrecognizedinstitutions/laboratoryatthedirectionoftheITILtd.alltestingcharges expenses etc., shall be borne by the Contractor. This testing will be required in addition to manufacturing testcertificate.

19 TECHNICALSTAFF:

The contractor shall employ the following technical staff during the execution of this work.
For building works [Civil works]

i. One graduate Engineer with a minimum of 05 years' experience or one diploma holder with 8 years' experience AS A PROJECT INCHARAGE for each group and also one BE/Diploma Engineer-Civil as a site engineer with one/ two years' experience respectively for each site. In case the contractor fails to employ the technical staff as aforesaid,heshallbeliabletopayasumofRs.20000/monthforeachmonthofdefault. Thedecision oftheEngineerinchargeastotheperiodforwhichtherequiredtechnical staff wasnotemployedbythecontractorshallbefinalandbindingonthecontractor.

The employment of technical staff may be correlated to the tendered cost.[Applicable for each construction site]

20 ANTI TERMITE TREATMENT AND WATERPROOFTREATMENT:

Pre-construction treatment shall be carried out in coordination with the building work and shallbeexecutedinsuch amannerthatthecivilworksarenothamperedor delayed bythe Anti-termite treatment. The treatment shall be carried out as detailed in BIS 6613 [part-II] latestrevision.

The waterproof treatment shall be of type and specifications as given in the schedule of quantities.

The work of Water Proofing and Anti termite treatment is to be got executed through specializedandapprovedagenciesofCPWD/MESonly.PriorapprovalofITIshallbetaken in thisregard.

20.1 **The** treatment against waterproofing of basement, roofs, water retaining areas, and termite infestation shall be and remain fully effective for a period of not less than 10 [Ten] years to be reckoned from the date of expiring of Defects liability period, prescribed in the contract. Atanytimeduringthesaidguaranteeperiod,ifITILtdfindsanydefectsinthesaidtreatment oranyevidenceofre-infestation,dampnessleakageinanypartofbuildingsorstructureand notifiesthecontractorofthesame,thecontractorshallbeliabletorectifythedefectsorgive re-treatmentandshallcommencetheworkorsuchrectificationorretreatmentwithinseven days from the date of issue of such letter to him. If the contractor fails to commence such work within the stipulated period, the ITI Ltd may get the same done by another agency at the Contractor's cost and risk and the decision of the Engineer-In-charge of ITI Ltd for the cost payable by the contractor shall be final and binding uponhim.

20.2 Re-treatmentifrequiredshallbeattendedtoandcarriedoutbytheContractorwithinseven days of the notice from Engineer –in-charge of ITILtd.

20.3 The ITI Ltd reserves the right to get the quality of treatment checked under-recognized test methods and in case it is found that chemical with the required concentration and rate of application has not been applied, or the waterproof treatment is not done as per specifications, the contractor will be required to do the retreatment under the required concentrationandspecificationsatnoextracostfailingwhichnopaymentforsuchworkwill be made. The extent of work thus rejected shall be determined by ITIltd.

20.4 Waterproofing and anti-termite treatment shall be got done through approved/specialized agencies only with the prior approval of theEngineer-in-charge.

20.5 Duringtheexecutionofwork,ifanydamageshalloccurtothetreatmentalreadydone,either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of Engineer-in-charge by the contractor at his costs andrisks.

20.6 The contractor shall make his arrangement for all equipment required for the execution of thejob.

20.7 The contractor whose tender is accepted shall execute a guarantee bond in the prescribed form for guaranteeing the anti-termite treatment and waterprooftreatment.

20.8 The waterproofing and anti-termite treatment works shall be guaranteed for a minimum period of ten years [10 years] from the date of expiry of defects liability period. A sum equivalent to 10% of the gross value of the final bill [total cost of waterproofing and anti-termite portion will be taken for this purpose] will be retained by ITI Limited towards the guarantee which will be refunded after the satisfactory completion of the Guarantee period of tenyears.
Alternatively, the contractor may furnish a Bank Guarantee for the same amount as per the formatapprovedbyITILimited.TheBankGuaranteeshallbesubmittedfromanationalized Bank before release if Security Deposit and the same shall be valid for 10 years from the date of expiry of defects liabilityperiod.

20.9 The contractor will also be required to furnish a Guarantee Agreement as per the format of ITI Limited in addition to the Submission of Bankguarantee.

21.0 TIME AND PROGRESSCHART:

a. The overall period of completion shall be prepared jointly by the Engineer and the detailed time and progress chart for the execution of various items of work within the contract, signed by both the parties and shall adhereto.

b. **Time** allowed for carrying out all the works as entered in the tender shall be as mentioned in the BOQ which shall be reckoned from the 15thday from date of issue of the work order to the Contractor. Time shall be the essence of the contract and the contractor shall ensure the completion of the entire work within the stipulated time of completion.

c. The Contractor shall also furnish within 15 days of the date of issue of work order a CPM network/PERT chart /Bar chart for completion of work within the stipulated time. ThiswillbedulygotapprovedbyITILtd.Thisapprovednetwork/PERTchartshallform a part of the agreement. Achievement of milestones as well as total completion has to be within the periodallowed.

d. Contractorshallmobilizeandemploysufficientresourcesforcompletionofalltheworks as indicated in the BAR Chart/PERT Chart. No additional payment will be made to the contractor for any multiple shift work or other incentives methods contemplated by him in his work schedule even though the schedule is approved by the Engineer-–charge.

e. Duringthecurrencyoftheworkthecontractorisexpectedtoadheretothescheduleon milestone and total completion and this adherence will be part of the Contractors performance under the contract. During the execution of the work, the contractor is expected to participate in the review and updating of the Network/BAR Chart undertaken by ITI Ltd. This review may be undertaken at the discretion of theEngineer in charge either as a periodical appraisal measure or when the quantum of work order onthecontractorissubstantiallychangedthroughdeviationorderoramendments.The reviewshallbeheldatthesiteoranyoftheofficeofITI/Consultantatthesolediscretion of ITI Ltd. The contractor will adhere to the revised schedule thereafter. The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to grant to thecontractor.

f. Thecontractorshallsubmit[asdirectedbytheEngineer–in–charge]progressreports on a computer-based program [Program and software to be approved by Engineer in charge]highlightingthestatusofvariousactivitiesandphysicalcompletionofwork.The Contractorshallsendcompletionreport withasbuilddrawingstotheofficeofEngineer in charge of ITI in writing within a period of 30 days of completion ofwork.

22.0 INDIANSTANDARDS:

Wherever any referenceis made to anyI Sinany particular specifications drawings or bill of quantities it means the Indian Standards editions with the amendments current at the last date of receipt of tenderdocuments.

Signature of The Contractor
Date

----- END OF SECTION –VII-----

Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

SECTION –VIII

MATERIALS AND JOB SPECIFICATIONS

1 GENERAL

Thescope of the works includes all civil works connected with the construction upgradation Buildings, Paths, drains, fencing machine foundations etc. The specifications include civil works, Electrical works, Roads, Drains, Compound wall, Water supply Site Development Sewerage including Water proofing and anti-termite treatment works for Communication Project.

The work shall include but not limited to the following:

i. Brick walled/stone masonry structures with R.C.C. Columns andbeams.
ii. Toilet facilities inside the buildings including disposal of waste in septic tank, soak pit, etc.
iii. Internal sanitary works including plumbing.
iv. Fencing pathways, surface drains.
v. Cable ducting under the floor inside the building with M.S. plate covers.
vi. Machine foundations for D.G. sets
vii. Earthwork in excavation/filling for ground levelling.

All materials which may be used in the work shall be of standard quality manufactured by renowned concerns conforming to Indian Standard Specifications (latest edition) or equivalent and shall bear I.S. mark as far as possible unless otherwise approved by the Engineer - in - charge. The Contractor shall get all materials approved by the Engineer- in-charge prior to procurement of the same in bulk and also before using in the works. The Engineer-in-charge shall have the right to determine whether all or any of the materials are suitable for incorporation in the work. Any materials procured or brought to site and not conformingtospecificationsandnotuptothesatisfactionoftheEngineer-in-chargeshallbe rejectedandtheContractorshallhavetoremovethesameimmediatelyfromsiteathisown expenses and without any claim for compensation due to such rejection. Should it be decided by the Engineer-in-Charge to conduct any tests for materials before being approved, the cost of such tests shall be borne by theContractor.

Method of measurement for different items of works where not specified shall be as per relevant IS code (latest edition).

2.0. MATERIALS:

2.1 Brick

Bricks shall be of best quality locally available bricks and shall have a minimum crushing strengthof50kg/cm2andshallbesound,hard,ofhomogenoustextureandofregularshape and shall emit a clear metallic sound beingstruck.

Nominal size of bricks shall be 9 3/4"X4 3/4" X2 3/4" with Permissible tolerance on dimension up to ± 3%

Bricks shall not absorb more than 20% to 22% of water by weight when immersed in water for 24 hours.

2.2 Sand

Unless, specifically instructed otherwise, all sand to be used shall be of coarse variety natural pit sand, clean sharp, strong angular and composed of hard siliceous materials. It shall not contain any harmful materials such as iron pyrites, coal, mica, shale or similar laminatedmaterials,clay,alkali,seashell,organicimpuritiesetc.andsiltcontentshouldnot exceed 8%. Fineness modules of coarse sand shall not be less than2.5.

Fine sand, if instructed to be used shall have fineness modulus not less than land shall have other properties same as coarse sand described in para 2.2.1 herein before.

2.3 Cement

UnlessotherwisespecifiedcementshallbeordinaryPortlandcementconformingtoI.S.269. Contractor shall make proper storage arrangement of cement at the site works to the satisfaction of the Engineer-in-charge. Cement should always be stored insuch a manner as to be easily accessible for proper inspection and in a suitable water tight building or storage shed to protect the cement from dampness. Cement not acceptable to Engineer-in-charge or hisauthorizedrepresentativebeingnotinaconformitywithrelevantISstandardand/orbeing deteriorated due to dampness shall berejected.

2.4 Steel:

Mild steel reinforcement for cement concrete work shall conform to IS-432 Grade I (latest edition) and relevant parts of IS-456.

Cold twisted steel reinforcement for reinforced cement concrete work shall conform toIS-1786 and relevant parts of IS - 456.

Structural steel sections and plates shall conform to ST-42-S of IS - 226 (latest edition). Steel shall be free from all grease, oil paint, loose mill scale and rust and shall be free from all defects mentioned in IS-226/IS2062 and shall have a smooth uniform finished surface.

Contractor shall invariably produce tests certificate from the manufacturer certifying the quality and strength of the steel to conform to the requirement of the aforesaid I.S. Standards. In the absence of such test certificate from the manufacturer, tests shall be carried out in a test House/Laboratory or University as approved by the Engineer-in-charge andcostofsuchtestsshallbebornebytheContractor.TestsshallbecarriedoutasperIS- 1521 and1608.

All reinforcement bars shall be clean and free from dirt, oil, paints, grease, mill scales and loose rust. Bars available in coils shall be uncoiled and properly straightened to the satisfaction of the Engineer-in-charge at no extra cost to the owner.

2.5 Stone Aggregate for CementConcrete:

Aggregate shall consist of naturally occurring stone, crushed or uncrushed with grading conforming to IS-383 (latest editions) for different nominal sizes as specified in schedule of rates. Unless otherwise specified, stone aggregate for all type concrete & reinforced concrete shall be 20mm nominal size. Stone aggregate shall be hard, strong, dense clean andfreefromadherentcoatingandnon-flakyandshallbeobtainedfromthesource/quarry approved by the Engineer-in-charge. Coarse aggregate of porous nature where absorption of water after 24 hours' immersion in water is more than 5 percent by weight shall not be used: Aggregate shall be thoroughly washed with water before being used in thework

2.6 Stone aggregate for RoadWork.

Aggregate for Road Works shall have properties as described in the forgoing para andgrading as per the table given below:

Coarse aggregate nominal size in mm

Sieve size	90mm	63mm	50mm	20mm	12.5mm	10mm
100mm	100	---	---	---	---	---
80mm	90-100	---	---	---	---	---
75mm	---	100	---	---	---	---
63mm	25-60	90-100	100	---	---	---
50mm	---	35-70	95-100	---	---	---
40mm	0-15	0-15	35-70	---	---	---
25mm	---	---	0-15	100	---	---
20mm	0-5	---	---	85-100	100	---
12.55mm	---	0-5	---	85-100	100	---
10mm	---	---	---	0-20	0-45	85-100
6.75mm	---	---	---	0-5	0-10	0-20
3.36mm	---	---	---	---	---	0-05
Percentage passing						

2.7 Bitumen:

80/100 Asphalt conforming to IS-73 (latest edition) shall be used in road work.

Other materials:

All the materials not fully specified herein and which may be used in the work shall be of best quality approved by the Engineer-in-charge and he shall have the right to determine whether all or any of the materials offered of delivered for use in the works are suitable for the intended purpose. Contractor shall produce sample of materials to the Engineer-in-Charge and shall get it approved before procurement and execution of work.

3 Site clearance and cutting and falling oftrees.

Before earthwork is started, the area coming under cutting and falling shall be cleared of shrubs, vegetation's, brush wood, grass, trees and sampling of girth up to 30cm measured at a height of one meter above ground, and rubbish shall be removed up to any distance within the station area limit. The roots of the trees shall be removed to a minimum depth of 60cm below ground level, or a minimum of 15cm below formation level whichever is lower and the hollows filled up with earth, leveled and rammed at no extra cost.

TheTreesofgirthabove30cmsmeasuredataheightofonemeterabovegroundlevelshall be cut only after written permission from the Engineer-In-Charge. Roots shall also be removed to a minimum depth as described in the preceding para. Cutting of such trees having girth of more than 30cms will be paid forseparately.

The trees having girth more than 30cms measured 1mt. above ground shall be properly marked and got approved by the Engineer-In-Charge before cutting and got approved the same.Thetreesshallbecutacrossthetrunkjustnearthegroundlevelpreferablybymeans of saw to a uniform depth and shall be pulled down by means of ropes. Every precaution, such as use of rope, guys etc. shall be taken so as to avoid accident and safeguard nearby property. Any damage done during the felling operations due to the contractor's fault shall be contractor's liability and contractor shall be responsibility for making compensation for damages, if any, and reparation/restoration of the property, as the case maybe.

All stems and roots shall be removed to a depth of not less than 1.0 meter below ground level.Alltheexcavationmadeforgrabbingrootsshallbefilled withapprovedearthin15cm layer andrammed.

All products of cutting of trees shall be the property of the owner. The main trunks and big branches shall be cut into pieces of 1 to 2-meter length or as directed by the site Engineer and kept in a neat stack as directed. Unserviceable materials shall be disposed off outside the station area limit at contractor's own dumping ground.

Mode of measurement and payment for cutting and falling trees.

Measurement and payment for felling and cutting of trees shall be par tree and size of girth as categorized in schedule of rates. Rate shall be inclusive of cutting of trees, grabbing roots, refilling the excavation stacking serviceable materials and all labour materials, tools, tackles etc.

4.0 EARTHWORK

Earthwork is classified into 2 types namely**;**

a) All kind ofsoil

b) Hard rock requiring blasting and Hard rock requiringchiselling

The decision of the Engineer-In-Charge as to the classification of the type of earth work as above shall be final and binding upto the contractor.

Earth work in excavation for foundation trenches drains etc.

Earthworkshallbecarriedoutinanymaterialmetonthesitethe,lines,levels,andcontour shown on the detailed drawings and the contractor shall remove all excavated materials to soil heaps on site of transport for use filling, at the sitedirected.

Excavated materials shall not be deposited within 1.5 meters from the top edge of the excavation.

Suitabletypesofshoringandstrutting,wherevernecessaryshallbeadoptedtowithholdthe faceofearthorcuttinginslopeaspersiterequirementsandasdirectedbythesiteengineer.

Foundation pits shall be excavated to full depth. Prior to construction/concreting work, the trenchshallbeclearedandthebottomproperlyrammed,firm andtolevel, tosatisfaction of siteengineer.

The contractor shall provide suitable drainage arrangements to prevent surface water entering to foundation pits or trenches. The contractor shall engage pumps or other approved means to keep excavation free of water.

If the bottom of any excavation has been left exposed by the contractor and that in the opinion of the site engineer, it has become deleteriously affected by the atmosphere or by water, the contractor shall remove such portion of the deteriorated foundation material as the site engineer may direct and shall make good with lean concrete of mix(1:4:8) . All expenses for such additional concrete and excavation shall be borne by the contractor.

Whereexcavationsaremadeinexcessofthedepthrequiredthecontractorshallathisown expense fill up to the required level with lean concrete of mix(1:4:8) as directed by the site engineer.

The bed of the trench shall be made level and firm by watering and ramming. Soft and defectivespotsshallbefilledupwithconcreteofthesamemixusedforfoundationconcrete as per the directions of site engineer. In firm soil, the sides of trench shall be kept vertical up to a depth of 2 meters of from the bottom and for a greater depth, the trench shall be widened by allowing steps of 50cms on either side after every 2 meters depth from the bottom, so as to give virtual side slopes of 1/4 to 1. Where the soil is soft, loose or slushy, the width of steps shall be suitably increased, or the side sloped or shored up as directed. The contractor shall take complete instructions from the site engineer regarding the stepping, sloping or shoring to be donefor excavation in trenches deeper than 2 meters.

The contractor shall not undertake any concreting in foundation until the excavation pit is approved by the site engineer.

1.1.0 Mode of Measurement andPayment:

Payment will be made on the cubic content of earth work excavated which shall be computedbymeasurementoflengthwidthanddepthofexcavationmade.Excavationmade in excess of specified requirement shall not be paidfor.

Rate quoted are deemed to include

g. Excavation and deposition of earth asspecified

h. Setting out of work, profilesetc.

i. Site clearance

j. Bailing out of water whereverrequired

k. Protection to existing Structure, Ifany

l. From work, shoring, strutting and slopingetc

m. Removal of slips duringexcavation

n. Fencing and protection against risk of accident due to openexcavation

o. Excavation for insertion of planking andstrutting

1.2 Refilling the excavated earth in trenches, foundations, plinthetc.

Earth obtained from excavation of foundation trenches, sump pit, drains etc. shall beused forrefillingthetrenchesandplinthunderfloorasdirectedbysiteengineer.Noextrapayment shall be made for lead and lift and transportation of earth involved. The earth used shall be freefromallvegetation,grass,rootsetc.,andotherforeignmatter.Allclodsshallbebroken.

Whereexcavatedmaterialismostlyrock,theboldersshallbebrokenintopiecesnotbigger than 15cms size in one direction mixed with fine material consisting of decomposed rock, morrum or earth as available so as to fill up the voids as far as possible and the mixture is used forfilling.

Filling of trenches for pipes and drains shall be commenced as soon as the joints of the pipes and drains have been tested and passed.

Where trenches are excavated in soil. The filling shall be done with earth on the sidesand top of the pipe in layers not exceeding 20cms, watered, rammed and consolidated taking care that no damage is caused to the pipe below.

Where trenches are excavated in rock, the filling up to a depth of 30 cms above the crown of the pipe shall be done with fine material such as earth, morrum etc., and remaining fill shall be done with rock filling of boulders of size not exceeding 15cms mixed with the fine material as available to fill up the voids, watered, rammed and consolidated.

As soon as the works in foundation have been measured, the spaces around foundation masonry in trenches shall be cleared of all debris, brick bats, mortar dropping etc and fill with earth in layers not exceeding 20cms each layer being watered rammed and consolidated before the succeeding one is laid. Earth shall be rammed with iron rammers where possible and with butt ends of crow bars where rammers cannot be used.

Plinth under floor shall be filled with earth in layers not exceeding 20cms watered not consolidated by ramming with iron rammers or with butt ends of crow bars. When the filling reaches the finished level the surface shall be flooded with water for at least 24 hours and allowed to dry and then refilled, rammed and consolidated in order to avoid settlement at a later stage. The finished level of filling shall be kept to slope as indicated in drawing and/or as directed at site.

