TENDER ID: EST/2026/08/01

STATE BANK OF INDIA

ESTATE DEPARTMENT, 9TH FLOOR, STATE BANK BHAVAN,
NARIMAN POINT, MUMBAI–21.

PART – A: TECHNICAL BID

TENDER FOR PROPOSED ROOFING & ALLIED INFRASTRUCTURE WORKS OF BADMINTON COURT AT KINELLAN TOWER, NEPEAN SEA ROAD, MUMBAI.

ARCHITECT:
M/s. SHETGIRI & ASSOCIATES.
'SAFALYA' BUILDING, 1ST FLOOR,
S. K. BOLE ROAD, DADAR (W), MUMBAI - 400028.
TEL.NO. 022- 24223900 / 4014
E-mail: shetgiriassociates@yahoo.co.in

NOTICE INVITING TENDERS

State Bank of India (herein after referred to as 'SBI / the Bank'), having its Corporate Centre at Nariman Point, Mumbai invites e-tenders, **on percentage rate basis**, from the vendors / contractors empaneled with State Bank of India, Local Head Office Mumbai Metro under category – **"CB"** for Civil Construction Project above ₹ 25.00 Lakh and up to ₹ 100.00 Lakh who received tender notice from the Project Architect for Proposed Roofing & Allied Infrastructure Works of Badminton Court at Kinellan Tower, Nepean Sea Road, Mumbai.

2. Interested bidders are advised to carefully go through the entire RFP / Tender document before submission of online bids to avoid rejection of their bids on account of non-compliance. The evaluation of bids and the selection of the successful bidders shall be carried out strictly as per the criteria specified in the tender document and shall be at sole discretion of the Bank.

3. All the interested bidders shall ensure that they possess a valid Digital Signature Certificate (DSC) well in advance to participate in the e-tendering process.

4. The other details and schedule of the events of the tender are as under:

SN	Particulars	Details
1	Tender ID	EST/2026/08/01
2	Name of work	Proposed Roofing & Allied Infrastructure Works of Badminton Court at Kinellan Tower, Nepean Sea Road, Mumbai.
3	Nature of Work	Civil and Structure Work
4	Time allowed for completion	90 Days (3 months)
5	Earnest Money Deposit	**₹89,000.00 (Rupees Eighty Nine Thousand Only)** in the form of Demand Draft / Banker Cheque issued by any Scheduled Commercial Bank drawn in favor of **"State Bank of India"** payable at Mumbai. ➢ **Exemption of EMD is not allowed in any case.** ➢ **Tenders without EMD shall be rejected.**
6	Initial Security Deposit	2% of contract amount including EMD.
7	Date of availability of tender documents on Bank's website / e-tender portal	From 30/07/2026 to 17/08/2026 up to 03:00 PM on **Bank's Website:** https://sbi.bank.in/web/sbi-in-the-news/procurement-news and **e-Tender Portal:** www.tenderwizard.com/SBIETENDER
8	Site Visit cum Pre-Bid Meeting	At 04:00 PM on 07/08/2026 Venue: Kinellan Tower Nepean Sea Road, Mumbai.
9	Last date & time for submission of EMD	17/08/2026 by 03:00 PM at address as mentioned in point no.: 14 of the NIT. To be submitted in original

SN	Particulars	Details
10	Last date & time for submission of Technical Bid and Price Bid	17/08/2026 by 03:00 PM To be submitted online on e-tender portal – www.tenderwizard.com/SBIETENDER
11	Date and Time of Opening of Technical Bid	On 17/08/2026 at 03:30 PM on e-tender portal – www.tenderwizard.com/SBIETENDER
12	Date and Time of Opening of Price Bid	On 17/08/2026 after opening of Technical Bid. The price bid of only those bidders will be opened who got shortlisted in the technical bid.
13	Contact Person of e-tender service provider for any clarifications regarding e-Tendering procedure, system requirements, digital signature etc.	i. Shri Kushal Bose – 9674758719 ii. kushal.b@antaressystems.com iii. Sushmitha B.M - 8951944383, sushmita.b@antaressystems.com iii. Other Contact details: 9073677150 / 9073677151 / 9073677152 / 9674758723 / 9674758726 / 9674758506 /
14	Address for Communication	Deputy General Manager (Estate), State Bank of India, Estate Department, Corporate Centre, State Bank Bhavan, Madame Cama Road, Nariman Point, Mumbai – 400021. dgm.estate@sbi.co.in | 022-02240919
15	Defects Liability period	1-year from the date of virtual completion (excluding damages due to natural calamities).
16	Liquidated Damages	0.50% per week subject to max. 5% of contract amount for delay in completion of work.
17	Validity of offer	90 days from the submission of Tender
18	Value of Interim Certificate	₹30 Lakhs. No advance on materials/plant/machinery or mobilization advance shall be paid under any circumstances