1.3 Earthwork in making earth embankment with excavatedearth.

Earth obtained from excavation of static water tank shall be used for making earthen embankment. No extra payment shall be made for lead and lift and transportation involved. The excavated earth to be used in filling shall be made free of all vegetation, grass, roots etc. and clods shall be broken. Before commencement of earth fill, the toe of the embankment shall be marked by pegs driven into ground at 10 meter intervals (or less as directed) to indicate limits of the toe. The area enclosed by the pegs on either side shall

than be ploughed to a depth of 15 to 20 cms. All clouds shall be broken into fine earth and thearearoughlyleveled.Thesurfaceshallthenbewateredbeforetheearthwork isstarted.

Bamboo and string profiles shall be erected at intervals before commencement of earth filling.

Earth shall be laid in 20 cms layers which shall be continuous and parallel to the finished grade. The placing of the earth fill shall be done in full width of the embankment including slopes, and the sections of formation shall be kept slightly sloping away from the center to avoidspoolsof waterformedduetorain.Theheight offillinginthesectionshallbeuniform as for as possible. All clods shall be broken while the earth is being placed. Organic matter of any kind shall be removed anddisposed.

Each layer of earth shall be adequately watered and compacted till it gets evenly and denselyconsolidated.Whereverpracticableroadrollersshallbeusedforconsolidation.The degree of compaction obtained shall not be less than 90% proctor density. Before placing successive layers of earth the previous layer (the under layer shall be moistened and scarifiedwithpickaxesorspadesandroughsurfaceobtainedtoprovideasatisfactorybond with the nextlayer.

The embankment shall be dressed neatly to the designed section, and grade after it has been completed and thoroughly consolidated. The top and slopes shall be protected from any damage and maintained, till the work is completed and handed over.

The earth work in embankment shall be paid for by measuring the earth fill by computing the cross sectional area, length etc. thereby computing the volume. The rate shall be deemed to include all operations described above including all necessary lead and lift charges.Ifgroundonwhichtheembankmentistotheraisedisundulating,thesiteEngineer at his discretion may take level measurement for purpose of payment. The specific method of measurement adopted shall be at the discretion of theEngineer-in-charge.

1.4 Earth work for compoundleveling:

Excavation not requiring dressing of sides and bottom, reductions to exact levels such as surface levelling in the station are described as compound levelling. Cutting shall be done from top to bottom. Under no circumstances shall be undermining or under cutting be allowed. The earth from cutting higher elevations shall be directly used from filling low lying areas and no claim for double handling of earth entertained. Filling shall be done in regular horizontallayers,notexceeding20cmsIndepth.Theearthshallbefreefromallroots,grass andrubbishandalllumpsandclodsexceeding8cmsinanydirectionshallbebroken.Each layer shall be consolidated by breaking clods and compacting by using of rollers 8 to 10 tonnes capacity. Watering shall be done as directed by the site Engineer. Degree of compaction obtained should not be less than 90% proctordensity.

All cutting shall be done to the required levels and should the cutting be taken deeper; it shall be brought to the required level by filling in with earth duly consolidate at the contractor's cost.

The finished formation levels in the case of filling shall be kept higher than the required levels by making an allowance of 5% for consolidated fills, if so instructed by site Engineer.

During excavation, the natural drainages of the areas shall be maintained by the contractor.

Methodofmeasurement:paymentshallbemadeonlyonthebasisof excavationincutting. Levels of the site are to be taken before the start and after completion of the work and the quantity of excavation in cutting shall be computed from these levels and paid for the paymentthusmadeshallbedeemedtoincludetransportation,fillingandcompactionofthe excavated earth in lowareas.

4.5 Earth work infilling:

Where it is specified that the earth has to be supplied by the contractor, the rates are deemed to include cost/rental of the borrow areas.

Where it is specified that the owner shall provide borrow areas, the borrows areas shallbe providedbytheowner,andtheratesshallincludeonlyexcavation,transportationandfilling.

Where it is specified that filling shall be done out of surplus excavated earth available, from excavationoffoundations,staticwatertanketc.renderedsurplusafteruseforfillinginsides oftrenches,foundation,plinthetc.andmakingearthenembankment,roadembankmentetc. the balance shall be utilized for filling low lyingareas.

Surplus excavated earth as obtain from ways of excavation shall be used directly for filling loe laying areas as directed by site engineer. The filling shall be done in regular horizontal layersof20cmseach.Theearthshallbemadefreeofallroots,grassrubbishetc.andclods exceeding8cminsizeshallbebroken.Eachlayershallbeconsolidatedbyusingrollerof 8 to 10 tones capacity. Watering shall be done as directed by site Engineer and degree of compaction shall be obtained not less than 90% proctor's density. Finished levels shall be kepthigherthantherequiredlevelbymakinganallowanceof 5%forconsolidatedfills,if so instructed by siteengineer.

4.6 Mode of Measurement andPayment:

Levelsofthesitearetakenbeforethestartandaftercompletionoftheworkandthequantity offillingcomputedfromtheselevels.Fillingdoneoutofoperationsmentionedatsection 4.5.0. i.e. By excavation for compound levelling shall be deducted and balance paid for under this item

4.7 Excavation byBlasting:

Where Hard rock is met with and requires blasting operations, the Contractor shall intimate the Engineer-in-charge before actual blasting is undertaken.

The contractor shall obtain a license from the District Authorities for undertaking blasting operations as well as for obtaining and storing the explosive as per Explosives Rules corrected up to date. He shall purchase explosives fuses, detonators, etc. from a Licensed dealer. He shall be responsible for safe custody and proper accounting of explosive

materials. Engineer-in-Charge shall have an access to check the Contractor's store ofexplosives and his accounts.

In the case where explosives are required to be transported and stored at the site, the relevant clause of explosives rules shall apply.

The contractor shall be responsible for any accident to workmen, public property damage due to blasting operation.

The Mode of Measurement as stipulated for earthwork in the excavation shall apply.

5 BRICKWORK

Brickwork will be locally available approved bricks laid in cement mortar of designed proportion as specified in item or drawings. Bricks shall be soaked in water thoroughly at the site or work for at least 6 hours before use. The bricks shall be placed in the tanks by hand, one by one, and not throwing. The mortar shall be used before it shows any signs of setting or stiffening.

Unless otherwise specified, brickwork shall be done in English bond with the frog upwards. Nobrokenbricksshallbeusedexceptatclosures.Thecoursesshallbetrulyhorizontaland the work strictly in plumb. The mortar joints should not exceed 10mm in thickness except where the extra thickness is required for the purpose of bringing the brickwork to the required height or level or for making both faces even. The brickwork shall not be raised by morethan14singlecoursesperday.Tablesshallbeformedatevery14singlecoursesand kept full ofwater.

Thefinishedportionofthebrickworkshallbekeptfloodedunderadepthof25mmofwater. When work is left off at night a fallout of mortar about 40mm high will be made round the edgeofthelastcourselaidtoformatroughwhichwillbefilledwithwater.Masonryshallbe kept constantly moist while under construction and for a period of at least 10days after completion. Watering shall be continued twice a day for at least one month after 10days.

Construction of walls shall, as far as possible, be carried out in regular and level course throughout their entire length and no portion of the work shall be 0.90 Mt. lower than the other. All cross walls, buttresses counterforts step etc. shall be built up course by course, withthemainwallscarefullyembeddedintothem.Wheresuchbindingisnotpossibleinthe courseoftheworkforanyreason,necessarygroovesortottingshallbeleftinbrickworkfor subsequent bonding. No extra payment will be made forthis.

Brickworkinfoundationandplinthshallbetheportionofbrickworkbetweenfoundationlevel and plinthlevel.

Brickworkinthesuperstructurewillmeanallbrickworksabovetheplinthlevel.Parapetshall be considered as part of the wall. In exposed brickwork, specially selected bricks shall be whichareirregularare notused.Woodfilletsshallbeplacedattheedgeofjointssothatno mortar comes on the surface of the bricks and a regular thickness of necessary joints is maintained, no mortar shall be allowed to stick to the surface. The surface shall berubbed

down with brushes if necessary and thoroughly washed. The joints in faces that are to be plastered or pointed should be raked out while the broken mortar is green.

The rate for brickwork shall include supplying, erecting, and dismantling the necessary scaffolding. Scaffolding shall be strong and stiff. Holes left in brickwork to take the put logs shall be properly bricked up before plastering or pointing is done. Put log holes shall not under any circumstances be allowed in pillars.

Payment will be made on a cubic meter basis on the volume of work done calculated on actual measurement of length, height, and thickness. No extra payment will be made for cutting bricks if required either for openings or for rounding or for insertion at the time of construction of small fixtures in the wall such as angles, joints small size pipes, etc. no deductionwillbemadeforvolumesoccupiedbysuchasfixtures.TheContractor'srateshall include the cost of all materials supply, fixing and removal of scaffoldings, curing, string course,blockingcourseandparapetovertheroof,etc.Halfbrickwallincludingareinforced wall will be measured in the square meter for payment. The thickness of walls if more than thickness computed on the basis of nominal brick sizes, if any, shall be ignored while measuring. Deduction for openings shall be as perIS:1200.

6.0 PLAIN AND REINFORCED CEMENT CONCRETEWORKS

6.1.0 General

a. This item relates to the supply, preparation, placing, and curing of all concrete work in plain, and reinforced portions of works referred to under respective items in the bill ofquantities.

b. Concretefor these specifications is broadly classified into two classes, viz:

(i) Nominal MixConcrete

(ii) Design MixConcrete

c. All operations relating to mixing, placing, and curing shall be subject to theapproval of the Engineer-in-Charge and the contractor shall provide unhindered access for this purpose for inspection and selection ofsamples.

d. AllmaterialstobeusedintheworkshallhavebeenapprovedbytheEngineerbefore their incorporation in the work for this purpose, the contractor shall whenever called upon to do so, furnish samples of materials in adequate quantities and carry out all tests on materials and concrete specimens. Testing shall be on materials and concrete specimens. Testing shall be done in close liaison with Engineer-in-Charge or his representative and methods of tests shall generally follow the standard methods described in relevant Indian Standard Specifications for methods of tests. Allthecostofsupplyingtherequiredmaterialsandconcretespecimensandalsothe cost of testing in an approved laboratory shall be borne by the contractor. The contractor shall install a laboratory at the site, which shall be equipped to make routine tests on concrete cubes and materials forconcrete.

e. No concrete work shall be done in the absence of the Engineer-in-Charge or his representative. Before placing the concrete, the Engineer-in-Charge shall have

inspected and approved all reinforcement in place, formwork and concreting, and arrangementsforconcreting.Atleast24hours'noticeshallbegivenforthispurpose. Any concrete placed in violation of this provision shall berejected.

f. All concrete works shall be vibrated for proper compactions unless otherwise specified byEngineer-in-Charge.

g. Reference to standardspecifications:

1. **IS 456** – 'Code of practice for plain and reinforcedconcrete
2. **IS 269** – 'Ordinary and low heat Portlandcement"
3. **IS 383** – 'Coarseandfineaggregatefromnaturalsourcesforconcrete'.
4. **IS 515** – 'Natural and manufacture aggregate for use in massconcrete.
5. **IS2386** – 'Methods of test for aggregate for concrete' (Part ItoVIII)
6. **IS 4925** – 'Concrete batching and mixingplant'
7. **IS 2505** – 'Concrete vibrators, immersiontype'
8. **IS 3558** – 'Code of practice for use of immersion vibratorsforconsolidating concrete'
9. **IS 4656** – 'Form vibrations forconcrete'
10. **IS 1199** – 'Methods of sampling and analysis ofconcrete'
11. **IS 516** – 'Methods of test for the strength ofconcrete,
12. **IS 9013** – 'Method of making curing and determinationofcompressive strength of accelerating cured concrete testsspecimens
13. **IS 303** – 'Plywood for generalpurposes'
14. **IS 1139** – 'Hot rolled mild steel, medium tensile steel, and highyieldstrength steel deformed bars for concretereinforcement'
15. **IS 1786** – 'Cold-twisted steel bars concretereinforcement'
16. **IS 432** – 'Hard drawn steelwire'
17. **IS 4990** – 'Plywood for concrete shutteringwork'
18. **IS 2750** – 'Steelscaffolding'
19. **IS 2204** – 'Code of practice for construction of reinforced concrete shellroof'
20. **IS 2210** – 'Code of practice for steel tubularscaffolding,
21. **IS 4114** – 'Code of practice for steel tubularscaffolding,
22. **IS 3696** – 'Safety code for scaffolds andladders'

6.2 Materials:

All materials used in the work shall be new of quality and standards as specified. Materials delivered to the work shall be of the same quality as that of the approved samples, which shallbedepositedwiththeEngineer-in-Chargewellinadvanceforhisapprovalbeforethey are incorporated in the works. Delivery of materials shall be made sufficiently in advance of constructionalandtestingrequirementstoenablefurthersamplestobeselectedandtested

ifsodesiredbytheEngineer.Nomaterialshallbeusedintheworkuntilapproved.Approved materials should be stored in such a manner that by no means the qualities are changed duetoanyreason.Materialsfailingtocomplywiththesespecificationsshallbeimmediately removed from the works at the contractor'scost.

a) Unless otherwise stated in these specifications or drawings or approved by the Engineer-in-Chargeallcementtobeusedintheconcreteshallbeordinary Portland cement conforming toIS:269.

b) It shall be stored in a dry place, in regular piles not exceeding 10 bags high and in such a manner that it is adequately protected from moisture and contamination. Differentconsignmentsshallbestackedseparatelyandidentifiedaccordinglysothat they can be used in the order in which they are received. If necessary, cement shall bescreenedatthecontractor'sexpensetoremoveanylumps.Nocementwhichhas become damaged shall be used in thework.

c) Any cement that is to be used at the site shall be tested before use, if so directed. If ontestingthecementdoesnotcomplywiththespecifications,theconsignmentfrom which the sample has been drawn shall be rejected and removed from the site. The cost of removal and subsequent replacement by the cement of satisfactory quality shall be borne by thecontractor.

6.2.2 **Admixture**: No admixture shall be used in the concrete unless approved in writing by the Engineer-in-Charge. Approval shall be based on the evidence that with time, neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete and steel impaired by the use of such admixtures. Calcium Chloride or any admixture containing this compound shall not be used under any circumstances. When permitted, the contractor shall produce test certificates from recognized laboratories before the use of admixture, if so desired by theEngineer-in-Charge.

In case of doubt, the Engineer-in-Charge may request the contractor to carry out tests, at the contractor's expense.

6.2.3 FineAggregates:

a. Material:
Fineaggregatesshallgenerallyconformto IS:383"Specificationforcoarseand Fine Aggregates from Natural Sources for Concrete" and to IS 515 "Specification for Natural and Manufactured Aggregates for use in Mass concrete" as the case may be. Fine Aggregate shall consist of natural sand or manufactured sand or any approved combination thereof. The sand shall be of siliceous or material, sharp, hard, strong, and durable and shall be free from an adherent coating of clay, dirt, etc.morethanthelimitsstatedin(d)below.Theyshallbechemicallyinert.Thelimits of anykindof dissolvedorun-dissolvedimpuritiesshallbesubjecttotheapprovalof theEngineer-in-Charge.

b. Gradation:

Thegradingoffineaggregateshallconformtoeithergradingzone IIorgradingzone IIIdefinedinTableII,clause4ofIS:383GradingshallbedeterminedunderIS2386 (PartI)"MethodoftestsforAggregatesforconcretePartI-Particlesizeandshape".

c. SpecificGravity: Normalandhavingspecificgravitybelow2.5(saturateddrybasis) determined under IS 2386 (Part III) Methods of tests for Aggregates for Concrete: Part III - Specific gravity, density, voids, absorption and bulking" shall not be used without special permission of theEngineer.

d. Deleterious Materials: Fine aggregate shall not contain the injurious amount of dust,claylumps,softorelongatedflakyparticles,shale,alkali,organicmatter,loam, mica, and other deleterious substance in quantities over the limits of deleterious. material, given in Table I of IS:383. Deleterious materials also include material passing 75 microns ISsieve.

e. Organic impurities: All fine aggregate shall be free of injurious amounts of organic matter. Aggregates, when tested under IS 2386 (Part II). Methods of Test for Aggregates for Concrete: Part II - Estimation of Deleterious Materials and Organic Impurities' and producing a color darker than the standard, shall be rejected unless, when tested for mortar making properties, the mortar develops a compressive strengthat7and28daysofnotlessthan95%ofthatdevelopedbyasimilarmortar made from another portion of the sand sample which has been washed in 3% solution of Sodium Hydroxide followed by thorough rinsing in water. Mortar cubes shall be made and tested under IS: 2386 (Part VI) "Measuring Mortar making properties of fineaggregate".

f. Soundness: WhentestedtofivecyclesofsulphatesoundnessunderIS:2386-Part V."MethodsoftestforAggregateforConcrete:PartV-Soundness"andIS:383the weighted percentage of loss shall not be more than 8% by weight when sodium sulphate is used and 12% when magnesium sulphate isused.

g. Screening andWashing:

Natural manufactured sand shall be prepared for use by such screening or washing or both as necessary to remove objectionable foreign matter while separating the sand grains to the required size fractions. Natural sand shall be washed unless specific written authorization is given by the Engineer-in-Charge to use sand that meets specification standards of cleanliness without washing.

6.2.4 CoarseAggregate

a. Sources ofSupply:

Aggregate shall, where possible, to be supplied from a source that normally produces aggregate satisfactory for concrete work, and if required by the Engineer, the contractor shall supply evidence to this effect. If required by the Engineer, the contractor shall supply samples to make preliminary tests on concrete cubes made from such aggregates.

Coarse aggregate shall generally conform to the requirement IS 383 and shall consist of hard, strong, durable particles of crushed stones and shall be free from

elongated,soft,pieces,vegetablematter,andotherdeleteriousmatter.Itshallhave no adherent coating. Flaky and elongated particles shall beavoided.

b. Size andGrading:

The maximum size of coarse aggregate for use in reinforced concrete work shall be limited generally to 20 mm (3/4"). For the concrete used in plain concrete work and in massive RCC members having a sufficiently wide spacing of reinforcement, the use of40mm(11/2")sizegradedaggregatemaybepermitted.Innocaseshallthe aggregate size exceed 1/4 times the thickness of themember.

The grading of coarse aggregate shall be selected from the standard grading given in Table II of IS: 383. The method of determining the grading of coarse aggregate shall be according to IS: 2386 (Part I).

c. SpecificGravity:

Normalaggregateshallhaveaspecificgravity(saturatedsurfacedrybasis)notless than2.6DeterminationofspecificgravityshallbedoneunderIS:2386(PartIII).

d. DeleteriousMatter:

Amount of deleterious matter determined in accordance with IS: 2386 (Part II shall not exceed the limits given in Table I of IS: 383.

e. Washing:

The coarse aggregate shall be washed if required by the Engineer and only clean fresh water shall be used for this purpose.

6.2.5 Water:

Water used for both mixing and curing shall be free from injurious amounts of deleterious matter. The Engineer-in-Charge may require the contractor to get the water tested from an approvedlaboratoryatthelatter'sexpense.Potablewaterisconsideredsatisfactoryforthis purpose.
The ph value of the water shall generally lie between 6 and 8; where the water contains an excess of acid, alkali, sugar, or salt, the Engineer-in-Charge may refuse to permit its use.

6.2.6 Care and storage of concreteaggregate:

Aggregate stockpiles shall be arranged and used in a manner as to avoid excessive aggregation or contamination with other materials or with other sizes of like aggravates. To ensure that this condition is met, any test for determining conformance to the requirements of these specifications shall be performed on samples collected from the aggregates at the point of batching.

Stockpiles shall be built in successive horizontal layers of not more than 1Mtr. thickness, with each layer being completed before the next, is started.

The aggregate piles shall be allowed to drain until it has reached uniform moisture content and the last 300 mm layer from the stockpile of aggregate shall not be used if the piles are on ground.

6.3 Grade ofConcrete:

Unless otherwise specified on drawings or called for the bill of quantities, the grades of concrete shall generally be selected from table No.1.