5. No conditions other than those stipulated in the tender documents shall be considered. Any condition bid shall be liable for rejection. Conditions, if any, must be withdrawn before opening of the Price Bid, failing which the bid shall be rejected.

6. The State Bank of India reserve the rights to accept or reject any or all bids, either in whole or in part without assigning any reason whatsoever. No claim, compensation, or correspondence shall be entertained in this regard.

7. Tenders received without EMD shall be summarily rejected and such tenders shall not be allowed to participate in the online price bidding process.

8. The bidding contractor shall possess valid A-class electrical license or shall engage valid A-class electrical contractor, empanelled with SBI, for electrical work. The copy of A-class electrical license / Association agreement for this project should be uploaded along with online technical bid, failing which their tender is liable for disqualification.

9. In case the date of opening of bids is declared as a holiday, the bids shall be opened on the next working day at the same time and venue.

Yours faithfully,

For M/s Shetgiri & Associates

Signature of Contractor with Seal

LETTER OF UNDERTAKING

The Dy. General Manager (Estate),
State Bank of India,
Estate Department, 9th Floor,
State Bank Bhavan,
Nariman Point, Mumbai - 21.

Dear Sir,

Having examined the drawings, specification, design and schedule of quantities relating to the works specified in the memorandum hereinafter set out and having visited and examined the site of the works specified in the said memorandum and having acquired the requisite information relating thereto as affecting the tender, I/We hereby offer to execute the works specified in the said memorandum at the rates mentioned in the attached Schedule of Quantities and in accordance in all respects with the specifications, design, drawings and instructions in writing referred to in conditions of tender, the Articles of Agreement, Special Conditions, Schedule of Quantities and Conditions of Contract and with such materials as are provided for by, and in all other respects in accordance with such conditions so far as they may be applicable.

MEMORANDUM

(a)	Description of work	Proposed Roofing & Allied Infrastructure Works of Badminton Court at Kinellan Tower, Nepean Sea Road, Mumbai.
(b)	Earnest Money	₹89,000.00 (Rupees Eighty Nine Thousand Only) by means of Demand Draft / Pay Order (Valid for a period of 90 Days from the last date of submission of the tender) from any scheduled Nationalized Bank drawn in favour of State Bank of India and payable in Mumbai.
(c)	Time allowed for completion of the Works from fifteen day after the date of written Order or date of handing over of the site (Whichever is later) to commence the work	90 Days, (3) months

1) Should this tender be accepted, I/we hereby agree to abide by and fulfill the terms and provisions of the said conditions of contract annexed hereto so far as may be applicable or in default thereof to forfeit and pay to SBI, the amount mentioned in the said contract.

2) I / We have deposited a sum of ₹89,000.00 (Rupees Eighty Nine Thousand and Six Hundred Only) of the total tender amount as Earnest Money with the State Bank of India on behalf of SBI which amount is not to bear any interest. Should I / We fail to

execute the Contract when called upon to do so I / We do hereby agree that this sum shall be forfeited by me/us to State Bank of India on behalf of SBI,

Further, under any circumstances, whatsoever, if I/We fail to comply the same including compliance of any such other conditions of tender within the stipulated time. I /We hereby, authorized State Bank of India to cancel my/our tender, to forfeit my EMD/ISD/ASD and to take further necessary action as deemed fit including debarring our firm from participating in State Bank of India future tenders/de-paneling etc.

3) I/ We understand that as per terms of this tender, the State Bank of India may consider accepting our tender in part or whole or may entrust the various work proposed in phases. We, therefore, undertake that we shall not raise any claim/ compensation in the eventuality of Bank deciding to drop any of the work from the scope of work of this tender at any stage during the contract period. Further, we also undertake to execute the work entrusted to us in phases on our approved rates and within stipulated time limit without any extra claim for price escalation as also provided for in the clause 11.1.6 “Instructions to Tenderers” of this tender.

4) I/ We, hereby, also undertake that, we will not raise any claim for any escalation in the prices of any of the material during the currency of contract/execution/completion period including authorized extended contract period, if any.

5) Our Bankers are:
   i)

   ii)

   The names of partners of our firm are:
   i)

   ii)

Name of the partner of the firm
Authorised to sign
Or
(Name of person having Power of
Attorney to sign the Contract.
(Certified true copy of the Power
of Attorney should be attached)
Yours faithfully,
Signature of Contractors.
Signature and addresses of Witnesses
i)

ii)

Signature of Contractor with Seal

INSTRUCTIONS TO THE TENDERERS

1.0 Scope of Work

The scope of work is to carry out roofing and allied infrastructure work of Badminton court.

1.1 Site and Its Location

The proposed work is to be carried out at Kinellan Tower Nepean Sea Road, Mumbai.

2.0 Tender Documents

2.1 The work has to be carried out strictly according to the conditions stipulated in the tender consisting of the following documents and the most workmen like manner.

Instructions to Tenderers
General Conditions of Contract
Special Conditions of Contract
Technical Specifications
Drawings
Priced Bid

2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below:
a) Price Bid
b) Technical specifications
c) Drawings
d) Special conditions of contract
f) General conditions of contract
g) Instructions to Tenderers

2.3 The tender documents are not transferable.

3.0 Site Visit

3.1 The tenderer must obtain himself on his own responsibility and his own expenses all information and data that may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The tenderer is requested satisfy himself regarding the availability of water, power, transport and communication facilities, the character quality and quantity of the materials, labour, the law-and-order situation, climatic conditions local authorities' requirement, traffic regulations etc.

The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.

4.0 **Earnest Money**

4.1 The tenderers are requested to submit the Earnest Money of ₹89,000.00 (Rupees Eighty Nine Thousand Only) by means of Demand Draft / Pay Order (Valid for a period of 90 Days from the last date of submission of the tender) from any scheduled Nationalized Bank drawn in favour of State Bank of India and payable in Mumbai.

4.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD in accordance with clause 4.1 above shall be rejected.

4.3 No interest will be paid on the EMD.

4.4 EMD of unsuccessful tenderer will be refunded within 30 days of award of Contract.

4.5 EMD of successful tenderer will be retained as a part of security deposit.

5.0 **Initial / Security Deposit**

The successful tenderer will have to submit a sum equivalent to 2% of accepted tender value less EMD by means of DD drawn in favour of State Bank of India within a period of 15 days of acceptance of tender.

6.0 **Security Deposit**

6.1 Total security deposit shall be 5% of contract value. Out of this 2% of contract value is in the form of Initial Security Deposit (ISD) which includes the EMD. Balance 3% shall be deducted from the running account bill of the work at the rate of 10% of the respective running account bill i.e., deduction from each running bill account will be @ 10% till Total Security Deposit (TSD) including ISD reaches to 5% of contract value. 50% of the Total Security Deposit shall be paid to the contract on the basis of Architect's certifying the virtual completion. The balance of 50% would be paid to the contractors after the defects liability period as specified in the contract.

6.2 No interest shall be paid in the amount retained by the Bank as Security Deposit.

6.3 **Additional Security Deposit:** Additional Security Deposit (ASD) / Additional Performance Guarantee (APG) shall be applicable if the bid price is below 10% of the estimated cost put to tender. The amount of such ASD / APG shall be difference between 90% of estimated cost put to tender and the quoted price. ASD in the form of either Demand Draft (DD), Banker's Cheque, or Bank Guarantee (BG) shall be submitted within 15 dyas of intimation of award of work / work order,

without which the contractor will not be allowed to start the work and failure of submission of ASD will result in forfeiture of EMD and cancellation of tender.