Table-1

Grade Designation	Specified Characteristic compressive strength of 15 cm cube at 28 days in N/mm^2
M-7.5	7.5
M-10	10.0
M-15	15.0
M-20	20.0
M-25	25.0
M-30	30.0
M-35	35.0
M-40	40.0

Thecharacteristicstrengthisdefinedasthestrengthofmaterialbelowwhichnotmorethan five (5) percent of the test results are expected tofail.

In the designation of a concrete mix, the letter M refers to the mix and the number to the specifiedcharacteristiccompressivestrengthof15cmcubeat28daysexpressedinN/mm^2

6.3.1 Type of concretemix:

This concrete shall be either Nominal Mix Concrete or Design Mix Concrete as defined inIS:456. Unless otherwise specified or given in Bill of Quantities, all lean and structural concreteshallbenominalmixanddesignmixtyperespectively.Nominalmixconcreteshall mean concrete of grade M 10 andbelow.

6.3.2 Nominal MixConcrete:

This concrete shall be made without a preliminary test by adopting nominal concrete mix specifiedinthevolumetricmixandtheaggregateshallbemeasuredbyvolume,cementby

weight, mixing water shall be measured in graduated liter cans. The cement content of the mix specified in Table 3 of IS: 456 for any nominal mix shall be proportionately increased if the quantity of water in a mix has to be increased to overcome the difficulties of placement and compaction so that the water-cement ratio as specified is not exceeded.

If nominal mix concrete made under the proportions given for a particular grade does not yieldthespecifiedstrength,suchconcreteshallbeclassifiedasbelongingtotheappropriate lower grade. Nominal mix concrete proportioned for a given grade under Table 3 of IS: 456 shall not, however, be placed in the higher grade on the ground that the test strengths are higher than the minimum specified. All the relevant requirements for this concrete as given in IS: 456 shallapply.

6.3.3 Design MixConcrete:

The mix shall be designed to produce the grade of concrete having the required workability and characteristic strength not less than appropriate values given in Table-1.

Mix proportions used for a particular designation of concrete shall be based on the results of tests carried out on samples as per various preliminary mix design. Only the materials proposedforuseintheworksshallbeusedforthesamples.Anyoftherecognizedmethods of mix design such as road note No.4 (H.M.S.O. London) may be used in the design of trail mixes.Trailmixesshalltakeintoconsiderationtheworkabilityrequiredatthesiteforplacing the concrete in thestructure.

Apreliminarymixdesignwillhave tobemadeifthe sourceofthematerialschangesorany change in mix proportions is to be made in the course ofconstruction.

6.2 Proportioning ofConcrete:

Proportioning is used in these specifications, shall mean the process of determining the proportions of the various ingredients to be used to produce concrete of the required strength, workability, durability, and other properties.

The Engineer-In-Charge shall verify the strength of the concrete Mix before giving the sanctions of its use. However, this does not absolve the Contractor of his responsibility as regards achieving the prescribed strength of the mix. If during the execution, the Engineer-in-charge shall order fresh trail mixes to be made by the contractor, No claim to alter the rates of concrete work shall be entertained and the cement used for making the trail mixes shall be taken into consideration for material reconciliation.

Preliminary mix designs should be established well ahead of the start of work.

Thecubestrengthsofconcrete,asobservedduringthepreliminarymixdesigns,carriedout underlaboratoryconditionsshallhaveaminimumvalueasgiveninthetablebelow:

Table-2

Grade of Concrete	Compressive strength of 15 cm cubes at28 days after mixing (in N/mm^2) Preliminary test.
M 15	23.0
M 20	30.0
M 25	37.0
M 30	43.0
M 35	50.0

M 40	56.0

6.4.1 Maximumdensity:

Suitable proportions of sand and the several sizes of coarse aggregate for each grade of concrete shall be selected to give as nearly as practicable the maximum density. This is to be determined by mathematical means, laboratory tests field trails, and suitable changesin aggregategradation.

6.4.2 Proportion by W/CRatio:

Once a mix, including its W/C Ratio, has been determined and specified for use by the Engineer-in-Charge, that W/C Ratio shall be maintained. The Contractor will determine the water content of the aggregate frequently as the work progress, and the amount of mixing water entered at the Mixer shall be changed as directed by the Engineer-in-Charge to maintain the specified W/C Ratio.

The concrete shall have a consistency such that it will be workable in the required position. It shall be of such consistency that when properly vibrated it will flow around reinforcing steel, and all embedded parts.

6.4.3 Slump:

The Slump for concrete as determined by Slump Tests as per relevant IS: shall not exceed slump indicated in table-3.

Table-3

Sl. No.	Degree of workability	Slump in mm		Type of construction
		Min	Max	
1.	Medium	40	80	Reinforced foundation walls and footings.
2.	Medium	25	75	Plain footing, substructure walls, etc.
3.	Medium	50	100	Reinforced Beams, Slabs, columns, walls, etc.

The Contractor shall not place concrete lumping the limits specified without the approval of the Engineer-in-Charge.

6.5 **Batching:** In proportioning concrete, the quality of both cement and aggregate should be determined by weight. Where the weight of cement is determined based on the weight of cement per bag, a reasonable number of bags should be weighed periodically to check the net weight. Where the cement is weighed on the site and not in bags it should be weighed separately from the aggregate. Water should be either measured by volume in calibrated tanks or weighed. Any solid admixture that may be added, may be measured by weight; liquidandpastewereusedshouldconformtoIS:4925.Allmeasuringequipmentshouldbe maintained in a clean serviceable condition, and their accuracy periodicallychecked.

Except where it can be shown to the satisfaction of the Engineer-in-Charge that supply of properly graded aggregate of uniform quality can be maintained throughout work, the grading of aggregate should be controlled by obtaining the coarse aggregate different

sizes and blending them in the right proportion when required, different sizes in being stockedinseparatestockpiles.Thegradingofcoarseandfineaggregateshouldbechecked frequently for a given job, being determined by the Engineer-in-Charge to ensure that the specified grading ismaintained.

Change from weight batching to volume batching may be done only after obtaining the specific permission of Engineer-in-Charge in writing.

Theamountoftheaddedwatershallbeadjustedtocompensateforanyobservedvariations in the moisture contents. For the determination of moisture content in the aggregates, IS: 2386 (Part III) may be referred to. To allow for the variation in the weight of aggregate due to variation in their moisture content, suitable adjustments in the weights of aggregate shall also be made. In the absence of exact data, only in the case of Nominal mixes, the amount of surface water may be estimated from the value given in Table -4.

Table - 4

SURFACE WATER CARRIED BY AGGREGATE

Aggregate	Approximate qty. of surface Water	
	Percentage by mass	Ltr/cum
Very wet sand	7.5	120
Moderately wet sand	5.0	80
Moist sand	2.5	40
Moist gravel or crushed rock	1.25-2.5	20-40

No substitutions in materials used on the work or alternations in the established proportions, exceptaspermittedin6.6.2and6.6.3.shallbemadewithoutadditionalteststoshowthatthe quality and strength of concrete aresatisfactory.

6.6 ConcreteMixing:

The mixing of concrete shall be strictly carried out in an approved type of mechanical concrete mixer. The mixing equipment shall be capable of combining the aggregates, cement, and water within the specified time into a thoroughly mixed and uniform mass, and of discharging the mixture without segregation. The entire batch shall be discharged before recharging. No batch shall be discharged on the previously discharged batch of concrete.

6.6.1 Mixer:

Mixers may be stationary mixers of either the tilting or non-tilting type. or truck mixers approved design. The mixers shall be maintained in satisfactory operating condition and mixer drums shall be kept free of hardened concrete. Mixer blades shall be replaced when worndownmorethantenpercent(10%)ofthedepth.Shouldanymixeratanytimeproduce unsatisfactory results, leak mortar, or cause waste of materials, its use shall be promptly discontinued until it isrepaired.

6.6.1.1 MixingTime:

Mixing time shall be as indicated in Table 5. Excessive mixing requiring additions of water willnotbepermitted.Timeshallstartwhenallsolidmaterialsareinthemixerdrum,provided that all of the mixing water shall be introduced before one-fourth of the mixing time has elapsed. The Engineer-in-Charge may, however, direct change in mixing time, if he in his opinion considers such change necessary. Each batch shall be mixed thoroughly until the mix achieves uniform color andconsistency.

Table-5

Capacity of Mixer	Minimum mixing time for the Stationery item
Less than 1 Cum	1 ½ Minute
1 Cum or more but less than 3 Cum	2 ½ minutes
3 cum	3 Minutes

Stationary mixers shall be provided with a suitable device to lock the dischargemechanism until the required mixing time has elapsed. The provision also shall be made to ensure that each batch is discharged completely before the mixer isrecharged.

The complete plant assembly shall include provisions to facilitate the inspection at all times.

Allrecordsandchartsforthebatchingandmixingoperationsshallbepreparedasspecified herein and as per the instructions of the Engineer-in-Charge and promptly handed over to theEngineer-in-Charge.

The contents of the hopper shall be emptied in one operation into the drum of the mixer taking care to prevent loss of cement by being blown away in high wind. At the start of the day, when some mortar is likely to adhere to the walls of the drum and blades and cause the mixed batch to be harsh and stationary portions of coarse aggregate shall be slightly reduced for the firsts one or two batches.

Adequate mixing capacity shall be provided at the site to deliver continuously the required quantities of concrete for a pour. The quantity of material mixed per batch shall not exceed the manufacturer's rated capacity.

Hand Mixing:

Normally, hand mixing of concrete shall not be permitted. However, this may be allowed by the Engineer-in-Charge in exceptional cases (such as the mechanical breakdown of the mixer,farawayisolatedsitesof concretingandthequantityof concreteworkisverysmall). Ten percent (10%) extra cement shall have to be added to the normal mixes when mixed by hand. It shall be carried out on a watertight platform and care shall be taken to ensure thatmixingiscontinueduntilthemassisuniformincolorandconsistency.Noextrapayment shall be made to the contractor for mixing by hand or for using extra cement due to hand mixing where allowed. However, cement consumed extra shall be considered for reconciliationpurposes.

Transportation, placing, and Compacting of Concrete:

6.6.2 General:

a) Transportation and placing methods and adequacy of equipment and procedures shall be studied in advance. No concrete placing shall be started without the permission of the Engineer. On each occasion that the contractor intends to place concrete, he shall give the Engineer at least 24 hours'notice.

b) Noconcretingoperationsshallbecommencedduringinclementweatherconditions.

c) All formwork, reinforced and location and details of embedded parts, etc. Shall be checked and approved by the Engineer-in-Charge before concretingstarts.

6.6.3 Preparation beforeplacing:

a) Allsawdust,chips,andotherconstructiondebrisandtheextraneousmattershallbe removed from the interior of theforms.

b) Hardened concrete andthe foreign matter shall be removed from the inner surfaces of all conveying equipment, such as barrows, trucks chutes,etc.

c) All surfaces of concrete and semi-porous sub-grade shall be wetted and excess water drained away before the concrete is placed onit.

d) Noconcreteshallbeplacedwhenthetemperatureoftheatmosphereexceeds38°C unless adequate arrangements are made for pre-cooling the ingredients and shutters.Thearrangementsshallbesubjecttothe Engineer-in-charge'sapproval.

6.6.4 Joints and Embeddedparts:

6.6.4.1 ConstructionJoints:

a. Construction joints shall be made at only those positions shown on the drawing at locations approved by theEngineer.

b. The surface of the concrete at all construction joints shall be cleaned of all laitance and loose particles of concrete and thoroughly cleaned. All surfaces of construction jointsshallberoughenedeitherbywirebrushesjustaftertheconcretehassetorby pickingtoexposethecoarseaggregatebutnottodislodgethem.Immediatelybefore concreting,thesurfaceofthejointshallbedampened(butnotsaturated).Placingof a grout layer is not generallyrecommended.

c. Whenever special details are given in the drawing for construction joints they shall be strictly adhered to. No payment shall be made for constructionjoints.

6.6.4.2 Embedded items andrecesses:

a) All sleeves, inserts, anchors, and the embedded item required for adjacent work or its support shall be placed beforeconcreting.

b) Allothercontractors,whoseworkisrelatedtotheconcreteormustbesupportedby it.Shallbegivenamplenoticeandopportunitytointroduceand/orfurnishembedded items before the concrete isplaced.

c) Voidsandslotsinsleeves,anchors,andinsertsshallbefilledtemporarilywithreadily removable material to prevent the entry of concrete into thevoids.

d) Certain embedment's relating to other contractor's work shall have to be fabricated andfixedinpositiononinstructionsoftheEngineer.Paymentsshallbemadeunder the relevant items in the bill ofquantities.

6.7 Conveying:

a) Concrete shall be handled from the mixer to the place of final deposition as rapidly as possible by methods that will prevent segregation or loss of ingredients. No concrete shall be used which does not reach its positions within the initial setting time from the time water is added to thecement.

b) Conveying equipment shall be of size and design to ensure the optimum flow of mixed concrete at the required delivery place and shall be on non-absorbent materials and shall be maintained in clean condition. Use of long troughs, chutes, etc. Shall be permitted only with the written approval of theEngineer-in-Charge.

In case such conveyors lead to the production of inferior quality of concrete, the Engineer-in-Charge may order the discontinuance of their use and substitution of alternative satisfactory methods of placing.

6.7.1 Depositing:

a) Deposition can start after the Engineer-in-Charge checked and approved the formwork,Reinforcement.

b) Concrete that has been left standing and which has become stiffened so that it cannot be placed in satisfactory condition shall not be deposited in thework.

c) Concrete shall be deposited continuously in a layer of such thickness that no concrete shall be placed on concrete that has hardened sufficiently to cause the formation of seams or planes of weakness within the section. The rate of placing shall be such that the already placed concrete which is being integrated with fresh concrete is still plastic and has not passed the safer vibrationlimit.

d) Concrete shall not be permitted to drop freely from a height of more than 1.3 m or strike the form work at an angle. Concrete shall be deposited as practicable in its final position to avoid segregation due to re-handling orflowing.

e) Struts, stays, braces, serving temporarily hold the forms to correct shape, position, and alignment pending the placing of concrete at their location shall be removed when the concrete placing has reached an elevation rendering their use unnecessary. These temporary members shall be entirely removed from the forms and not buried in theconcrete.

f) When placing the concrete on a slope, it shall start at the bottom, the concrete shall be placed against the face of the previously placed concrete and not away fromit.

g) Care shall be taken not to displace reinforcement and embedded parts during the placing and compaction ofconcrete.

h) No concrete shall be placed on the water coveredsurface.

i) Unless otherwise approved, concrete shall be placed in a single operation to thefull thickness of slabs, beams, and similar members and shall be placed in horizontal layers not exceeding 0.5 m deep in walls, columns, and similar members. Concrete shall be placed continuously until completion of the part of the work between construction joints or as directed byEngineer-in-Charge.

6.7.2 Compaction:

a) All concrete shall be thoroughly compacted. The Engineer shall remain the final deciding authority on the type of vibrators to be used for any particularcase.

b) As far as practicable, only internal vibration shall be used for compacting concrete unless specified otherwise. Internal vibrators of high-frequency type shall generally conform to the requirements of IS: 2505 and shall be preferable of electric or pneumatic power driven type. Use of immersion vibrators for compaction concrete shall generally follow the recommendation of IS3558

c) Use of other types of concrete vibrators shall be permitted only if the use of immersion vibrators is found impracticable on account of the size of members or inadequate working clearance for the vibrating head of immersionvibrators.

d) Shutter vibrators, if permitted shall generally conform to the requirements of IS: 4656. "Specification for form vibrators forconcrete".

e) An adequate number of vibrating units shall be provided to compact the concrete at the rate of placingenvisaged.

To provide a breakdown of units, stand by units driven by alternative power units shall also be arranged.

f) Only trained and experienced operators shall be permitted to handle and operate thevibrators.

g) Inplacingconcreteinlayersthatareadvancinghorizontallyastheworkprogresses, great care shall be exercised to ensure adequate vibration, bonding, and molding batches of the concrete between the succeedingbatches.

h) Care shall be taken to prevent contact of vibrators against reinforcement steel and embedments.Vibratorsshallnotbeallowedtocomeincontactwithformsoffinished surfaces.

6.8 Construction Joints andKeys:

When the work is to be interrupted, horizontal and vertical construction joints and bonding keys shall be located and shall conform in detail to the requirements of the plans unless otherwise directed by the Engineer-in-Charge. Construction joints shall be provided in position as shown or described on the drawings. Where it is not described the joints shall be under the relevant IS specifications.

Beforefreshconcreteisplaced,thecementskinor anylooseor porousmaterialof partially hardenedconcreteshallbethoroughlyremovedandcutbackuntilthesolidfaceisexposed and the surface made rough by hacking or any other method as directed by the Engineer- in-Charge. The rough surface shall be thoroughly wetted for about two hours and shall be dried and coated with 1:1 freshly mixed cement sand slurry immediately before placing the new concrete. Special care shall be taken to see that the first layer of concrete placed after aconstructionjoint isthoroughlyrammedagainsttheexistinglayer, beforetheslurrysets.

6.9 Treatment of Resumption ofWork:

6.9.1 When the work has to be resumed on a surface which has hardened, such surface shall be roughened. It shall then be swept clean and thoroughly wetted. For vertical joints neat cement slurry shall be applied on the surface before it is dry. For horizontal joints, the surface shall be covered with a layer of mortar about 10 to 15 mm thick composed of cement and sand in the same ratio as the cement and sand in the concrete mix. This layer of cement slurry or Mortar shall be freshly mixed and applied immediately before placing theconcrete.

6.9.2 Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the wetsurfacewithwireorbristlebrushescarebeingtakentoavoiddislodgmentofparticles of aggregate. The surface shall be thoroughly wetted and all free water removed. The surfaceshallthenbecoatedwithneatcementslurry.Onthissurface,alayerofconcrete notexceeding150mminthicknessshallfirstbeplacedandshallbewellrammedagainst oldwork,particularattentionbeingpaidtocornersandclosespots;worksthereaftershall proceed in the normalway

6.10 WashWater:

6.10.1 Wash water shall be removed in a manner to prevent running down and staining of concrete surfaces that will be exposed after the work. Should unsightly wash water streaks develop on the exposed surfaces, they shall be removed to a uniform color a texture satisfactory to theEngineer-in-Charge.

6.11 Curing andProtection:

6.11.1 Curing of concrete shall be under IS:456. Concrete shall be cured by keeping it moist for the period specified herein to ensure that complete hydration and hardening takeplace.

Curing shall be assured by the use of an ample water supply under pressure in pipes, with all necessary appliances of hose, sprinklers, and spraying devices. Continuous, fine mist spraying or sprinkling shall be used, unless otherwise specified or approved by the Engineer-in-Charge.

Curing of concrete shall start after 8 hours of placement and in hot weather within 4 hours of placement for exposed faces. In every hot weather, precaution shall be taken to see that the temperature of wet concrete does not exceed 38˚C while placing.

Newly placed concrete shall be protected by approved means from rain, sun, and wind. Concreteplacedbelowthegroundlevelshallbeprotectedfromfallingearthduringandafter placing, the surface shall be kept free from the contract with the ground or with water draining from such ground during otherwise directed by the Engineer-in-Charge. The groundwater around newly poured concrete shall be kept to an approved level by pumping orotherapprovedmeansofdrainageandadequatestepsshallbetakentopreventfloatation andflooding.

Theconcreteshallbeinitiallyprotectedfromdamageonaccountofimpact,unduepressure, excessive heat drying winds, and rain, etc. by covering with wet sacking hessian or similar absorbent material soon after the initial set. After the final set, the concrete shall be kept continuously wet preferably by continued spraying with water or by ponding for at least 10 daysfromthedateofcasting,providedthetemperatureoftheatmosphereduringthisperiod has been continuously above 10˚C. When the temperature are lower, the Engineer may extend the curing period to suitably longer stretches. Other methods of curing may be used only on written permission from theEngineer.

6.12 FieldTests:

6.12.1 GradingTest:

Gradingtestsoncoarseandfineaggregateshallbecarriedoutatintervalsspecifiedbythe Engineer-in-Charge.

6.12.2 Slump Test onconcrete:

At least one slump test shall be made for every compressive strength test carried out More frequent test shall be made if there is a distinct change in work conditions, or if required by the Engineer-in-Charge.