In case of Bank Guarantee (BG), it must be issued by any Nationalised / Scheduled Commercial Bank (other than State Bank of India) favoring **"State Bank of India"** payable at Mumbai. The Bank Guarantee (BG) must be in Bank's approved format as per Annexure – **'A'**.

On successful completion of work, ASD will be returned to the contractor. In case contractor fails to complete the work in time or as per tender specification or leave the job incomplete, the bank will be at liberty to recover the dues from ASD or to forfeit such ASD as the case may be within its sole discretion.

7.0 Signing of contract Documents

The successful tenderer shall be bound to implement the contract by signing an agreement and conditions of contract attached herewith within 15 days from the receipt of intimation of acceptance of the tender by the Bank. However, the written acceptance of the tenders by the Bank will constitute a binding agreement between the Bank and successful tenderer whether such formal agreement is subsequently entered into or not.

8.0 Completion Period

Time is essence of the contract. The work should be completed in all respects in accordance with the terms of contract within a period of 90 days (3 months) from the date of commencement of work or 15 days from the date of issuance of work order, whichever is earlier.

9.0 Validity of tender

Tenders shall remain valid and open for acceptance for a period of 3 (Three) months from the date of opening price bid. If the tenderer withdraws his/her offer during the value period or makes modifications in his/her original offer which are not acceptable to Bank without prejudice to any other right or remedy the Bank shall be at liberty forfeit the EMD.

10.0 Liquidated Damages

The liquidated damages shall be 0.50% per week subject to a maximum of 5% of contract value.

11.0 **Rate and prices:**

11.1 **Instructions to Tenderers Regarding Percentage Rate Tender:**

11.1.1 The tenderers shall quote percentage above / below / at par (in figures as well as in words) on the total estimated cost given in Schedule of Quantities, he will be willing to execute the work.

11.1.2 In percentage rate tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the tenderer in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.

11.1.3 The tender submitted shall be treated as invalid if the contractor does not quote percentage above / below / at par on the total amount of tender.

11.1.4 If the percentage above / below / at par is different in figures & words on the total amount of tender than amount quoted in words will be considered.

11.1.5 The rate and amount mentioned in the Schedule of Quantities will be in Indian Currency (₹) only and will be firm and include all costs, allowances etc. except GST, which will be payable / reimbursed at actuals.

11.1.6 **The contractor shall, at its own cost and responsibility, obtain all approvals, permissions and any other clearances required from the Municipal Corporation of Greater Mumbai (MCGM) for execution and completion of the works, including all liaisoning activities wherever required. The bidder shall be deemed to have examined and considered all applicable approval, liaisoning, statutory and incidental charges payable to MCGM while quoting the rates. No additional payment, reimbursement, or compensation on account of such approvals, liaisoning, or related charges shall be admissible during the currency of the contract.**

GENERAL CONDITIONS OF CONTRACT

1.0 **Definitions:**

"Contract means the documents forming the tender and the acceptance thereof and the formal agreement executed between State Bank of India (client) and the contractor, together with the documents referred there in including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Architects/ Bank and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.

1.1 In the contract the following expressions shall, unless the context otherwise requires, have the meaning hereby respectively assigned to them.

1.1.1 'SBI' shall mean State Bank of India (client) a body Corporate created under State Bank of India Act 1955, having its Corporate Centre at State Bank Bhavan, Madame Cama Road, Mumbai 400 021 and includes the client's representatives, successors and assigns.

1.1.2 'Architect / Consultants' shall mean M/s. Shetgiri & Associates having its office at "Sayalya" Building, 1st Floor, S. K. Bole Road, Dadar (W), Mumbai – 400 028.

1.1.3 'Site Engineer' shall mean an Engineer appointed by the Bank as their representative to give instructions to the contractors.

1.1.4 'The Contractor' shall mean the individual or firm or company whether incorporate not, undertaking the works and shall include legal personal representative of individual or the composing the firm or company and the permitted assignees of individual or firms of company.

The expression 'works' or 'work' shall mean the permanent or temporary work description in the "Scope of work" and / or to be executed in accordance with the contract includes materials, apparatus, equipment, temporary supports, fittings and things of kinds to be provided, the obligations of the contractor hereunder and work to be done by the contractor under the contract.

1.1.5. 'Engineer' shall mean the representative of the Architect/consultant.

1.1.6. 'Drawings' shall mean the drawings prepared by the Architects and issued by the Engineer and referred to in the specifications and any modifications of such drawings as may be issued by the Engineer from time to time 'Contract value shall mean value of the entire work as stipulated in the letter of acceptance of tender subject such additions there to or deductions there from as may be made under the provide herein after contained.

1.1.7. 'Specifications' shall mean the specifications referred to in the tender and modifications thereof as may time to time be furnished or approved by the Architect/ Consultant.

1.1.8. "Month" means calendar month.

1.1.9. "Week" means seven consecutive days.

1.1.10. "Day" means a calendar day beginning and ending at 00 Hrs. and 24 Hrs. respectively.

1.1.11. The following shall constitute the Joint Project Committee (herein under referred to as JPC) for assessing and reviewing the progress of the work on the project and to issue instructions or directions from time to time for being observed and followed by the Architects Site Engineer /PMC and other consultants / contractors engaged in the execution of the project.

i) Dy. General Manager (Estate) of State Bank of India
ii) State Bank of India Engineer (Civil and Electrical) in-charge of the Project, as may be nominated by the Dy. General Manager (Estate), State Bank of India
iii) Concerned partner / proprietor of the Architects and their Resident Architect Member.

Clause:

1.0 Total Security Deposit

Total Security Deposit comprise of:

- Total Security deposit comprise of
- Earnest Money Deposit
- Initial security deposit
- Retention Money
- Additional Security Deposit

a) **Earnest Money Deposit:**

The tenderer shall furnish EMD of ₹89,000.00 (Rupees Eighty Nine Thousand Hundred Only) in the form of Demand draft or banker's cheque drawn in favour of State Bank of India, on any Scheduled Bank. No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD. The EMD of the unsuccessful tenderer shall be refunded soon after the decision to award the contract is taken without interest. The EMD shall stand absolutely forfeited if the tenderer revokes his tender at any time during the period when he is required to keep his tender open acceptance by the State Bank of India or after it is accepted by the State Bank of India the contractor fails to enter into a formal agreement or fails to pay the initial security deposit as stipulated or fails to commence the commence the work within the stipulated time.

b) **Initial Security Deposit:**

The amount of ISD shall be 2% of accepted value of tender including the EMD. Balance of ISD (i.e. excluding EMD) is to be submitted in the form of DD drawn on any scheduled Bank and shall be deposited within 15 days from the date of letter of acceptance of tender.

No interest shall be paid to the amount retained by the Bank as Security Deposit.

c) **Retention Money:**

Besides the ISD as deposited by the contractor in the above said manner, the Retention money shall be deducted from the running account bill at the rate of 10% of the gross value of work done by the contractor and claimed in each bill provided the total security deposit i.e. ISD plus EMD plus Retention Money shall both together not exceed 5% of the contract value. The 50% of the total security deposit shall be refunded to the contractor without any interest on issue of Virtual Completion certificate by the Architect/consultant. The balance 50% of the total security deposit shall be refunded to the contractors without interest within fifteen days after the end of defects liability period provided the contractor has satisfactorily attended to all defects, if any, in accordance with the conditions of contract including site clearance.

d) **Additional Security Deposit:**

Additional Security Deposit (ASD) / Additional Performance Guarantee (APG) shall be applicable if the bid price is below 10% of the estimated cost put to tender. The amount of such ASD / APG shall be difference between 90% of estimated cost put to tender and the quoted price. ASD in the form of either Demand Draft (DD), Banker's Cheque, or Bank Guarantee (BG) shall be submitted within 15 days of intimation of award of work / work order, without which the contractor will not be allowed to start the work and failure of submission of ASD will result in forfeiture of EMD and cancellation of tender.

In case of Bank Guarantee (BG), it must be issued by any Nationalised / Scheduled Commercial Bank (other than State Bank of India) favoring **"State Bank of India"** payable at Mumbai. The Bank Guarantee (BG) must be in Bank's approved format as per Annexure – **'A'**.