6.12.3 Strength Test ofconcrete:

SamplesfromfreshconcreteshallbetakenasperIS:1199andcubesshallbemade,cured, and tested at 28 days under IS:516.

To get a relatively quicker idea of the quality of concrete, optional tests on beams for modules of strength tests at 7 days may be carried out in addition to 28 days compressive strength test, for this purpose, the values are given in Table, 6 may be taken for general guidance in the case of concrete made with ordinary Portland cement. In all cases, the 28

days compressive strength specified in Table - 1 shall alone be the criterion for acceptance or rejection of the concrete. If, however, from tests carried out in a particular work over a reasonablylongperiod,ithasbeenestablishedtothesatisfactionoftheEngineer-in-Charge that suitable ratio between 28 days compressive strength and the modulus of rupture at72 ± 2 hours or 7 days or compressive strength at 7 days may be accepted, the Engineer-in-Charge may suitably relax the frequency of 28 days compressive strength specified in Clause 6.13.3.3. provided the expected strength values at the specified early age are consistently met.

Table – 6
Optional Tests Requirements of Concrete

Grade of concrete	Compressive strength of 15 cm cubes, min.at 7 Days	Modulus of Rupture by Beam test At 72+ 2hour min. (N/mm^2)	At 7days (N/mm^2)
M-10	7.0	1.2	1.7
M-15	10.0	1.5	2.1
M-20	13.5	1.7	2.4
M-25	17.0	1.9	2.7
M-30	20.0	2.1	3.0
M-35	23.5	2.3	3.2
M-40	27.0	2.5	3.4

6.12.3.1 Sampling:-:-Arandomsamplingprocedureshallbeadoptedtoensurethateachconcrete batch shall have a reasonable chance of being tested; that is the sampling should be spread over the entire period of concreting and cover all mixingunits.

6.12.3.2 Frequency ofsampling

The minimum frequency of sampling of concrete for each grade shall be under the following: -

Quantity of Concrete in The work(M^3)	Number of sample
1-5	1
6-15	2
16-30	3
31-50	4
51 and above	4
	Plus, one additional Sample for each addition cum. Or part thereof

6.12.3.3 TestSpecimen:

Three test specimens shall be made from each sample for testing at 28 days. Additional cubes may be required for various purposes such as to determine the strength of concrete at 7 days or at the time of striking the formwork, or to determine the duration of curing or to check the testing error. Additional cubes may also be required for testing cubes cured by

accelerated methods as described in IS: 9013. The specimen shall be tested as described in IS: 516.

6.12.3.4 Test strength ofsamples:

The strength of the samples shall be the average of the strength of three specimens. The individual variations should not be more than $\pm$15 percent of the average.

6.12.3.5 StandardDeviation:

Standard deviation based on test results:

a) Number of test results - The total number of test results required constitute and acceptable record for calculation of standard deviation shall be not less than 30. Attemptsshouldbemadetoobtain30testsresults,asearlyaspossible,whenamix is used for the firsttime.

b) Standard deviation to be brought up to date. The calculation of the standard deviation shall be brought up to date after every change of mix design and at least once amonth.

Determination of standard deviation:

a) Concrete of each grade shall be analysed separately to determine its standard deviation.

b) Thestandarddeviationofconcreteofagivengradeshallbecalculatedusingformula from the results of individual tests of concrete of that grade obtained as specified in 6.13.3.4.

S = Estimate standard deviations= $\frac{\sqrt{\Sigma\Delta 2}}{n-1}$

Where Δ = deviation of the individual test strength from the average strength of n samples and n = number of samples test results.

c) When significant changes are made in the production of concrete batches (for exampleschangesinthematerialsused,mixdesignequipmentortechnicalcontrol), the standard deviation value shall be separately calculated for such batches of concrete.

6.12.3.6 Acceptancecriteria

6.12.3.6.1 Theconcreteshallbedeemedtocomplywiththestrengthrequirementsif:

a) Every samples has a test strength not less than the characteristic value;or

b) The strength of one or more samples though less than the characteristic value, is in each case not less than the greaterof:

1. The characteristic strength minus 1.35 times the standard deviation;and

2. 0.80 times the characteristic strength;or

c) Average strength of all the samples is not lessthan the characteristic strength plus

$$\left[\ 1.65-\frac{1.65}{\sqrt{\text{number of samples}}}\right]$$ Times the standard deviation

6.12.3.6.2 Theconcreteshallbedeemednottocomplywiththestrengthrequirementsif:

a) The Strength of any samples is less than the greaterof:

1. The characteristic strength minus 1.35 times the standard deviation;and

2. 0.80 times the characteristic strength;or

b) The average strength of all the samples is less than the characteristic strengthplus

$$\left[\ 1.65-\frac{1.65}{\sqrt{\text{number of samples}}}\right]$$ Times the standard deviation

Concrete which does not meet the strength requirements as specified in 6.13.3.7.1 but has astrengthgreaterthantherequiredby6.13.3.7.2.,mayatthediscretionoftheEngineer-in- charge be accepted as being structurally adequate without furthertesting.

If the concretes is deemed not to comply pursuant to 6.13.3.7.2, the structural adequacy of the parts affected shall be investigated and any consequential action as needed shall be taken. Concrete of each grade shall be assessed separately.

Concrete shall be assessed daily for compliance. Concrete is liable to be rejected if it is porous or honey-combed; its placing has been interrupted without providing a proper constructions joint; the reinforcement has been displaced beyond the tolerance. However, the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of the Engineer-in-charge.

6.13 Inspection and testingstructures

6.13.1 Inspections.

Immediately after striping the formwork, all concrete shall be carefully inspected and any defective work or small defects either removed or made good before concrete has thoroughly hardened.

In case of doubt regarding the grade of concrete used, either due to poor workmanship or basedonresultsofcubestrengthtests,compressivestrengthtestsofconcreteonthebasis of clause, 6.14.2 and/or load test (ref. Clause 6.14.4) may be carried out. The contractor must provide for hammer testing equipment which shall always be kept atsite.

6.13.2 Coretest:

The points from which cores are to be taken and the number of corers required shall be at thedirectionoftheEngineer-In-Chargeandshallberepresentativeofthewholeofconcrete

concerned. In no case, however, shall fewer than three cores be tested. Corers shall be prepared and tested as described in IS: 516

Concrete in the member represented by a core test shall be considered acceptable if the average equivalent cube strength of the cores is equal to at least 85 percent of the cube strengthofthegradeofconcretespecifiedforthecorresponding ageandnoindividualcore has a strength less than 75percent.

In case the core test results do not satisfy, the requirements of above para or where such tests have not been made, load test may be resorted to. The cost of taking out cores samples and testing the same shall be borne by the contractor.

6.13.3 Failure to meet strengthrequirement:

Intheeventthatconcretetestedinaccordancewiththerequirementsofclause6.13ofthis specifications fails to meet the requirement, the Engineer-In-Charge shall have the right to requireanyoneorallofthefollowingwhichshallbecarriedoutbythecontractorathisown expenses.

1) Load testing of the concrete member concerned represented by the tests which failed.Themethodandmannerofloadtestshallbeasgiveninclause6.14.4below.

2) Replacement of any such portions of the structure, no payment for the dismantled concrete, relevant formwork and reinforcement shall be made. Embedded fixtures andreinforcementoradjoiningstructuredamagedduringdismantlingshallbemade good by the contractor at his ownexpense.

3) Extended curing of the concrete represented by thespecimen.

6.13.4 Load Test on parts ofstructures:

6.13.4.1 The Engineer-in-charge may instruct for a load test to be carried out on any structure if in his opinion such a test is deemed necessary for any of the following reasons:

1) Theworksite-madeconcretetest-cubefailingtoattainthespecifiedstrength.

2) Suspected overloading during construction of the structure underreview.

3) Shuttering being prematurely removed and not as per thespecification,

4) The concrete being improperlycured.

5) There being a reasonable doubt by the Engineer-in-charge as to the adequacy of the strength of thestructure.

If the results of the load test be unsatisfactory, the Engineer-in-charge may instruct the contractor to demolish and reconstruct the structure or part thereof at the contractor's cost.

6.13.4.2 Theloadtestof structureshallbecarriedoutasgivenbelow.

Load tests should be carried out as soon as possible after expiry of 28 days from the time ofplacingofconcrete.Thestructureshouldbesubjectedtoaloadequaltofulldeadloadof thestructureplus1.25timestheimposedloadforaperiodof24hoursandthentheimposed load shall beremoved.

The deflection due to imposed load only shall be recorded. If within 24 hours of removal of the imposed load, the structure does not recover at least 75 percent of the deflection under super imposed load, the test may be repeated after a lapse of 72 hours.

If the recovery is less than 80 percent, the structure shall be deemed to be unacceptable.

If the maximum deflection in mm, shown during 24 hours under load is less than 40 [L^2/D], where L is the effective span in meter and D is overall depth of the section in mm, it is not necessary for the recovery to be measured and recovery provisions, given above will not apply.

Other non-destructive test methods may be adopted, in which case the acceptance criteria shallbeagreeduponbetweentheEngineer-in-chargeandthecontractorandthetestsshall bedoneunderexpertguidance.Thecostofconductingloadtestetc.shallbeborneentirely by thecontractor.

6.14 Finishing ofconcrete.

On striking the formwork, all blow holes and honey combing observed shall be brought to the notice of the Engineer-in-charge. The Engineer-in-charge may, at his discretion allow such honey-combing or blow holes to be rectified by necessary chipping and packing or groutingwithconcreteorcementmortar.Ifmortarisused,itshallbe1:3mixorasspecified by the Engineer-in-charge. However if honey combing or blow holes of such extent as being undesirable the Engineer-in-charge may reject the work as being undesirable and hisdecisionshallbebinding.Noextrapaymentsshallbemadeforrectifyingthesedefects. All burrs and uneven faces shall be rubbed smooth with the help of carborandumstone.

Thesurfaceofnon-shutteredfacesshallbesmoothenedwithawoodenfloattogiveafinish equaltothatoftherubbed down shutteredfaces.Concealed concretefaces shallbeleftas from the shuttering except that honey-combed surface shall be made good as detailed above. The top faces of slabs not intended to be surfaced shall be levelled and floated to a smooth finish at the levels or falls shown on the drawings or elsewhere. The floating shall notbeexecutedtotheextentofbringingexcessfinematerialstothesurface.Thetopfaces of slabs intended to be concerned with screed, granolithic or similar faces shall be left with a roughfinish.

6.14.1 Repair and replacement of unsatisfactoryconcrete:

Concrete which is unsatisfactory shall be repaired by cutting out the unsatisfactory material and by replacing it with new concrete. Voids to be so filled shall be provided with anchors, keys or dovetail slots wherever necessary to attach the new material securely in place.

Surface of prepared voids shall be wetted for 24 hours immediately before the patching material is placed. Repair of concrete shall be made by skilled workmen. Repairs shall be made as soon as practicable after removal of the forms and in a manner to meet the requirements for the finish specified for the particular location.

The use of an epoxy for binding fresh concrete used for repair will be permitted on written approval of the Engineer-in-charge. Epoxies shall be applied in strict accordance with the instruction of the manufacturer.

6.14.2 Method ofrepair:

Dry-Pack'filling shallbeusedforsmallsize holeshavingsurfacedimensionnearlyequalto thedepthofthehole,for holes left after removal of formties, grout in sert holes and slots cut for repair of cracks. Mortar filling by cement gun shall be used for repair of areas and holes too large for dry-pack, and too shallow for concrete filling. For holes extending entirely throughtheconcretesection,forareasgreaterthan0.1sq.m.anddeeperthan 100mmand holes in reinforced concrete which are greater in area than 0.05 sqm. and which extend beyondthereinforcement,therepairshallbemadebymakingacompletefillingofthevoids withbrokenstoneandliquidPortlandcementgroutshallbeplacedthroughfillerpipesunder pressure. Pipe nipples shall be placed through the forms at bottom of the void so that the groutrisesupwardthroughtheaggregatetospillthroughaventatthetopedgeofthevoid.

6.14.3 Matching of patchsurface:

Fillingmaterialusedinrepairofsurfacewhichwillbeexposedaftercompletionoftheproject shallbemadewithcementfromthesamesourceasthatusedinconcreteandblendedwith sufficient amount of white Portland cement to produce the same colour as in the adjoining concrete. Patched surfaces shall be given a final treatment as required to make the texture of the patch to match with that of the surroundingmaterial.

6.14.4 Curing PatchedWork:

Immediately after patching is completed, the patch shall be covered with an approved non-staining, water saturated material which shall be kept wet and protected against sun and wind for a period of 12 hours. Thereafter the patched area shall be continuously wet by a fine spray of sprinkling for not less than 10 days.

Allmaterials,proceduresandoperationsusedintherepairofconcreteandalsothefinished work shall be subject to the approval of the Engineer-in-Charge. All filling shall be tightly bonded to the concrete and shall be sound, free from shrinkage cracks, or dummy areas after the fillings have been cured anddried.

6.14.5 No extra payment shall be made for the aboveworks.

6.15 Tolerance:

All concrete work shall be constructed to the dimensions shown on the drawings andwithin the tolerance set out below except where otherwisespecified.

Super structure tolerance:

1. Variation from vertically: MaxTolerance
- **a)** Reinforced concrete columns, walls, piers etc : ±20 mm per 15m
- **b)** Mass concrete columns and walls etc: ± 40 mm per 15m

2. Variation from level or specified gradient orbatter:
- **a)** Reinforced concrete floors, beams : ± 6mm
- **b)** Exposed lintels, sills and conspicuous lines and finished seating's for rains and plant : +3mm
- **c)** Mass concrete walls etc. : ± 12mm

3. Variation from specifiedalignments:
- **a)** R.C. Columns, walls, beams : ± 6mm
- **b)** Mass concrete walls etc.:±25mm

4. Variation in cross-sectionaldimensions:
- **a)** R.C. Columns, beams, walls and slabs **:** - 6 mm to + 12 mm (±2 mm for precast)
- **b)** Mass concrete walls, etc**:** 20 mm perm.

5. Variation of size and location of openings, sleeves and embedded fixtures: ±15mm. Precast concrete:±3mm.

6. Variation insteps:
- **a)** In a flight, riser : ± 3 mm
  Tread : + 6mm

Where a tolerance is related to a given length (e.g ± 20mm per 15m) the tolerance for any greater or lesser length shall be in linear proportion thereto, subject to the discretion of the Engineer. The tolerance for each lift of concrete shall be calculated on the same basis with a normal minimum of ±3mm.

Foundation tolerances (below ground level)

These tolerances apply to the outside dimensions of works below ground level. Recesses in the foundations and all internal dimension, if there is a basement, shall be regarded as a superstructure and therefore covered by the preceding clause.

1. Variations from specific dimensions +50mm to-12mm

2. Variations from specific thickness 12mm perm

3. Variations from level of top surface (if not forming part of a floor or other exposed work)25mm

4. Variations from specified position for starter bars, bolts, boxes etc.25mm

5. Variation from specified position for foundation bolts.6mm.

6.16 SiteLaboratory

The contractor shall provide for a site laboratory for testing concrete and materials at his own cost. The laboratory shall be equipped to carry out the following tests (But not limited to them only) at site:

a) Sand
- **i.** Seiveanalysis
- **ii.** Organicimpurities
- **iii.** Specificgravity
- **iv.** Moisture content andabsorption
- **v.** Siltcontent

b) Coarseaggregates:
- **i.** Seiveanalysis
- **ii.** Specificgravity
- **iii.** Moisture content andabsorption

c) Concrete:
- **i.** Slump
- **ii.** Cube tests (May be got done outside the sitelaboratory)
- **iii.** Specificgravity

d) Cement:
- **i.** Setting time (Initial andfinal)

6.17 Mode ofpayment:

Paymentforplainandreinforcedcementconcreteinsiteshallbemadeoncubicmeterbasis of actual finished work done excluding plastering and for the design sections. Deductions shall be made for openings as per IS code1200.

Reinforcement shall be paid separately under the respective item of schedule of quantities. No deduction shall be made for volume occupied by the reinforcement. No deduction shall also be made for voids formed by rain water pipes, ducts and embedded parts and other bodiesandrecesseshavinglessthan65sq.cm.crosssectionalarea.Noextrapaymentwill be made for the cost of forming such voids or recesses. The concrete in place shall be measured for length, breadth and depth or thickness, limiting the dimensions to those specifiedinthedrawingsorasdirectedbytheEngineer-in-chargeandmeasurementsshall be made to the nearest cm except for the thickness of slab and partition which shall be measured to the nearest 5mm. Area shall be worked out to the nearest 0.01 Sq.m and the cubicalcontentofconsolidatedconcreteshallbeworked outtothenearest0.001cu.mAny work done in excess over the specified dimension or sections shown in the drawing or as required by the Engineer-in-Charge shall beignored.

The quoted rate for concrete shall cover the supply of materials, labour, tools and tackle, plant and equipment. The quoted rate shall also include, wherever applicable, the cost of placing and keeping in position any embedment or inserts providing cuts and openings, treatmentsonsuspensionsofworks,preparingconstructionjointsetc.asshownindrawing

and as specified and all other works incidental to the completion of the work as per these specifications.

Anyreinforcementorotherprojectionsfromverticalfacesshallbeprovided,cuttingsuitable holes in formwork at no extracost.

The cost of the sack rubbed finish over the form finished surface shall also be included in the rate.

The rates shall be deemed to include complete cost of taking and testing concrete cubes and carrying out other tests as per specifications and as directed by Engineer-in-charge.

Where the strength of concrete mix (nominal or controlled) as indicated by tests, lies in between the strengths of any two grades given in clause 6.3 and it is accepted by the Engineer-in-charge, such concrete shall be classified as a grade belonging to the lower of the two grades between which it lies. In case the cube strength show higher results than thosespecifiedforthehigherpaymentonsuchaccount.Theconcretegivinglowerstrength thanspecifiedofthestructurebycheckingitwithdevicessuchasimpacthammer,loadtest etc. or rejected concrete shall be dismantled at no extra cost. No payment will be made for the concrete so rejected and the shuttering and reinforcement used for the same. In case the concrete of lower strength can be improved by carrying out some strengthening measures entirely at the discretion of the Engineer-in-Charge then the said measure shall becarriednotbythecontractorathisowncost.Theconcreteoflowerstrengthshallhowever be paid as perabove.

7.0 Reinforcement

7.1.0 Bonding, binding, lapping and placing reinforcement in position shall be done as per exhibit drawings and as per provision of IS - 456 and other relevant IS codes. Bars shall bent cold correctly to the size and shape as detailed in the drawings and as per provision of IS: 2503 and as per directions of the site Engineer. Bars shall be thoroughly cleaned of rust, scales, grease, oil any other foreign matters before placing in position. The bars crossing one another shall be tied with two stands of 18 gauge GI wires. Unless otherwise specified, minimum cover and spacing and bond length for reinforcement bars shall be provided as per provision of IS - 456 (latest edition). No concrete work shall be started prior to approval of placing and binding of reinforcement by the site Engineer.

7.2.0 Payment for M.S. reinforcement or twisted bars shall be on the basis of weight. Theweight shall be derived from the sizes and corresponding weights given in hand-book of Bureau of Indian Standards. Standard hook length, chairs, spacer bar and authorized laps shall only beincludedinthecalculationoftotalweightandpaid.Bindingwiresshallnotbeincludedin the calculated weight. Measurement for weight shall not include cutting allowance/wastage etc. Rate quoted for reinforcement shall include, cost of reinforcing bars, cutting straightening, bending, cleaning, binding wires etc. as also wastage and placing in position as per drawings and instruction of the SiteEngineer.