On successful completion of work, ASD will be returned to the contractor. In case contractor fails to complete the work in time or as per tender specification or leave the job incomplete, the bank will be at liberty to recover the dues from ASD or to forfeit such ASD as the case may be within its sole discretion.

2.0 **Language:**

The language in which the contract documents shall be drawn shall be in English.

3.0 **Errors, Omissions and Discrepancies:**

In case of errors, omissions and/ or disagreement between written and scaled dimensions on the drawings or between the drawings and specifications etc., the following order shall apply.

i) Between scaled and written dimensions (or description) on a drawing, the latter shall be adopted.

ii) Between the written or shown description or dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.

iv) Between written description of the item in the specifications and descriptions in bills of quantities of the same item, the former shall be adopted.

v) In case of difference between rates written in figures and words, the rate in words shall prevail.

vi) Between the duplicate / subsequent copies of the tender, the original tender shall be taken as correct.

4.0 **Scope of Work:**

The contractor shall carryout complete and maintain the said work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction Bank to be communicated through the Architect/consultant. The Architect/consultant at the directions of the Bank from time-to-time issue further drawings and / or write instructions, details directions and explanations which are hereafter collectively referred to as Architect's /consultant's instructions in regard to the variation or modification of the design, quality or quantity of work or the addition or omission or substitution of any work, any discrepancy in the drawings or between BOQ and / or drawings and / or specifications. The removal from the site of any material brought thereon by the contractor and the substitution of any other materials thereof, the demolition, removal and/or re-execution of any work executed by him, the dismissal from the work of any person employed/engaged thereupon.

5.0 i) **Letter of Acceptance:**

Within the validity period of the tender the Bank shall issue a letter of acceptance either directly or through the Architect by registered post or otherwise depositing at the of the contractor as given in the tender to enter into a Contract for the execution of the work as per the terms of the tender. The letter of acceptance shall constitute a binding contract between the Bank and the contractor.

ii) **Contract Agreement:**

On receipt of intimation of the acceptance of tender from the Bank/ Architect, the successful tenderer shall be bound to implement the contract and within fifteen

days there of shall sign an agreement in a non-judicial stamp paper of appropriate value.

6.0 **Ownership of Drawings:**

All drawings, specifications and copies thereof furnished by the Bank through its Architect / consultants are the properties of the Bank. They are not to be used on other work.

7.0 **Detailed Drawings and Instructions:**

The Bank through its Architects / consultants shall furnish with reasonable proper additional instructions by means of drawings or otherwise necessary for the execution of the work. All such drawings and instructions shall be consistent with contract documents, true developments thereof and reasonably inferable there from.

The work shall be executed in conformity therewith and the contractor prepare a detailed program schedule indicating therein the date of start and completion of various activities on receipt of the work order and submit the same to the Bank through the Architect/consultant.

7.0 **Copies of Agreement:**

Two copies of agreement duly signed by both the parties in a non-judicial stamp paper of ₹500/- with the drawings shall be handed over to the contractors.

8.0 **Liquidated Damages:**

If the contractor fails to maintain the required progress in terms of clause 27.0 of GCC or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion, without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBI on account of such breach to pay a liquidated damage at the rate of 0.50% of the contract value per week subject to a maximum of 5% of the contract value.

9.0 **Materials, Appliances and Employees:**

Unless or otherwise specified the contractor shall provide and pay for all materials, labour, water, power, tools, equipment, transportation and any other facilities that are required for the satisfactory execution and completion of the work. Unless or otherwise specified all materials shall be new and both workmanship and materials shall be best quality. The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him. Workman whose work or

behavior is found to be unsatisfactory by the SBI / Architect/ consultant he shall be removed from the site immediately.

10.0 **Permits, Laws and Regulations:**

Permits and licenses required for the execution of the work, shall be obtained by the contractor at his own expenses. The contractor shall give notices and comply with the regulations, laws, and ordinances rules, applicable to the contract. If the contractor observes any discrepancy between the drawings and specifications, he shall promptly notify the SBI in writing under intimation of the Architect/ Consultant. If the contractor performs any act which is against the law, rules and regulations he shall meet all the costs arising there from and shall indemnify the SBI any legal actions arising there from.

11.0 **Setting out Work:**

The contractor shall set out the work and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof and get it approved by the Architect / consultant before proceeding with the work. If at any time any error in this respect shall appear during the progress of the works, irrespective of the fact that the layout had been approved by, the Architect / consultant the contractor shall be responsible for the same ad shall his own expenses rectify such error, if so, required to satisfaction of the SBI.

12.0 **Protection of works and property:**

The contractor shall continuously maintain adequate protection, of all his work from damage and shall protect the SBI's properties from injury or loss arising in connection with contract. He shall make good any such damage, injury, loss, except due to causes beyond his control and due to his fault or negligence.

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protections of his employees on the works and shall comply with all applicable provisions of Govt. and local bodies' safety laws and building codes to prevent accidents, or injuries to persons or property on about or adjacent to his place of work. The contractor shall take insurance covers as per clause 24.0 at his own cost. The policy may be taken in joint names of the contractor and the SBI and the original policy may be lodged with the SBI.

13.0 **Inspection of Work:**

The SBI/Architect/Consultant or their representatives shall at all reasonable times have free access to the work site and/or to the workshop, factories or other places where materials are lying or from where they are obtained and the contractor shall give every facility to the SBI, Architect/Consultant and their representatives

necessary for inspection and examination and test of the materials and workmanship. No person unless authorized by the SBI/Architect/Consultant except the representative of public authorities shall be allowed on the work at any time. The proposed work either during its construction stage or its completion can also be inspected by the Chief Technical Examiner's organization a wing of Central Vigilance Commission.

14.0 **Assignment and Subletting:**

The whole of work included in the contract shall be executed the contractor and he shall not directly entrust and engage or indirectly transfer, assign or underlet the contract or any part or share thereof or interest therein without the written consent of the Bank through the Architect and no undertaking shall relieve the contractor from the responsibility of the contractor from active superintendence of the work during its progress.

15.0 **Quality of materials, workmanship & Test:**

i) All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with Architect/consultant instructions and shall be subject from time to time to such tests as the Architect/consultant may direct at the place of manufacture or fabrication or on the site or an approved testing laboratory. The contractor shall provide such assistance, instruments, machinery, labour, and materials as are normally required for examining, measuring, sampling, and testing any material or part of work before incorporation in the work for testing as may be selected and required by the Architect/consultant.

ii) **Samples:**

All samples of adequate numbers, size, shades & pattern as per specifications shall be supplied by the contractor without any extra charges. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at the site detailed literature / test certificate of the same shall be provided to the satisfaction of the Architect/consultant. Before submitting the sample / literature the contractor shall satisfy himself that the material / equipment for which he is submitting the sample / literature meet with the requirement of tender specification. Only when the samples are approved in writing by the Architect / consultant the contractor shall proceed with the procurement and installation of the particular material / equipment. The approved samples shall be the signed by the Architect / Consultant for identification and shall be kept on record at site office until the completion of the work for inspection / comparison at any time. The Architect/Consultant shall take reasonable time to approve the sample. Any delay that might occur in approving the samples for reasons of its not meeting the specifications or other discrepancies inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials / equipment etc. shall be to the account of the contractor.

iii) **Cost of tests:**

The cost of making any test shall be borne by the contractor if such test is intended by or provided for in the specification or BOQ.

iv) **Costs of tests not provided for**

If any test is ordered by the Architect/ Consultant which is either:

If so, intended by or provided for or (in the cases above mentioned) is not so particularized, or though so intended or provided for but ordered by the Architect / Consultant to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested or any Government / approved laboratory, then the cost of such test shall be borne by the contractor.

16.0 **Obtaining information related to execution of work:**

No claim by the contractor for additional payment shall be entertained which is consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the work nor any misunderstanding or the obtaining incorrect information or the failure to obtain correct information relieve him from any risks or from the entire responsibility for the fulfillment of contract.

17.0 **Contractor's superintendence:**

The contractor shall give necessary personal superintendence during the execution the works and as long, thereafter, as the Architect / Consultant may consider necessary until the expiry of the defect liability period, stated hereto.