8.0 FormWork

Shuttering shall either be of wooden plank 30mm minimum thickness or steel plates with stiffenededges.Theshutteringshallbesupportedonbattensandpropsvertical SalBallies properlycrossbracedtogethersoastomaketheformwork rigid.Theshuttering shallhave asmoothandevensurfaceandjointsshallnotpermitleakageofcementgrouts.Thetimber planks shall be accurately sawn and planed on one side. The surface of the shuttering that would come in contract with concrete shall be covered with a thin sheet of polythene paper roll. Alternatively, application of raw linseed oil or soap solution, to the surface of the shuttering may be allowed at the discretion of the site engineer. Sufficient camber shall be provided to the shuttering so as to off set subsequent deflection after pouring of concretein it. A minimum camber of 4 mm per meter length of beam and 1/50 of length of cantilever projected member shall be provided as directed by the Site Engineer. Minimum period that shall elapse after the concrete is laid, before removal of centering and shuttering for the work shall be as per IS:456. The complete formwork shall be inspected and approved by the Site Engineer before reinforcement bars are placed inposition.

8.1.0 Removal offorms:

a) Form work for columns, walls, sides of beams, and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operation but not earlier than 24 hours from the time of casting theconcrete.

b) FormworkforRCCbeamandslabsoffitsandotherpartsthatsupportstheweightof concrete unless otherwise specified in the drawings is directed by the Engineer-in-charge may be removed after the period indicated below, provided that the ambient temperature during the period has been not less than 16˚C.

i) Slab (props left under) : 3days

ii) Beam soffits (Props left under) : 7days

iii) Removal of props of slabs:

Spanning up to 4.5M : 7days

- Spanning more than 4.5M : 14days

iv) Removal of props of beams andarches:

- Spanning up to 6 meter: 14days
- Spanning more than 6 M : 21days

v) Walls, Columns and vertical faces of all structural members : 24 to 48 hours as may be decided by theEngineer-in-charge.

vi) Cantilever construction: Not until adequate fixity is developed subject to min of 10 days.

Note:

1. The number of props left under, their sizes and disposition shall be such as to be able to safely carry the full load of slab, beam and any other super imposed loads likely to be placed onthem.
2. Inthedeterminationoftimeforremovalofforms,considerationshallbegiventothe location and character of the structure, the weather and other conditions including the setting and curing of the concrete and materials used in themix.
3. All formwork shall be removed without shock or vibration as would damage the concrete. Before the soffit form or struts are removed, the concrete surface shall be exposed, where necessary in order to ascertain that the concrete has sufficiently hardened.
4. Sequence of removal of props and supports shall follow the instructions given inthe drawings or by the Engineer-in-charge. Removal of props in general shall be done in such a manner as to permit the concrete to take uniformly and gradually the stresses due to its ownweight.
5. Stacking of cement, formwork materials or any other material, will not be permitted on any newly constructed floor without the permission of theEngineer.

8.2.0 Re-use ofForms:

Before re-use, all forms shall be thoroughly scraped and cleaned joints gone over, repaired and insides re-treated to prevent adhesion. The shape, strength, rigidity, mortar tightness and surface smoothness of re-used forms shall be maintained at all times.

9.0 Flooring:

9.1.0 Floors shall be laid on concrete sub-grade where so provided in the relevant drawings. The sub-gradeshallbeprovidedwithslope,asperdirectionofSiteEngineer,todrainoffwashing and rain water. Where sub-grade is not provided, such as in the plinth protection pathways etc. the earth below shall be properly sloped, watered, rammed and consolidated. Before laying flooring it shall be moistened. The surface of the sub-grade shall be roughened concrete and wetted and smeared with a coat of cement slurry at 2.75 Kg of cement per square meter of floorarea.

9.2.0 Flooring of specified thickness shall be laid in the pattern as given in the drawings and as directed by the Site Engineer. Floors shall be laid in panels of uniform size not exceeding 3.5sq.minareaforordinarycementconcretefloorsand2sq.m.formosaicfloors.Alternate panels shall be laid on differentdays.

9.3.0 The joints in between the panels of mosaic floors shall be provided with glass strips of thickness 4mm and width equal to thickness of the floors specified.

9.4.0 The junction of floor with wall, dado or skirting shall be rounded off up to 25 mm radius where so required by the SiteEngineer.

9.5.0 After the floor has begun to harden it shall be protected from quick drying with moist gunny bags or by some suitable means as approved by the site Engineer. After 24 hours of laying floor the surface shall be cured by flooding with water of minimum 25mm depth or by

covering with wet gunny bags. The curing shall be continued for at least ten consecutive days.

9.6.0 For ordinary cement concrete floor, final finishing and smoothing of the top surface shall be. done with steel floats Polishing of mosaic floors shall be made by machine grinder. First grindingshallbedonewithspecialrapidcuttinggritblocksofcoarsegrade(No.60)after36 hoursoflayingthetoplayer.Afterfirstgrindingthesurfaceshallbethoroughlywashedwith cement grouts. The surface shall then be allowed to cure for 5 to 7 days and then ground with machine fitted with fine grit block (No.120). The surface is then cleaned and followed by cement wash and allowed to cure for 3 to 5 days. Final grinding shall be with fine grit block (No. 320). After the final grinding, oxalic acid shall be dusted over the surface @ 33 gm. Per Square meter sprinkled with water and rubbed hard with a pair ofwooden rags.

9.7.0 Payments shall be made on square meterbasis.

10.0 Plastering

Unless otherwise specified, brick surface is to be plastered with cement mortar (1:6) 12mm thickness using medium coarse sand. Before plastering work is started all joints shall be rakedoutandloosemortarshallbebrushedout.Forplasterovercementconcretesurface,

thesurfaceshallbethoroughlychipped.Thesurface, shallthenbethoroughlywashed with water, cleaned kept wet before commencement of wall plasters. Plastering over stone masonry shall be in CM (1:6) 20mm thickness where so specified in the scheduleof rates.

Curingforplasteredsurfaceshallbestarted24hoursafterfinishingtheplasterandshallbe kept wet for a period of 7days.

Payment for plastering shall be made on square meter basis. Deduction shall not be made for openings less than 0.5 M^2 For openings 0.5 M^2 to 3.0 M^2 each, deduction shall be made for50%oftheopeningsizeandnopaymentshallbemadeforjambsandsills.Foropenings of area more than 3.0 M^2 deduction shall be made for the full area but jambs, sills etc. shall bemeasuredandpaid.Allmeasurementshallbemadeforeachface.Therateofplastering shall be inclusive of all cost of scaffolding, labour, materials etc.complete.

11.0 Fixing oftemplates.

The mild steel templates are used as the media for fixing anchor bolts in the columns of Microwave Tower Foundation.

It should be ensured that the templates are fixed rigidly and is free from the columns shuttering and all the templates are in the same level. The method adopted for fixing the templates should be such that it is possible to fix the center of columns precisely and also take measurements of each leg to ensure the dimensions are correct upto ± 3mm.

12.0 Integral Cement Water ProofingCompound:

12.1 Water proofing compound shall in general conform to IS:2645 and shall be of a brand approved by the Engineer-in-Charge. Water proofing compound shall be brought to site in sealed/packedcondition.ApprovaloftheEngineer-in-chargeorhisauthorisedrepresentative shallbeobtainedpriortousingthesameinworks.Proportionandmannerofmixingthewater

proofing compound with cement shall be as per manufacturer's specifications and instructions.

12.2 Contractor may be ordered to use water proofing compound in cement concrete works, in floorings, damp proof course, reinforced cement concrete works, or plastering works etc. at the directions of the site engineer. Usage of water proofing compound shall be paid for as a separate item of work under relevant item in the schedule of rates. Payments shall be made on the weight of water proofing compound actuallyused.

13.0 Precast cementconcrete:

13.1 Precastcementconcreteshallbeusedformakingshelves,smalllintels,pitoverslabs,drain coverslabetc.Allrelevantspecificationsandworkmanshipmentionedforreinforcedcement concrete shall in general be observed for precast element unless otherwise specified. Formwork for precast element shall be such as to ensure true corners, plain surface etc. Metal forms shall be used when directed by the site engineer. Precast concrete element after24hoursofcastingshallbekeptimmersedinwatertankofsuitablesizeforatleast14 days. No precast unit shall be erected within 28 days of casting. Stacking of the precast elementshallbedoneasperinstructionsofthesiteengineer.Erectionsofprecastmembers shallbedonetothedesiredposition,alignment,level,plumb,etc.forallheightsandjointed with such cement mortar 1:3 (1 cement: 3 Coarse sand). Rate quoted for precast members shall be inclusive of all labour, materials, equipment required for erection and erection charges. Complete steel reinforcement as shown in relevant drawing or as per instruction of the site engineer shall be provided and shall be paid extra. Mode of payment and measurement shallbebythevolumeofprecastconcreting done.Reinforcementusedshall be on same lines as per reinforced cementconcrete.

14 Precast R.C.Jali.

14.1.0 Precast R.C. Jali shall be of the design as per relevant drawings or as per the sample approved by the site engineer. Precast Jali shall be 100mm thick and not more than 2'-0" X 3'-0" size made with cement concrete mix 1:2:4 (1 cement: 2: Coarse sand: 4 stone aggregate 6mm nominal size) and reinforced with 1.6 mm thick GI wires. Form for precast jaii shall be such that the finished surface is smooth and even. There should be no honey combing.

15 WhiteWashing.

15.1.0 Before wash the surface shall be thoroughly brushed free from mortar dropping and foreign matter.

15.2.0 The wash shall be prepared from fresh lime approved by the engineer-in-charge. The lime shall be thoroughly soaked and screened through a clean coarse cloth and admixed with gum and indigo. 3 gms of indigo and 20 gms of gum per kg. of lime shall be used. Alternatively, other types admixtures may be used on the specific written approval of the Engineer-in-Charge.Approximately,1Kg.oflimewillproduce5litersofwhitemilkysolution. Thesolutionshallbegotapprovedbythesiteengineerbeforeapplication.Numberofcoats shall be as specified in the schedule of rates and each cost shall be allowed to dry before

next one is applied. Mode of measurement and payment shall be same as for plastering as mentioned in clause No**. 10.3.0**

16 Distemper:

16.1.0 Oil bound distemper of approved brand and manufacture shall be used. The shade shall be got approved by the Engineer-in-charge before application of the distemper. The oil bound distemper shall be stirred slowly in clean water using 0.6 liter of water per kg of distemper or as specified by the manufacturer. Mixture shall then be well stirred before use. The finishedsurfaceshallbeevenanduniformandshallshownobrushmarks.Modeofpayment and measurement shall be same as for plastering as mentioned in **clause.10.3.0.**

17 Water proof cementpaint:

17.1.0 The water proof cement shall be 'Snowcemplus' or equivalent approved brand and manufacture. The shade and color of the paint shall be got approved by the site engineer before application. Preparation of the mix shall be done as per manufacture specifications and as directed at site.

17.2.0 The surface to be coated with water proof cement paint shall be thoroughly cleaned of all dust and falling mortar by washing and scrubbing. The surface shall be thoroughly wetted with clean water before the water proof cement paint is applied. Water proof cement paint shall be mixed in such quantity as can be used up within a hour of itsmixing.

17.3.0 Mode of measurement and payment shall be same as for plastering as mentioned in **clause 10.3.0**

18 Steel Doors, Windows,Ventilators.

Doors, windows, ventilators etc. shall be manufactured from standard rolled steel sections. The steel shall be fusion welding quantity S-42 W designation. In all respects the steel sections shall conform to IS:2062 - 1962 for structural steel. Types, overall sizes, side openingsandpositionshallbeallasperIS:1038(latestedition)andasperexhibitdrawings. The weight of different rolled steel sections, used in fabricators shall conform to these specifiedinIS:1038(latestedition).Lowestpanelofthedoor,calledaskickpanelsshallbe approved of 1.25 mm M.S sheet on either face of door shutters whendesired.

The doors and windows shall be according to the specified size and design. The sizes of doors, windows and ventilators openings shall be calculated so as to allow 1.25mm clearance on all the four sides of the frame to allow for easy fitting into the opening. The actualsizeofthedoors,windowsandventilatorsshallnotvarymorethan1.5mmfromthose given in the design. All doors, windows and ventilators etc. shall be provided with a priming coat with zinc chromate/wood primer as the case maybe.

Paymentshallbemadeonsquaremeterbasisofthe areaoftheopeninginthewallcovered by the door/window/ventilators. Rate shall include breaking and making good the walls, sill etc. glazing and providing and fixing all fixtures and fastening, all labour, material etc complete.

18.1.0 Glazing:

Ordinary glass panes of not less than 3mm thickness shall be provided. The glass panes shallbefreefromflawsspecksorbubblesandshallhavesquarecornerandstraightedges. Special metal sash putty of approved make and conforming to relevant IS Code shall be used for fixing glass panes. Putty shall be applied between glass panel and glazing bars. Putty shall be painted within 2 to 3 weeks after glazing is fixed to avoid its cracking. No separate payment shall be made for glazing. Rate quoted for glazed door/windows/ventilators shall be including glazingwork.

19 Rollingshutter.

19.1.0 Rolling shutters shall consist of 1.25mm thick mild steel sheet with 80mm. M.S.sheet laths, machine rolled and straightened with an effective bridge depth of 26mm. Laths shall be interlocked together at the end with and locks. These shall be mounted on pipe shaft. The springs shall be of coil type manufactured from tested high tensile spring steel wire. The springpipeshaftshallbemountedonstrongmildsteelormalleablecastironbrackets.Side guidesandbottomrailsshallbejointlessandofsinglepieceofpressedsteel.Thetopcover of shaft shall be of same materials as that oflath.

20 Painting

20.1.0 Paints, enamel etc. of approved brand and manufacture as approved by the site engineer shallbeused.PaintsmanufacturebyM/s.Johnson&Nicholson,Asianpaints,BritishPaints, ICI and Shalimar shall only be approved. Primer and thinners use ready mixed paints as received from the manufactures without any admixtures shall be used as per the manufacturer's instructions. If for any reason thinning is necessary (in case of ready mixed paint) the brand of thinner recommended by the manufacturer or as instructed by the site engineer shall beused.

20.2.0 The surface be thoroughly cleaned and dusted. All the rust, dirt, scales, smokes and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the site engineer after inspection, before painting is commenced.

20.3.0 The wood work to be painted shall be dry and free from moisture. The unevenness shall be rubbed down smooth with sand paper and shall be well dusted. Knots, if any, shall be covered with preparation of red lead made by grinding lead in water and mixing with strong glue sized and used hot.

21 Flush DoorShutters:

21.1.0 Flush shutter (soil core type) shall in general conform to IS:2202 and of exterior grade with block board core. Block board core shall conform to the requirements specified in IS:1650. The wooden strips for the core shall not exceed 25mm in width. In any one block board the core strip shall be one piece of timber only. A wooden frame good quality work shall be providedforholdingthecore.Thewidthofthemembershallnotbelessthan50mmandnot more than100mm.

21.2.0 The core surface shall have two or more commercial or teak plywood veneer firmly glued on each face and pressed. The combined thickness of all the veneers on each face shall not be less than 4mm. Only phenol formaldehyde resin glue shall be used for door manufacture and a certificate to this effect from the manufacture shall be furnished on demand.

21.3.0 The flush door shutters shall be obtained from firms of repute and the supply be in accordance with the approved full size sample.

21.4.0 All fittings for wooden doors shall be of aluminum anodised of approval type. Each door shutters shall be provided with the following fixtures and rate quoted for door item in the schedule of rate shall be inclusive of all thesefittings.

a) Three Nos. of hinges of sizes 125mm X 40mm heavy quality. (Six no's. in case of double leafshutters)
b) Two nos. 150mm long BarrelBolt.
c) One No. wooden stopper perleaf.

22. Hydraulic DoorCloser.

22.1.0 Hydraulically regulated door closer shall be Everite model viscount G 1109 or approved equivalent make con forming to IS:3564. The door should open tight upto 90°.

22.2.0 Suitable adjustment shall be made such that the closing time can be varied between five to twenty seconds. The closer shall be securely fixed with door frames and door panel with brass screws and washers. Hydraulic oil filling shall work well in all seasons and shall not show any sign of leakage of oil under working condition.

23 SanitaryFittings:

23.1.0 All glass earthenware shall be of 'Parry', 'Hindustan' or other equivalent approved make and white in colour. All metallic fixtures like taps, stop cocks, etc., shall be of C.P. brass of approved make. All wall fittings shall be fixed with wooden cleats and C.P. brass screws and C.P. washers.

24 European type watercloset:

24.1.0 Water closet shall be white vitreous china clay and shall be of wash down type conforming to IS:2556 part VIII and all as described in the schedule of rates. The closet shall be of one piece constructions and have integral flushing rim of suitable type. Each water closet shall havefourholeswithitspedestalforfixingtothefloor.Thewaterclosetshallhaveanintegral S or P trap outlet with at least 50mm water seal. The closet shall be provided with 15 liters white vitreous china low level flushing cistern with all fittings, M.S. or C.I. brackets, and 40mm dia flush pipe. The closet shall be provided with black plastic seat andlid.

25 Urinals:

25.1.0 Urinals shall be of white vitreous china clay flat back type conforming to IS:2556-part VI. Urinalshallbeofonepiececonstructionswithintegralflushingrim.Theseshallbemounted on walls. The flushing inlet pipe connection piece shall be of P.V.C. 15mm dia and waste pipe750mmlong,32mmdia,G.I.withnecessarybrassunionandC.P.bottletap.Rawlplug and C.P. brass screws shall be used for fixing the urinals. Fixing shall ensure that no liquid left over in the pan after flushing. Urinals shall be connected to automatic flushing cistern eitherindividually,oringroups.Forsetofthreeurinalsonecisternof15literscapacityshall beprovided.

26 WashBasins:

26.1.0 Wash basins shall be white vitreous china clay flat back type conforming to IS:2556-part IV. Wash basin shall be of one piece constructions including a combined over flow. This shall be fitted on C.I. or M.S. brackets (Conforming to IS: 775). The wall side shall be fixed well flushedwiththeplasterofthewallandthejoint,ifany,shallbeproperlystoppedwithmortar and painted white. The basin shall be provided with two C.P. brass pillar cocks, 35mmdia C.P. brass waste trap, C.P. brass china, rubber stopper and 32mm dia, C.P. brass water pipe. The basin shall be fixed at 800mm above finished floor level or as directed by the site Engineer.

27 Bevelled EdgeMirror:

27.1.0 The beveled edge mirror shall be of best quality of 'Hindustan Pilkington' or equivalent make approved by the Engineer-in-charge. The size of mirror shall be 600 X 450mm and of thickness 6mm mirror shall be provided with a backing of particle board sheet of 6mm thickness and fixed to wooden cleat with C.P. brass screws.

28 Bib and stopcocks:

28.1.0 Bib cocks and stop cocks of screw down type shall conform to IS:781. All taps shall be of heavy grade and chromium plated brass.

29 G.I. Pipe andfittings:

29.1.0 All G.I. Pipe and fittings shall conform to IS:1239 and shall be of medium grade for water supply services. All screwed tubes and sockets shall pipe thread in accordance with the requirements specified in IS: 554.

29.2.0 All fittings shall be of malleable galvanized iron approved by the Engineer-in-charge. Fitting in G.I. line shall include all couplings, elbows, tees, bends, union nipples reducers, rubber insertion etc. No extra payment shall be made for these fittings. Payment shall be made on running meter basis. All pipes above ground shall fixed with GI holder bat clamps clear off the wall at 1-2 Mtrs. centre to center as directed. All visible pipes and clamps inside and outside the buildings shall be painted with two coats of white paint or aluminum paint as directed by the site engineer. No extra payments shall be made for clamps, hooks, cuttings holes in walls, chasing and making good and same and or painting. All couplings, elbows, tees,bends,union,nipples,reducers,etc.shallalsobedeemedtobeincludedandcovered by the rates for running meters of G.I.pipes.

29.3.0 All underground pipes shall have a minimum earth, cover of 600mm or as directed by the site engineer. No extra payment shall be made for excavation in trenches and refilling the same.

30 H.C.I Pipes and C.I. Spunpipes:

30.1.0 Heavycastironpipes,socketandspigotshallbeofstandardqualityconformingofIS:1729. C.I. (Spun) iron pipe shall conform to IS:1536 (latest).

30.2.0 The spigot end of the pipe shall be inserted in the socket and right up to the back. Spur yarn shallbeofcleanhempandofgoodquality.Spunyarntwistedintoropeofuniformthickness and soaked in hot coal tar shall be inserted carefully into the socket two or three laps.Lead conforming to IS:782 in molten state shall then be poured into the joint filling the some in one pouring. The lead shall be caulked by proper tools to make it even all round. Quantity of lead used per joint for various sizes of pipes shall be asbelow.

Pipe Size	Quality of lead in kg. per joint
300mm	8.16
200mm	5.44
150mm	4.08
100mm	2.72

30.3.0 All pipes shall be fixed 25mm clear off the wall with M.S. holder bat clamps. All pipes and holder bat clamps shah be painted with two coats of primer of approved shade.

All holes in walls and floors shall be made good with cement concrete 1:2:4 without any extra cost to the owner.

30.4.0 Payment will be made on running meter basis inclusive of all materials, jointing, fitting and fixing in position pipes and specials such as bends, tees and vent cowls etc.

30.5.0 C.I. Bends, tees, etc. shall conform to specifications mentioned hereafter for H.C.I. pipes. Bendsshallbe90°standardbends.Jointingofthesefittings,specialsetc.withthemainpipe shall be done in a manner as specified for joints ofpipes.

31 C.I. WaterPipes:

31.1.0 Pipes shall be approved manufacture, true have smooth and cylindrical, inner and outer surface and be as nearly as practicable concentric. These shall be sound and uniform casting, free from laps, pin holes imperfections and shall be neatly finished and carefully fittedwithbothinsideandoutside.ThepipesshallbefactorypaintedwithacoatofTarboth inside andoutside.

31.2.0 Pipes shall be secured of wall at all joints with M.S. holder bat clamps. The clamps shall be made from 1.6. mm thick M.S. flat 30mm width, bent to the required shape so as to fit light on the socket of the pipe. The clamps shall be fixed to wall by embedding their hooks in cement concrete blocks 10 X 10 X 10 X cm. 1:2:4 mix (1 cement: 2 coarse sand: 4 stone

aggregate 20 mm nominal size) for which the necessary holes shall be made in proper places. The annular space between spigot and socket shall be provided with cement slurry and then filled with cement mortar 1:2 (1 cement: 2 fine sand) and finished flush.

31.3.0 Payment will be made on running meter basis inclusive of all materials jointing, fitting and fixing in position, except bends and shoes which will be separately paid for.

31.4.0 C.I. Bends, shoes for Rain waterpipes:

C.I.Bends,shoesshallconformtospecificationsmentionedhere-in-afterforoveralllength. Jointingofthesefittingswithrainwaterpipeshallbedoneinamannerasspecifiedforjoints ofpipes.

32 A.C. Rain WaterPipes:

The pipe shall conform to IS:1626. These shall be straight, true and smooth and regular in thickness. To determine the straightness of a pipe it shall be rolled along a plane surface in such a manner that the socket over hangs on the edges of the plain surface.

32.1.0 Fixing andJointing:

Pipes shall be secured to face of the wall, below all joints by standard holder bat clamps. The bat clamps shall consist of a cast iron base with a projecting "I" shaped lug, to the web of which the two semi-circular halves of the flat iron clamps are bolted. The base of the holder bat clamps shall be screwed on a pair of wooden plugs fixed in the wall with screw of designation No.18 of slotted counter sunk head wood screws driven through the holes in the base. The screws shall be not less than 75 mm long for 80mm diameter pipes and 100 mm for 100mm dia pipes. The plugs shall be fixed in the wall to be depth 15 cm, in cement mortar 1:2 (1 cement: 2 fine sand) centrally to the holes in the base of the clamps and with their front face projecting to such a length from the brick face that when the bat clamp is fixed, the outer face of its base shall be 11 X 5 cm wide at face increasing to 16 X 7 cm width at rear and shall be 7 cm deep throughout.

The finished pipe line shall be truly vertical or to lines and slopes as directed and shall be at a uniform distance of 40mm from the finished face of the wall.

33 Acid ProofTiles:

33.1 Acid resistant tiles in general shall conform to IS:4556. The concrete or paltered surface should be completely dried and cleaned free of dust and other foreign material. Bituminous primer followed by one coat of bituminous mastic shall be applied and allowed to dry for 12 hours.

33.2 Acid proof tiles of size 225 X 112 X 37mm shall be laid uniformly over the floor and dado thus prepared. The joints between the floor tiles shall be 6mm and shall be filled with hot plasticized sulphur cement. After the final setting joints should be smoothened with emery stone and usingwater.

34.0 WoodWork:

All wood works shall be 2nd class Indian Teak Wood unless otherwise specifically mentioned.Thetimbershallbeofgoodquality,well-seasoned,uniformincolour,reasonably straight grain and shall be free from dead knots, cracks and sap wood. Permissible defects in the timber shall be as indicated in IS:883 (latest Edition). Hard and sound knots shall not bemorethan25mmindiameterandtheaggregateofallthelive knotsshallnotexceed 1% of the area of thepiece.

34.1 Wooden Frame for Doors, Windows, Ventilators & OtherFrames:

Wooden frame shall be made of 2nd class Indian Teak wood conforming to the specification mentioned herein before. Workmanship for wooden frames, doors, windows etc. shall in general conform to IS:4021 unless otherwise mentioned. The work shall be carried out as per detailed drawings or as directed by the site engineer. The timber shall be sawn in the direction of grains. Rebates, rounding and moldings as show in drawings or as directed by the Site Engineer shall be done without any extra cost. The scantling shall be finished smooth and rubbed plane with sand papers to accurate dimensions before the same is framed.Thejointsshallbepinnedwith hard woodorbamboo pinsof10to15mmdiameter. Using iron nails shall never be permitted. All mortise and tenon joints shall fit in fully and accurately without wedging orfilling.

All portions of the timber frame abutting or embedded in brick work or in concrete shall be painted with coal tar before being placed in position, without any extra cost. For door or otherframeswithoutnay'Chowkat'(bottomhorizontalmember),theverticalmembers,shall be buried in the floor for at least 40mmdepth.

Each frame up to 1.5M length shall be provided with 4 nos. hold fast, two on each vertical memberandforframesabove1.5Mlength6nos.3oneachverticalmember.Holdfastshall be 40 X 3 mm M.S. flat 40 cm long. Hold fast shall be split and splayed at ends and embedded in cement concrete block(1:2:4)

Payment for Lames shall be made on gross volume of the frame. No deduction shall be made for rebates. Rates quoted shall be inclusive of labour, material, fabrications, fitting, fixing and coal tar etc. complete.

34.2 Panel Door, Windowetc.

Workmanship for panel door, window, shutter etc. shall conform in general to IS:1003. Timberforpaneldoorwindowsshallbe1s'classIndianteakconformingtothespecifications. Door, windows panels shall be 12mm thick one-piece plank finished smooth and fixed with style and rail 35mm thick. Styles and end rails and intermediate rail shall be 150mm wide and35mmthick.Stylesandrailsshallbeproperlyandaccuratelymorticedandtenonjointed and pinned with hard wood or bamboo pin 6mm dia. Wire nails shall never be permitted. The styles and rails shall have 12mm groove in paneled portion for the panel to fit in. All pieces shall be of accurate dimension, planed smooth rebating, rounding moulding etc. complete as shown in thedrawing.

Eachdoubleleftdoorshallbeprovidedwiththefollowingheavyqualityaluminumanodized fitting.

a) 6 nos. 100mm long Butthinges.

b) One 30cm. Long Aldropbolt.

c) Two 150mm long barrelbolt.

d) Two 150mm long doorhandles

e) One pair ofcleats.

And each panel of window shutters shall be provided with following aluminiumanodised heavy quality fittings.

a) Onecleat.

b) One 150mm longhandle

c) One 150mm long barrelbolt

d) Two nos. 100mm long butthinges.

Rate quoted for respective item in schedule of rates for door/windows shutters shall be deemedtoincludealllabour,material,fabricationandfixinginpositionwithnecessaryfitting asmentionedaboveetc.complete.Paymentwillbemadeonsquaremeterbasisofthearea of theshutters.

35.0 Barbed WireFencing.

ThebarbedwireshallbeofG.I.wiresandingeneralconformtoIS:278.Linewireandpoint wire shall be of 2.5mm, 2.24 mm diameter respectively. Distance between the barbs shall be 75mm nominal. The barb shall have a length not less than 13mm and points shall be sharpandwellpointed.Thebarbsshallcarryfourpointsandshallbeformedbytwistingtwo point wires each two turns, lightly round on line wire making altogether 4 complete turns. The barbs shall be so finished that the four points are set and locked at right angle to each other.

The line wire shall be in continuous length shall be generally free from welds. The barbed wire shall be formed by twisting two lines wires.

The barbed wire shall be stretched tight and fixed in the manner (horizontal and diagonal) as show in the drawing and fitted in slots of angle iron post and held by binding with G.I. bindingwiresorwithG.I,staplesornibsincaseofR.C.C.Posts.Turnbucklesandstraining bolts shall be used at the endpost.

Payment will be made **on** weight basis.

36. Stone warepipes:

36.1. All pipes shall be with spigot and socked and conforming to Grade A of IS:651. These shall be free from visible defect such as fire cracks or hair cracks. The glaze of the pipe shall be freefromcracking.Thicknessof100mmdiapipeshallbe12mmandweight14kgpermeter.

36.2. Allpieceshallbelaidonabed100mmconcreteof1:3:6(1cement:3coarsesand:6coarse aggregate20mmnominalsizestoneaggregate).Pipesshallbejointedwithhessiangasket andcementmortar1:1(1cement:1finesand)filledincompletelyandfilletof45inclinations being formed with the cement mortar of same mix. Width of the bed concrete shall not be lessthan55cmandshallbeprovidedwithsidehaunchfinishedtangentialtothepipeallas shownindrawing.Excavationandfillingoftrenchesshallbedoneinthemannerasspecified under relevant clauses covering earth work in excavation andfilling.

36.3. Paymentshallbemadeonthebasisofrunningmeterinclusiveofcostofpipes,bedconcrete excavation, refilling etc.,complete.

37. Cement Concrete HumePipes:

The pipes shall be with reinforcement conforming to IS:458 and class NP2. The pipes shall be centrifugally cast, true to shape, straight, perfectly sound and free from cracks and flaws. The external and internal surface of the pipe shall be smooth and hard. Wall thickness of the pipes shall be 25mm and 30 mm for 250 and 300 mm diameter pipes respectively.

The pipes shall be laid across the road, paths and similar locations for drainage purposes as per the drawings and instructions of the site Engineer. Two adjoining pipes shall be butted against each other and adjusted in correct position. The collar shall be slipped over the joint covering equally both pipes. The annular space shall be filled with stiff mixture of cement mortar 1:2 (1 cement : 2 fine sand).

38. Septic Tanks and SoakPits:

Specifications relating to earth work in excavation and filling, plain and reinforced concrete, brick work plastering etc. shall be as per the specifications mentioned under different clauses: septic tank and soak pits shall be constructed as per details drawing true to dimension. Payment will be made in lump sum basis inclusive of all works fittings, fixtures as shown in the drawings.

39. Angle Iron Post forFencing:

Angle Iron post shall be fabricated all as shown in the drawing cut to required shape and size and making slots for housing barbed wire or chain link fencing wire. Payment shall be made on weight basis under respective item of schedule of rates. Concrete foundations shall be paid under relevant items for cement concrete work.

40 Specification for RoadWorks:

33.1.0 Earth Work inEmbankment:

40.1.1 The specifications for earthwork in embankment for roads shall be as per c**lause 5.8.0** in the specifications and shall in additional include thefollowing.

40.1.2 The compaction of earthwork shall be done under suitable moisture conditions to give 95% of the maximum dry density (Proctor density) obtained by B.S. compaction test (British Standard1377-1961TestNo.10).Forthispurposeeachlayerofearthshallbespreadwith sufficienttogivemoisturecontentofabout1to2%morethanoptimummoisturecontentso thatatthetimeofcompactionthemoisturecontentshallinnocasebelessthantheO.M.C.

Earthlayersshallthenbecompactedbyrollingwithpower roadroller andsheepfootroller, ifrequiredtogive thedensityofcompactionnearlyequaltothetheoreticaldensityobtained in the laboratory. Variations up to 5% only from the theoretical optimum density will be accepted. As the work progress field density tests shall be conducted on different layers. One test for every 4000 square meter shall be done to check whether the desired compaction has beenachieved.

40.2 Cutting:

40.2.1 In place where the formation level of the road is higher than ground level, cutting shall be done up to the formation levels per drawing and direction of the site engineer. The side slopes should be evenly trimmed and dressed as per drawing and instructions of the site engineer.

40.3 Preparations ofSub-Grade:

40.3.1 Thesurfaceoftheformationforawidthrequiredasperdrawing,shallfirstbecut,toadepth below the proposed finished level, equal to the combined depth of soling and wearing courseswiththeallowancemadeforconsolidation.Theentiresurfaceareashallbecleaned off from all foreign substances. Any ruts of soft yielding places that may appear due to improper drainage conditions, traffic or from any other causes, shall be corrected and the sub-grade should be dressed off parallels to the finishedprofile.

40.3.2 The consolidation of the sub-grade shall be done by 8 to 12 tonne power road roller, till the soil is evenly and densely consolidated and behave as an elastic mass, (Road roller shall pass minimum 5 runs on thesub-grade).

During rolling process, all the undulation formed shall be made good with earth and finally the sub-grade is to be re-rolled.

40.4 Herring-Bone BrickPaving:

40.4.1 Preparationofthesub-gradeshallbedoneallasmentionedhereinbeforeandsecondclass brick shall be laid on the prepared sub-grade with proper grade and camber. Brick shall be laid on edge, lengthwise, standing in opposite direction in a zigzag pattern. Joints shall be filledupwithfinesand,brickedgingonthetwoedgesofthepathwaysshallbelaidfirstand properly embedded in earth. Herring and bone paving shall be done subsequently brick edging shall be paid separately under relevant item of schedule ofrates.

40.4.2 Payment and measurement of the herring bone paving shall be made on square mater basis.Therateshallbeinclusiveofsupplyingoffinesandforfillingjointsbetweenthebricks.

40.5 Soling:

40.5.1 Soling shall be hand packed with boulders size 22.5 cm. (9") laid with its greatest length across the road. These shall be laid closely in position on the sub-grade with its broadest sidedownwardsandtomakeupthespecifiedthicknessofbasewithsinglestonestocorrect camberandgrade.Thejointshouldbestaggeredandallintersticesbetweenboldersshall be wedged in with smaller pieces of suitable size well driven in to enable tight packingand

complete filling of the interstices. Such filling work shall be carried out simultaneously with the placing in position of soling stones and shall not lag behind. The surface shall be checkedwithtemplatesofapproveddesign(templatestobesuppliedbythecontractor)and highandlowspotscorrectedbyremovingsolingandre-packing.Thesoilshallbethoroughly consolidatedwithpowerroller8to10toneweight.Therollershallrunoverthesamesurface of rolling for at least 8 times till the soling course is wellconsolidated.

40.6 Consolidation of Roadmetal:

40.6.1 Stone aggregate used for water bound macadam above the soling shall be 50mm nominal size and free from all dirt, mud and other foreign materials. The grading of stone aggregate shall be as described in clause No. 2.6.1 herein before. Stone aggregate shall be consolidated by dry rolling followed by wet rolling with power roller 8 to 10 tones. Moorum shall be used, as binder while wet rolling. Wet rolling shall be continued till the toiler makes no visible impression on the surface and interstices between the stone have been filled by consolidation ofaggregate.

41 Conduit System for Wiring and ElectricalWorks

Conduits used shall conform to IS:1553 and IS:732 and shall be black enameled and galvanised iron pipes. All conduit accessories shall be used. Conduits shall be fixed by heavy gauge saddles secured in an approved manner at an interval of not more than one meter. All elbows, tees, etc. the conduits placed in the concrete shall ensure proper clean coverintheconcrete.Alloutletsofconduitssystemshallbeproperlydrainedandventilated in order to minimize condensation or sweating. Chases shall be neatly filled up after the installation ofconduits.

Regarding the makes of materials, only the makes mentioned in the list of materials enclosed may be supplied.

The measurement shall be made in meter. The rates shall include, supplying, laying and fixing conduit including spacers, saddles, screws rawi plugs, wooden plugs, plugging compound etc. All conduit fitting viz., tee, elbows, bends shall be included in the rate.

DrawingsofallfabricateditemslikeSwitchBoards,M.VPanels,DistributionBoards,Power Boardsshallbesubmittedandapprovaloftheengineershallbeobtainedbeforefabrication. Contractorshallarrangetotaketheengineerforinspectionduringfabricationof LTPanels.

Wherever required by the engineer, sample of items shall be submitted for his approval before supply of items.

The descriptive technical literatures and drawings shall be submitted along with the tender.

41.1 The contractors have to follow the safety regulationsstrictly.

Supply of cables should be in continuous lengths. No joints will be allowed.

All Cable lengths, Switch Boards, MV Panels, Distribution Boards, Power Boards should be meggered and tested for the specified insulation level, beforecommissioning.

Concrete cable route markers of standard size to be placed along the route of the cable at regular intervals of 10m at all turning points and at both ends of roadcrossing.

42 Stone for masonrywork:

42.1 Quality of rubblestone:

Rubblestoneforheartingshallbeofapprovedqualityshould,hard,denseanddurable,free from segregation seams, cracks, weathered portions and others structural defects or imperfections tending to affect their soundness and strength. Stones shall generally de freshly quarried with sharp edges and clean faces. They shall be free rounded, worn or weathered surface or skin or coating which prevents the adherence of mortar. Size and shape of stone shall be as per the requirement of each item ofwork

Dressing:

Stone shall be hammer dressed on the face, the sides and the beds, to enable it to cone into close proximity with the neighboring stone. The 'bushing' in the face shall not project more than 4 cm. on a exposed face, and one cm, on a face, to be plastered. The hammer dressed stone shall also have a rough tooling for a minimum width of 2.5 cm along the four edges of the face of the stone.

42.1.1 Quality facestones:

The stone to be used in the face shall be tough, hard, dense, sound and durable, resistant to weathering action, reasonable fine-grained, uniform in colour and texture and free from seams cracks or other defects which would adversely effects their strength, durability or appearance. They shall also be free from weathered portion and skins.

Dressing:

Face stones shall be hammer dressed on all beds. The beds and joints, so as to give them approximately rectangular block shape.

These shall be squared on all joints and beds. The bed joints shall be rough chisel dressed for atleast 5 cm back from the face, and side joints for at least 4 cm such that no portion of the dressed surface is more than 6 mm from a straight edge placed on it. The remaining portionofthestoneshallnotprojectbeyondthesurfaceofbedandsidejoints.The'bushing' on the faces shall not project more than 4 cm in an exposed face and 1cm on a face to he plastered.

The hammer dressed stone shall also have- a rough tolling for a minimum width of 2.5 cm along the four edge of the face of the stone.

42.1.2 Quality of otherstones:

Stones to be used as headers, pinheaded, quoins, copings etc. shall comply with the requirement of facing and hearting stones as may be relevant and shall further comply with the requirement of size and shape stipulated in the drawings.

42.1.3 General:

Stonetobeusedinthemasonryshallbetrap,granite,orquartziteoranyothertypelocally available hard stone that may be permitted by the site engineer. The stone shall stand weathering well when immersed in water for 24 hours shall not absorb water more than 5 percent of its dry weight when tested according toIS:1124.

42.1.4 Royalty, Octroi, dutiesetc:

Royalty, compensation, octroi, duties etc. payable in connection with securing the stone shallbepaidbythecontractor.Thecontractorshallberesponsibleforobservinglaws,rules and regulations impressed under the minor minerals act such other rules etc., laid down by government department and localauthorities.

42.2 Un coursed random rubblemasonry:

42.2.1 Laying:

AllStonesshallbewettedbeforeuse.Thewallshallbecarrieduptrulyplumbortospecified batter. Every stone shall be carefully fitted to the adjacent stones, so as to form neat and close joints, stones may be laid at random without being brought up to any level course except at plinth, window sills and roof level. Levelling up at plinth level, shall be done with 1:6:12 (1 cement:6 coarse sand: 12 graded stone aggregate of 20mm nominal size) and shall be included in the item. The bond shall be obtained by fitting in closely, the adjacent stones and by using bondstones.

Facestonesshallextendandbondwellintothebacking.Theseshallbearrangingtobreak joints as much as possible, and to avoid long vertical lines of joints. Their height shall not be greater than the breadth at the face or the face or the wall face, shall consist of rubble stone which may be of any shape but shall not pass through a circular ring of 15 cm inner diameter, thickness of these stones in any directions shall not be less than 10 cm. these shall be carefully laid, hammered down with a wooden mallet into position and solidly bedded in mortar; chips and spawls of stone being used wherever necessary to avoid thick mortarboards of joints and at the same time ensuring that no hollow spaces are left any where the masonry. The hearting will be laid nearly level with facing and backing, except at about one meter intervals, vertical "Plumb" projecting about 15cm to 20cmshallbefirmlyembeddedtoformabondbetweensuccessivecourses.Thechipsshall notbeusedbelowtheheartingstonestobringtheseuptotheleveloffacestones.Theuse ofchipsshallberestrictedtothefillingofintersticesbetweentheadjacentstonesinhearting, and those shall not exceed 20% of the quantity of stonemasonry

The masonry is a structure shall be carried regularly. where the masonry of one part has to be delayed, the work shall be raked be back at an angle not steeper than 45°. Tooting in masonry shall not be allowed.

42.2.2 BondStones:

Bond or through stones running right through the thickness of walls shall be provided in walls up to 60cm thick. If the walls are more than 60cm thick, two or more bond stones overlapping each other by at least 15cm shall be provided for every 0.5 sq. meter of wall surface.The quoins shall be of a selected stone neatly dressed with the hammer or chisel

to form the required angle, and laid header and stretcher alternately. These stones shall have a minimum of 2.5 cm wide chisel draft at four edges, all the edges being in the same place. No quoin stone shall be less than 25 cubic decimeters (0.025 Cum.)

42.2.3 Joints:

Stones shall be so laid that all joints are full of mortar. Face joints shall not be more than 2.5cm thick.

When plastering or pointing is not required to be done, the joints shall be struck flush and finished at the time of laying. Otherwise the joints shall be raked to a minimum depth of 20mm by raking tool during the progress of work, when the mortar is till green.

42.2.4 Curing:

Green work shall be protected from rain by suitable covering. Masonry work in cement or composite mortar shall be kept constantly moist on all the faces for a minimum period of seven days. The top of masonry work shall be left flooded at the close of the day. In case of fat lime mortar, curing shall commence two days after the laying of masonry and shall continue for sevendays.

42.2.5 Scaffolding:

Forthisclassofwork,singlescaffoldinghaving onesetofverticalsupportshallbeallowed. This support shall be sound and strong, tied together by horizontal pieces, over which the scaffolding planks shall be fixed. The inner end of the horizontal scaffolding member may rest in a hole provided in the masonry. Such holes, however shall not be allowed in pillars under one meter in width. The holes left in masonry work for supporting scaffolding, shall befilledandmadegoodbeforeplastering.Thecontractorshallberesponsibleforproviding andmaintainingscaffoldingstrongenough,soastowithstandalllikelyloadscomingonit.

42.3 Coursed rubblemasonry:

42.3.1 Laying:

All stones shall be wetted before use. The walls shall be carried up truly plumb or to specified batter.Allcourseshallbelaidtrulyhorizontalandallverticaljointsshallbetrulyvertical.The height of each course shall not be less than 14.5 cm nor more than30cm.

Facestonesshallbelaidalternateheadersandstretchers.Theseshallhavebreakjointsat least half the height of the course. No pinning shall be allowed on the face. No face stone shall be less in breadth than its height, and at least one third of the stone shall tail into the work for length not less than twice theirheight.

The hearting or the interior filling of the wall shall consist of flat bedded stones carefully laid on their proper beds in mortar; chips and spells of stone being used where necessary to avoid thick beds or joints of mortar and at the same time ensuring that not hollow spaces are left anywhere in the masonry. The chips shall not be used below the hearting stone to bring these up to level of face stones. The use of chips shall be restricted to the filling to interstices between the adjacent stones. In hearting and these shall not exceed 10% of the quantity of stone masonry.

The masonry in a structure shall be carried up regularly but where breaks are unavoidable thejointsshallberackedbackatananglenotsteeperthan45˚toothingshallnotbeallowed.

42.3.2 Bondstones:

Same as in random rubble masonry, given under relevant para except that a bond stone or a set of bound stones shall be inserted 1.5 to 1.8 meters apart, clear, in every course.

42.3.3 Quoins:

The quoins, which shall be of the same height as the course in which these occur, shall be formed of stones at least 40 cm (nominal) long, laid stretchers and headers alternately.

These shall be laid square on the beds, which shall be rough-chisel, dressed to a depth of atleast10cm.Thesestoneshallhaveaminimumof2.5-cmwidechiseldraftsatfouredges. All the edges being in the sameplane.

42.3.4 Joints

All bed joints shall be horizontal and ail side joints vertical, all joints shall be full of mortar. Face joints shall not be more than 1 cm thick.

When plastering or pointing is not required to be done, the joints shall be struck flush and finished at the time of laying. Otherwise, the joints shall be raked to a minimum depth of 20mm by raking tool during the progress of work, when the mortar is still green.

42.3.5 Curing:

Green work shall be protected from rain by suitable covering. Masonry work in cement or composite mortar shall be kept constantly moist on all the faces for a minimum period of seven days. The top of masonry work shall be left flooded at the close of the day. In case of fat lime mortar, curing shall commence two days after the laying of masonry and shall continue for seven days.

42.3.6 Scaffolding:

Forthisclassofwork,single,scaffoldinghavingonesetofverticalsupportshallbeallowed. The supports shall be sound and strong, tied together by horizontal pieces, over which the scaffolding planks shall be fixed. The inner end of the horizontal scaffolding member may rest in a hole provided in the masonry such holes, however, shall not be allowed in pillars under one meter in width or near the skewback of arches. The holes left in masonry work for supporting scaffolding, shall be filled and made good before plastering. The contractor shall be responsible for providing and maintaining scaffolding strong enough, so as to withstand all likely loads coming onit.

42.3.7 Measurement andpayment:

Paymentforbothun-coursedandcoursedrubblemasonrywillbemadeincubicmeterbasis nearesttotwoplacesofdecimal.Thelength,heightandthicknessshallbemeasuredcorrect to cm. The thickness of wall shall be measured at joints, excluding the bushing. Only specified dimensions shall be allowed anything extra shall be ignored. The rates shall be inclusiveofcementpointing,strikingoutjointswhenevermentionedintheschedule ofrates.

43.0 Specification for laying of water proofing treatmentworks:

40.1.0 Water proofing treatment under the foundation & the vertical surface of the basement:

The materials to be used shall be as described in the nomenclature of the item, The technical data of the material shall comply with the following:

Technical data

Properties	**Test Results**		**Method of Testing**
Thickness (+)	3mm	4mm/4.5mm	ASTM D 751
Reinforcement base	180 gms/$\mathbf{m^2}$ Non wovenSpunbond		
Softening Point(R+B) of Coating Mixture	**>135⁰ C**		ASTM D 36
Penetration of coating mixture at 95˚c	25-35 dmm		ASTM D 5
Flexibility at low temperature	**-**10 to –**20⁰C**		UEAtc
Service Ambient temperature	**-**40 to $\mathbf{80^0}\boldsymbol{C}$		
Tensile Strength Longitudinal Transverse	 850 N/5 cm 700 N/5cm		UEAtc
Elongation Longitudinal Transverse	 50% 55%		UEAtc
Tear Resistance Longitudinal Transverse	 550 N 350 N		ASTM D 5147
Lap Joint Strength Longitudinal Transverse	 **>**850 N/5cm **>**700 N/5cm		UEAtc
Puncture Resistance Static Dynamic	L4 (Not perforated at 25 Kgs; 10 mm ball) 14(Not perforated at 9 joules impact energy, 5mm ball)		UEAtc
Heat flow resistance **$\mathbf{100^0}$ C,** 2 hrs	No flow		UEAtc
Water absorption	Less than 0.15%		ASTM D 5147
Impermeability of the Membrane to Water	Absolutely impermeable		UEAtc
Resistance to thermal Ageing	No Signs of Deterioration after the test.		UEAtc
Resistance to Ageing due to UV-Radiation	No Signs of Deterioration after 2000 Hours		ASTM G 53
Water Vapour permeability	Absolutely Impermeable		ASTM E 96

Hydrostatic pressure Resistance	**>**110 PSI	DIN 1048

40.2.0 Application:

The membrane must first be unrolled and laid down on the area to which it is to be applied. Checktheorientationcarefully.Adjacentrollsshouldthenbelaid,eachoverlappingtheone next to it by 10 cms on the side and 15 cms at the ends. Taking care not to change the orientation of each roll, reverse the process until each has been re-rolled.

When laying the roll, the lower surface should be heated with a torch, using sweeping left to right movements. This will melt the lower surface of the membrane and allow it to stick to the substrate. Continue this process for each subsequent roll, remembering that the overlaps must be 10 cms for the edges and 15 cms at the ends. When the process is complete, carry out an inspection to ensure totaladhesion.

Water proofing treatment on the roof tops shall be using APP modified water proofing membrane the specification and the method of application shall be as described in the nomenclature of the item.

40.3.0 Guarantee:

The Water Proofing Treatment shall be guaranteed for a **minimum period of Ten years from the date of expiry of the defects liability period.** A sum equivalent to 10% of gross valueof thefinalbill(onWaterProofingportion)willberetainedbyITILIMITEDtowardsthe guarantee which will be refunded after the satisfactory completion of the Guarantee period of 10years.

Alternatively, the contractor may furnish a Bank Guarantee for the same amount as per the format to be approved by ITI LIMITED. The Bank Guarantee shall be submitted from a Nationalized Bank before the release of security deposit and the same shall be valid for 10 years from the date of expiry of defect liability period.

Contractor will also be required to furnish a Guarantee Agreement as per the format enclosed with this Tender document in addition to the submission of Bank Guarantee.

44.0 specification for Anti Termite treatmentworks:

Sub-terrane termites are responsible for most of the termite damage in buildings. Typically, they form nests or colonies underground, in the soil near ground level in a stump or other suitablepieceoftimberinaconicalordomeshapedmound.Thetermitesfindaccesstothe super-structure of the building either through the timber buried in the ground or by means of mud shelter tubes constructed over unprotected foundations.

Termite control in existing as well as new building structures is very important, as the damage likely to be caused by the termites to wooden members of building and other household article like furniture, clothing, stationary etc. is considerable. Anti-termite treatment can be either during the time of construction, i.e. pre-constructional chemical treatment or after the building has been constructed, i.e. treatment for existing buildings.

Prevention of the termite from reaching the super-structure of the building and its contents canbeachievedbycreatingachemicalbarrier-betweentheground,fromwherethetermites come and other contents of the building which may form food for the termites. This is achievedbytreatingthesoilbeneaththebuildingandaroundthefoundationwithasuitable insecticide.

44.1.0 MATERIALS

Chemicals: The following chemical in water emulsion to achieve the percentage concentration specified against the chemical shall be used for anti-termite treatment.

Table of materials

Chemical	Relevant Indian Standard	Centration by Volume
1.(a) Chloropyruphos emulsifiable concentrate	IS: 8944	1.0%

Chemicals are available in concentrated form in the market and concentration is indicated on the sealed containers. To achieve the specified percentage of concentration, chemical should be diluted with water in required quantity before it is used. Graduated containers shall be used for dilution of chemicals with water in the required proportion to achieve the desiredpercentageofconcentration.Forexample,todilutechemicalof30%concentration. 59 parts of water shall be added to one part of chemical for achieving 0.5%concentration.

Contractorshallprocurethechemicalofrequiredconcentrationinsealedoriginalcontainers directly from the reputed and authorized dealer approved by the Engineer-In-Charge. The chemical shall be kept in the joint custody of the Engineer-in-Charge or his authorized representatives and the Contractor and issued for use to meet the day's requirements. Empty containers after washing and concentrated chemical left unused at the end of day's work shall be returned to the Engineer-in-Charge or his authorizedrepresentative.

44.2 SAFETYPRECAUTIONS

All chemical used for ant termite treatment are poisons. These chemicals can have an adverse effect upon health when absorbed through the skin, inhaled as vapours or spray mists or swallowed.
The containers having emulsifiable concentrates shall be clearly labelled and kept securely closed in stores so that children or pet cannot get at them. Storage and mixing of concentratesshallnotbedonenearanyfiresourceorflame.Personsusingthesechemical shall be warned that absorption through skin is the most likely source of accidental poisoning. Particular care shall be taken to prevent skin contact with concentrates and prolonged exposure to dilute emulsion shall also be avoided. After handling the concentrates or dilute emulsion, worker shall wash themselves with soap and water and wear clean clothing, especially before eating and smoking. In the event of severe contamination,clothing shall be removed at once and the skin washed with soap and water. if chemical has splashed into the eyes, they shall be flushed with plenty of soap and water andimmediatemedicalattentionshallbesought.Careshouldbetakenintheapplicationof chemicals to see that they are not allowed to contaminate wells or springs which serve as source of drinkingwater.

44.3 PRE-CONSTRUCTION CHEMICAL.TREATMENTS

Chemical treatment of soils for the protection of building from attack of subterranean termites shall be done as per IS: 6313(Part II). Graduated containers shall be used for dilution and spraying of the chemical shall be done using hand operated pressure pumps. Properchecks houldbekepttoensurethatthespecifiedquantityofchemicalisusedforthe required area during theoperation.

44.4 Time ofapplication:

Soil treatment should start when foundation trenches and pits are ready to take bed concrete/levelingcourseinfoundations.Layingofbedconcrete/levelingcourseshouldstart when the chemical emulsion has been absorbed by the soil and the surface is quite dry. Treatment should not be carried out when it is raining or soil is wet with rain or sub-soil water. Treatment to the surface of earth filling within the plinth shall also be done in the same manner before laying the sub-grade forflooring.

44.5 Disturbance:

The treated soil barrier shall not be disturbed. If for some reasons the treated soil barriers aredisturbed,immediatestepsshallbetakentorestorethecontinuityandcompletenessof the barriersystem.

44.6 Treatment for Masonry Foundations &Basements:

(a) Thebottomsurfaceandthesides(uptoaheightof300mm)oftheexcavationsmade for masonry foundations and basements shall be treated with the chemical at the rate of 5 litres per square meter surfacearea.

(b) After the masonry foundations and the retaining wall of the basements come up the backfill in the immediate contact with the foundation structure shall be treated at the rate of 7.5 litres per Sqm of the vertical surface of the sub-structures for each side. **If**waterisusedforrammingtheearthfill,thechemicaltreatmentshallbecarriedout after the ramming operation is done by rodding the earth at 150 mm centres close to the wall surface and spraying the chemical with the above dosage. The earth is usually returned in layers and the treatment shall be carried out in similar stages. The chemical emulsion shall be directed towards the concrete or masonry surfaces of the columns and walls so that the earth in contact with these surfaces is well treated with thechemical

44.7 TreatmentforRCCfoundationandBasements: Soilinimmediatecontactwiththevertical surfaces of RCC foundations shall be treated at the rate of 7.5 litres per sqm for the entire height. The other details of treatment shall be as laid down above (i.e same as treatment formasonryfoundationandbasements.Thetopsurfaceoftheearthfilledalongtheexternal periphery of the building shall be treated with chemical emulsion @ 5 litres per Sqm for a width of 1 metre from the face of thewall.

44.8 Treatment of Top surface of Plinth Filling: The top surface of the filled earth within the plinth walls shall be treated with chemical emulsion at the rate of 5 litres per sqm of the surfacebeforethesand/sub-gradeislaid.Holesupto50to75mmdeepat150mmcentres

bothwaysshallbemadewithcrowbarsonthesurfacetofacilitatesaturationofthesoilwith chemicalemulsion.

44.9 Treatment at Junction of the walls and the floor: To achieve continuity of the vertical chemical barrier on inner wall surfaces from the ground level, a small channel 30 x 30 mm shall be made at all the junctionsof walls and columns with the floor (before laying the sub-grade) and rod holes made the channel upto ground level 150 mm apart and the chemical emulsion poured along the channel © 7.5 litres per sqm of the vertical walls or column surfacessoastosoakthesoilrighttobottom.Thesoilshallbetampedbackintoplaceafter thisoperation.

44.10 Treatment of soil along external perimeter of building: After building is completed, 300 mm deep holes shall be provided in the soil with iron rods along the external parameter of the building at intervals of about 150 mm and these holes shall be filled with chemical emulsion at the rate of 7.5 litres per sqm (of vertical surfaces of the external walls). If the depth of filling is more than 300 mm, the external parameter treatment shall be extended to the full depth of filling up to the ground level so as to ensure continuity of the chemical or barrier. In the case the earth outside the building is graded on completion of building, these treatments shall be carried out on completion of such grading.

44.11 Treatment of soil under Apron (Plinth protection) along external parameter of building: Top surface of the consolidated earth over which the apron is to be laid shall be treated with chemical emulsion at the rate of 5 litres per sqm of the surface before apron is laid.Ifconsolidatedearthdoesnotallowemulsiontoseepthrough,holesupto50to75mm deep at 150 mm centres both ways may be made with 12 mm diameter mild steel rod on the surface to facilitate saturation of the soil with chemical emulsion.

44.12 Treatment for Expansion joints: Anti-termite treatment shall be supplemented bytreating with chemical emulsion through the expansion joint after the sub-grade has been laid @ 2 liters per linear meter of expansion joint.

44.13 Treatment of walls Retaining soil above floor level: Retaining walls like the basement walls or outer walls above floor level retaining soil need to be protected by providing chemical barrier by treatment of retained soil in the immediate vicinity of the walls, so as to prevent entry of termites through the voids in masonry, cracks and crevices, etc. above the floor level. The soil retained by the walls shall be treated at the rate of 7.5 liters per sqm of theverticalsurfacesoastoeffectacontinuousouterchemicalbarrier,incontinuationofthe one formed under the items of treatment for masonry foundation and basements.

44.14 Treatment of soil surrounding pipes, Wastes and Conduits: When pipes, wastes and conduits enter the soil inside area of the foundation, the soil surrounding the points of entry shall be loosened around each such pipe water or conduit for a distance of 150 mm and to a depth of 75 mm before treatment is commenced. When they enter the soil external to the foundations, they shall be similarly treated for a distance of over 300 mm unless the stand clear of the walls of the building by about 75mm.

44.15 Measurements: All dimensions shall be measured corrected to a cm. The measurements for all the operations described above shall be the plinth area of the building in sqm at floor

one level (ground floor/ basement in case of Underground/Semi Underground buildings). Nothing extra shall be measured for payment.

Rate: The rate for the anti-termite treatments shall include the cost of all the materials and labour and all other inputs involved in all the operations described above.

45.0 Guarantee:

The Anti Termite Treatment shall be guaranteed for a minimum period of **Ten years** from the **date of expiry of the defects liability period.** A sum equivalent to 10% of gross value ofthefinalbill(onAntitermitePortion)willberetainedbyITILIMITEDtowardstheguarantee whichwillberefundedafterthesatisfactorycompletionoftheGuaranteeperiodof10years. Alternatively, the contractor may furnish a Bank Guarantee for the same amount as per the format to be approved by ITI LIMITED. The Bank Guarantee shall be submitted from a Nationalised Bank before the release of security deposit and the same shall be valid for 10 years from the date of expiry of defect liability period.

Contractor will also be required to furnish a Guarantee Agreement as per the format enclosed with this Tender document in addition to the submission of Bank Guarantee.

46.0 SPECIFICATIONS FOR PVCDOOR
(WOODEN SHADE)

SINTEX DOOR SHUTTER - 301125 (29 MM Thickness)

extrudedPVCsectiontheconfigurationof'A'havinganoveralldimensionof59mmx29mm with usual process variation having a wall thickness of maximum of 2mm with a variationof ± 0.3mm. Provided with concealed all plastic reinforcement of the size 220mm x 135 mm at the corner. The shutter frames further have a pre laminated teakwood. finish with gloss for extra beauty. The Infill of the door shutter is consisting of a seamless one piece Multi chamber hollow extruded PVC section of the size of 762mm x 25mm or less as per requirement with an average wall thickness of 1 mm variation of ± 0.3mm. Shall have all plastic reinforcement of the-size of 22mm x 22mm x 255mm at the position of lock-rail.

The entire door shutter have S.S. screws at appropriate places for rust free quality. The elements like frame and Infill to be made in India and door to be assembled in a proper factory in India.

SINTEX DOOR FRAME (DWUF- 414, 40 X 48}

SintexDoorFramesaremadefromPVCextrudedsectionsinanoveralldimensionof40mm x48mmwithallthicknessof2mm±0.3mmandwithusualprocessvariation.Reinforcedwith special polymeric reinforcement. The corner joints shall be miter cut and welded OR jointed by means of concealed cleats with necessary screws fitting. A tie rod will be provided at the bottom.

47.0 Detailed Specifications for Providing and Laying Ceramic tiles

1.0 GENERALINFORMATION:

1.1 The following types of Ceramic tiles are required to be supplied.

a. Floor tiles for Equipment room, Power room, Battery room, &Toilets thickness of 8 mm Non slipperytiles.

b. Tiles for skirting and dadoing 5.50 mmthick.

c. The materials shall conform to standard specifications and of first quality tiles free from cracks as per IS: ·13755:1993.

d. All the materials supplied by the manufacturers is to be tested as per the standard practice and test certificates are to befurnished.

e. The size of the tiles shall be as per therequirement

f. General Shade of the tiles shall beIVORY.

2.0 DETAILED SPECIFICATIONS FOR CERAMICTILES

a. All the tiles shall confirm to standard specification and free from cracks.

b. QualityParameters

The tiles adequately meet the following standards.

i. Size tolerance length and width: ±75%

ii. Thickness tolerance:±5%

iii. Modulus of rupture: > 22N/mm2

iv. Water absorption≤6%

v. Warpage: ±5%

vi. Chemicalresistance: Resistant to alkalis and acids (exceptHydrofluoric acid)

vii. Scratch resistance: Hardness is around 6 for glazed and 7 for non-glazed tiles on MOH'sscale.

viii. Straightness of sides: ±0.50%

ix. Rectangularity: ±0.60%

48.0 Detailed Specifications for Steel Doors, Windows andVentilator

48.1 General Information:

The following types of doors, windows and ventilators are required to be manufactured for the work.

a.

i. Steel door of overall size 1.98 m x 2.08m with double leaf shutter: 40 mm thick pressed steel door with angle iron frame of size 45 x 45 x 6mm (openable outside) for mainbuilding.

ii. Steeldoor1.98x2.08withdoubleleafshutterforDGSetbuilding(openable outside).

b. Steel door of overallsize1.48mx2.08mwithdoubleleaf shutterconformingtothe provisions of IS: 1038 (openable inside) only ifrequired.

c. Steel door 0.98 m x 2.08 m with single leaf shutter conforming to the provisions of IS: 1038 (Openable inside)

d. Side hung windows 12HS12 conforming to the provisions of IS: 1038. The overall size of the window shall be 1.18m x 1.18m. (Openable outside).

e. Fixedwindows12HF12conformingtotheprovisionsofIS:1038.Theoverallsizeof the fixed windows shall be 1.18m x 1.18m.

f. Top hung ventilators of overall size 0.88 m x 0.58 m conforming to the provisions of IS: 1038 (Openable outside).

g. Mosquitoproofwindowsofoverallsize1.18mx1.18mconformingtotheprovisions of IS: 1038 (Openable inside).

48.2 The doors, windows, fixed windows and ventilators are required to be fixed in masonry walls. Hence fixed hold fasts to beprovided.

48.3 Projecting types of hinges shall beused.

48.4 Fittings shall be provided as per the detailedspecifications.

48.5 The doors, windows, fixed windows, ventilators etc shall be finished with one coat of red oxide primer after the completion of the fabrication.

48.6 Necessary holes for fixing the beadings shall be provided.

48.7 Each door shall have 6 lugs (hold fasts) and each window and ventilator shall have 4 lugs (hold fasts). The lugs shall be made of 10 X 10 mm Mild steel sguare bars 100 mm long welded to the frames.

48.8 Doors,Windows,fixedWindowsandVentilatorsetcshallbemanufacturedusinghotrolled steel sections conforming to IS: 7452 and as per the recommendations therein. The steel doors of size 1.98 x 2.08 m shall be manufactured using rolled steel sections as per the detailedspecifications.Thepanelingforthesteeldoorsshallbewith1mmthickMSsheets conforming to relevant IScode.

48.9 The material, fabrication and finish shall conform toIS:1038.

48.10 The Side Hung windows and fixed windows and ventilators shall be provided with 10 x 10 mmsquareMSguardbarsweldedtotheframeatapproximately125mmcentertocenter.

49 Detailed specificationsfor steeldoorofoverallsize198m x2.08m/148x2.08

Frame shall be made of 45x45x6 mm angle iron frame. The shutter shall be 4 Dmm thick made of two pressed steel sheets 16 gauge thick with a gap between the two with necessary stiffeners as per the enclosed drawing.

Fittings : Each door shall have the following fittings.

a. Oxidised Mild steel Sliding Door bolt 300 x 16 mm size - 1No.

b. Oxidised Mild steel Tower bolts 250 x 10 mm - 4Nos.

c. Handles 125 mm made of 10 x 10 mm Square MS bars -2Nos.

50 Detailedspecificationsforsteeldoorofoverallsize148mx2.08mand0.98mx2.08 m.

The shutter shall have 1 mm thick M.S. sheet panels welded to styles, bottom rail, lock rail and top rails. The shutter for 1.48 m x 2.08 m shall be in two leaves with a meeting stile as per IS : 7452. The shutter for 0.98 m x 2.08 m shall have single leaf.

Fittings : Each door shall have the following fittings.

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a. Oxidised Mild steel Sliding Door bolt 300 x 16 mm size - 1No.

b. Oxidised Mild steel Tower bolts 250 x 10 mm - 4Nos.

c. Handles 125 mm made of 10 x 10 mm Square MS bars -2Nos.

The door shall be supplied as a complete unit including MS sheet paneling.

51 Detailed specifications of side hung windows: (Openable outside)

The windows shall be supplied without any panels. There shall be three glazing bars in each leaf of the shutters.

Fittings : Each window shall have the following fittings .

a) OxidisedMildsteelHandles125mmmadeof10x10mmSquareMSbars- 2Nos.

The windows shall be openable outside.

52 Detailed specifications for fixed windows.

The fixed windows shall be supplied without any panels.

Each fixed window shall have one sub - dividing bar and three horizontal glazing bars.

The bare fixed windows (without panels), shall be supplied.

53 Detailed specifications for top hung ventilators:-

The top hung ventilators shall be supplied without any panels.
Each top hung ventilator shall have one sub dividing bar and one horizontal glazing bar.

Fittings: Each ventilator shall have the following fittings.

a. Oxidised Mild steel Handles 125 mm made of 10 x 10 mm Square MS bars -1No.

The bare top hung ventilators shall be supplied without any panels.

54 Detailed specifications for Mosquito Proof Windows(Openable inside)

Windowsonlyinlivingaccommodationi.e.O.R.&JCO.Specificationissameas4.0i.eside hung windows except there will not be M.S. square bars for these windows.

55 The mode of measurement for Steel doors and Windows are as indicated in the Bill ofQuantity

ITI LIMITED Signature of the Bidder

Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

SAFETY CODES

1. Suitablescaffoldsshallbeprovidedforworkmenforallworkthatcannotsafelybedonefrom thegroundorfromsolidconstructionsexceptsuchshortperiodworkascanbedonesafely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladderandifladderisusedforcarryingmaterialsaswell,suitablefootholdsandhandholds shallbeprovidedontheladderandtheladdershallbegivenaninclinationnotsteeperthan 14 (1/4 horizontal and 1vertical).

2. Scaffoldingorstagingmorethan3.25metersabovethegroundorfloor,swingorsuspended from an overhead support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 meter high above the floor or platform of such scaffolding or stagingandextendingalongtheentirelengthoftheoutsideandendsthereofwithonlysuch openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building orstructure.

3. Working platform, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 meter above ground level or floor level, it shall be closely boarded, have adequate width and be suitably fenced as described in 2above.

4. Every opening in floor of building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1meter.

5. Safe means of access shall be provided to all working platforms and other places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length. Width between side rails in a run ladder shall in no case be less than 30 cm for ladders up to and including 3 meters in length. For longer ladders this shall be increased at 6mm. for each additional 30 cm of length. Uniform step spacing shall not exceed 30 cm. Adequate precautionsshallbetakentopreventdangerfromelectricalequipment.Nomaterialsonany ofthesitesshallbesostackedorplacedastocausedangerorinconveniencetoanyperson or the public. The sub-contractor shall provide all necessary fencing and lights to protect publicfromaccidentsandshallbeboundtobearexpensesofdefenseofeveryproceedings at law that may be brought by any person for injury sustained during the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the sub-contractor be paid to compromise any claim by any such person.

6. EXCAVATION ANDTRENCHING:

All trenches, 1.5 meters or more in depth, shall at all times be supplied with at least one

Ladder for each 20 meters in length or fraction ladder shall be extended from bottom of trench to at least 1 meter above surface of the ground, sides of a trench which is 1.5 meters or more in depth shall be stepped back to give suitable slope of security held by timber bracing, so as to avoid the danger of sides collapsing,excavated material shall not be placed within 1.5 m of edge of trench or half depth of trench, whichever is more, cutting shall be done from top to bottom. Under no circumstances shall undermining or undercutting be done.

7. **DEMOLITION**: Before any demolition work is commenced and also during the process of thework.

a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

b) No electric cable or apparatus which is liable to be a source of danger overa cable or apparatus used by operator shall remain electrically charged.

c) No floor, roof, or other part of a building shall be over loaded with debris or materials as to render it unsafe.

8. Allnecessarypersonalsafetyequipmentasconsideredadequatebytheengineer-in-charge shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use, and the sub Contractor shall take adequate steps to ensure proper use of equipment by those concerned.

a) Workers employed on mixing asphalted materials, cement and lime mortars concrete shall be provided with protective footwear and protective goggles.

b) Those engaged in handling any material which is injurious to eyes shall be provided with protective goggles.

c) Those engaged in welding works shall be provided with welder's protective eye-shields.

d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

When worker are employed in sewers and manholes, which are in use the Contractor shall ensure that manhole covers are opened and manholes are ventilated it for an hour before workers are allowed to get in to them, Manholes so opened shall protected off with suitable railing and provided with warning signals or boards to prevent accident to public.

e) The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Whenever men above age of 18 are employed on the work of lead painting the following precautions shall be taken.

1) No paint containing lead or lead products shall be used except in the form of paste or ready made paints.

2) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.

3) Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

9. When work is done nearer any place where there is risk of drowning, all necessary equipment shallbeprovidedandkeptreadyforuseandallnecessarystepstakenforpromptrescueofany person in danger and adequate provision made for prompt first aid and treatment of all injuries likely to be sustained during the course of the work.

10. Use of hoisting machines and tackle including their attachments, anchorage and supports shall confirm to the following.

a) i) There shall be good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good working order and properly maintained.

ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

b) Every crane operator or hoisting appliance operator shall be properly qualified and no persons under age of 21 years shall be in charge of any hoisting machine including any scaffold to give signals tooperator.

c) In case of every hoisting machine and of every chain ring hook, shackles wivel and pulley block used in hoisting or lowering or as means of suspension, safe working lead shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shallbeplainlymarkedwiththesafeworkingload.Incaseofahoistingmachineavariable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any geared referred to above in theparagraphshallbeloadedbeyondsafeworkingloadexceptforthepurposeoftesting.

d) In case of a hoisting machine, safe working load should be verified by the Engineer-in charge assigned to such Contractor's machines the Contractor shall get checked working load of each machines to Engineer-in-charge when ever he brings it to site of work and get it verified by the Engineer-in-charge.

11. Motors gearing, transmission, electric wiring and other dangerous parts of hoisting appliance shall be provided with efficient safeguards, hoisting appliances shall be provided withsuchmeansaswillreducetotheminimumriskofaccidentaldescentofload.Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulation mars, working apparel such as gloves, sleevesand boots, as may be necessary, shall be provided; workers shall not wear any rings, watches and carry keys or other materials which are good conductors ofelectricity.

12. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places ofwork.

13. Thesesafetyprovisionsshallbebroughttothenoticeofallconcernedbydisplayonanotice board at a prominent place at the workshop. Persons responsible for ensuring compliance with the safety codes shall be named therein by the subcontractor.

14. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the subcontractor shall be open to inspection by the Engineer-in-charge or his representatives and the Inspecting Officers as defined in the Contract Labour Regulation.

15. Notwithstanding the above conditions 1 to 14, the Contractor is not exempted from the operation of any other Act or Rule in force.

MATERIALS TO BE USED IN CIVIL CONSTRUCTION

(Refer to Paragraph 2 of AWG letter No B/50818/AWG/PhIV /T3/Wks (04) dt 24 July 2023)

RECOMMENDED LIST OF SAMPLES

S No	Material	Make	Make	Make	Remarks
1	Cement	The Associated Cement Companies Ltd **Brand : "ACC"**	Ambuja Cement Ltd **Brand : "AMBUJA"**	Ultra Tech Cement Ltd. **Brand : "ULTRA TECH"**	
2	Reinforcement Steel	Tata Iron & Steel Company (TISCO, or Tata Steel) **Brand: "TATA"**	M/S Jindal Steels and Power Ltd. **Brand: "JINDAL"**	M/s JSW Steel Ltd **Brand: "NEOSTEEL"**	
3	Structural Steel	Tata Iron & Steel Company (TISCO, or Tata Steel) **Brand: "TATA"**	M/S Jindal Steels and Power Ltd. **Brand: "JINDAL"**	M/s Rashtriya Ispat Nigam Limited (RINL) **Brand: "RINL"**	
4	PVC frame and shutters	Duroplast Extrusion Pvt Ltd **Brand : Duroplast**	Rajshri Production Pvt Ltd **Brand : Rajshri**	Accura Polytech Pvt Ltd **Brand : Accucel**	
5	Stainless Steel Kitchen Sink	Pheonix Appliances Pvt Ltd. Brand : Diamond	Nilkanth Brand : Nilkanth	Jyoti (India) metal Industries Pvt Ltd Brand : Nirali	
6	Hydraulic Door Closer	Godrej	Everite	Ozone Hardware **Code: NSK 6836**	
7.	Aluminium Tower Bolt, Door Handle, Sliding Bolt & door stoper	Everite Agencies **Brand : Everite**	Hardima Sales corporation **Brand : Hardima**	Sigma Corporation **Brand : Sigma**	
8	Stainless Steel Butt Hinges 125mm	Prayag Polymer (P) Ltd Brand : **Prayag**	Ozone Hardware Brand : **Ozone**	Dorma India Pvt Ltd Brand : **Dorma**	
9	Aluminium doors/ Window sections	Hindalco Industries Ltd Brand : Hindalco	Jindal Aluminium Ltd Brand : Jindal	Indian Aluminium Ltd Brand : Indal	

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Digitally signed by ASHUTOSH SAXENA
Date: 2025.06.11 11:43:55 IST

S No	Material	Make	Make	Make	Remarks
10	Towel Rails (24")	Kitch	Jindal **Code : 6904 Dolphin**	Jaquar Code : ACN-SSF-1111SM	
11	Mortice Locks	Godrej	Dorma	Kitch	
12	Water Proofing Compound	Pidilite	Dr Fixit	Fosroc	
13	APP Membrane	Shalimar Tar Products Brand : STP Ltd	Texsa India Ltd	IWL Ltd	
14	False ceiling	Armstrong World Industries **Brand : Armstrong**	Aerolite Industries Pvt Ltd **Brand : Aerolite**	Saint Gobain Gyproc India **Brand : Saint Gobain Gyproc**	
15	Glazed Ceramic wall / Tile	Kajaria Ceramic Ltd Brand : Somany (Premium /Ist quality)	Somany Ceramic Ltd Brand : Somany (Premium /Ist quality)		
16	Vitrified Tiles	Kajaria Ceramic Ltd Brand : Kajaria (600 x 600) Premium /Ist quality	Somany Ceramic Ltd Brand : Somany (600 x 600) Premium /Ist quality		
17.	Interior Acrylic / Plastic Emulsion Paint	Berger paint Ltd **Brand : Silk**	Asian Paint Ltd **Brand : Royal Aspira**	Nerolac Paint Ltd **Brand : Impression**	
18	Exterior Acrylic Emulsion Weather Coat Paint	Berger paint Ltd **Brand : Weather Coat All guard**	Asian Paint Ltd **Brand : Apex Ultima**	Nerolac Paint Ltd **Brand : Excel Total**	
19.	Wall Care putty	Birla Cements Ltd. **Brand : Birla wall care**	Asian Paint Ltd Brand : Asian Paints	J K Cement Ltd **Brand : J K wall putty**	

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Signature of the Bidder

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Date: 2025.06.11 11:43:55 IST

S No	Material	Make	Make	Make	Remarks
20.	Synthetic Enamel Paint	Berger Paints Brand : Berger	Asian paints Ltd Brand : Premium gloss enamel	Nerolac Paints Ltd Brand : Nerolac	
21	Window pane	Saint Gobain	Modi Guard	Asahi	
22	Mirror	Gujarat Guardian Ltd Brand : Modi Guard	Saint Gobain Glass India Ltd Brand : Saint Gobain	Atul glass Industries Brand : Atul	
23	CPVC Pipes	Finolex Industried Ltd Brand : Finolex	Astral Polytechnik Ltd Brand : Astral	Superme Industries Ltd Brand : Supreme	
24	PVC Rainwater pipe	Finolex Industried Ltd Brand : Finolex	Astral Polytechnik Ltd Brand : Astral	Superme Industries Ltd Brand : Supreme	
25	CI Pipe	TATA	Jindal	SKF	
26	CP Bib Cock	HSIL Ltd Brand : Hindware	Jaquar Group Brand : Jaquar	Mark Showers Brand : Marc	
27	CP Stop Cock	HSIL Ltd Brand : Hindware	Jaquar Group Brand : Jaquar	Mark Showers Brand : Marc	
28	CP Pillar Cock	HSIL Ltd Brand : Hindware	Jaquar Group Brand : Jaquar	Mark Showers Brand : Marc	
29	CP shower rose	HSIL Ltd Brand : Hindware	K Jaquar Group Brand : Jaquar	Mark Showers Brand : Marc	

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Signature of the Bidder

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S No	Material	Make	Make	Make	Remarks
30	Cp health faucet	Hindware	K Jaquar Group **Brand : Jaquar**	Mark Showers Brand : Marc	
31	Water Closet with flushing Cistern and Seat Cover	Hindware	Cera		
32	Urinal Vitreous China	Hindware	Cera		
33	Urinal Vitreous China	Hindware	Cera		
34	Change over Switch	L&T	ABB	Havells	
35	Light fitting LED	Wipro	Havells	Phillips	
36	PVC wire & cables 650 / 1100 V	Polycab	Havells		
37	DBs	Legrand	Hager		
38	Electric Accessories, Piano Switches, Ceiling rose, Call bells, Buzzers, Lamp Holder / Socket outlet etc	Crabtree	L&T	ABB	
39	MCB (Miniature Circuit Breakers & MCCB (Moulded case circuit breakers)	L & T	Hanger		
40	Modular Switches / Sockets /Fan Regulator	Crabtree	Legrand		
41	Ceiling Fan	Usha Swift	Crompton - Alphabriz		
42	Exhaust Fan / Air circulators	Usha	Crompton		
43	Geyser / Storage Water heater	Bajaj	Crompton		
44	PVC conduits (Rigid or flexible) I FRLS rigid PVC conduits I fittings	AKG ISI Marked			
45	PVC Tape	Steelgrip	Kinjal		

PART-II

PRICE BID

[REFER TO EXCEL SHEET]