18.0 **Quantities:**

The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements.

The rate quoted shall remain valid for variation of quantity against individual item to any extent subject to maximum variation of the contract value by 25%. The entire amount paid under Clause 20 hereof as well as amounts of prime cost and provision sums, if any, shall be excluded.

Variation exceeding 25%: The items of work executed in relation to variation exceeding 25% shall be paid on the basis of provisions of clause 21(e) hereof.

19.0 **Works to be measured:**

The Architect/Consultant may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send

a qualified representative to assist the Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detail in the specifications. The representative of the Architect / Consultant shall take measurements with the contractor's representative and the measurements shall be entered in the measurement book. The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All the corrections shall be duly attested by both representatives. No over writings shall be made in the Measurement Book (M.B.) Should the contractor not attend or neglect or omit to depute his representative to take measurements, the measurements recorded by the representative of the Architect / consultant shall be final. All authorized extra work, omissions and all variations made shall be included such measurement.

20.0 **Variations:**

No alteration, omission or variation ordered in writing by the Architect / consultant vitiates the contract.

In case the SBI / Architect / Consultant thinks proper at any during the progress of works to make any alteration in, or additions to or omission from the works or any alteration in the kind or quality of the materials to be used therein, the Architect / Consultant shall give notice thereof in writing to the contractor shall confirm in writing within seven days of giving such oral instructions the contract shall alter to, add to, or omit from as the case may be in accordance with such notice but the contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Architect/ Consultant and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect / Consultant and the same shall be added to or deducted from the contract value, as the case may be.

21.0 **Valuation of Variations:**

No claim for an extra shall be allowed unless it shall have been executed under the authority of the Architect / Consultant with the concurrence of the SBI as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

a) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein.
Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.

b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any

remaining items of works are carried out, otherwise the prices for the same shall be valued under sub clause (c) hereunder.

c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the Architect/ consultant of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the Architect/ consultant shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.

d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender, of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the Architect/Consultant) the workman's name and materials employed be delivered for verifications to the Architect /consultant at or before the end of the week following that in which the work has been executed.

e) It is further clarified that for all such authorized extra items where rates cannot be derived from the tender, the Contractor shall submit rates duly supported by rate analysis worked on the 'market rate basis for material, labour hire / running charges of equipment and wastages etc. plus 15% towards establishment charges, contractor's overheads and profit. Such items shall, not be eligible for escalation.

22.0 **Final Measurement:**

The measurement and valuation in respect of the contract shall be completed within six months of the virtual completion of the work.

23.0 **Virtual Completion Certificate (VCC):**

On successful completion of entire works covered by the contract to the full satisfaction of the SBI, the contractor shall ensure that the following works have been completed the satisfaction of the SBI:

a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.

b) Demolish, dismantle and remove the contractor's site office, temporary works, structure including labour sheds/camps and constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBI not incorporated in the permanent works.

c) Remove all rubbish, debris etc. from the site and the land allotted to the contractor the SBI and shall clear, level and dress, compact the site as required by the SBI.

d) Shall put the SBI in undisputed custody and possession of the site and all land allot by the SBI.

e) Shall hand over the work in a peaceful manner to the SBI.

f) All defects / imperfections have been attended and rectified as pointed out by the Architects to the full satisfaction of SBI.

Upon the satisfactory fulfillment by the contractor as stated above, the contractor is entitled to apply to the Architect / consultant is satisfied of the completion of work. Relative to which the completion certificate has been sought, the Architect/ consultant shall within fourteen (14) days of the receipt of the application for completion certificate, issue a VCC in respect of the work for which the VCC has applied.

This issuance of a VCC shall not be without prejudice to the SBI's rights and contractor liabilities under the contract including the contractor's liability for defects liability nor shall the issuance of VCC in respect of the works or work at any site be construction as a waiver of any right or claim of the SBI against the contractor in respect of or work at the site and in respect of which the VCC has been issued.

24.0 **Work by other agencies:**

The SBI / Architect / consultant reserves the rights to use premises and any portion the site for execution of any work not included in the scope of this contract which it may desire to have carried out by other persons simultaneously and the contractor shall not only allow but also extend reasonable facilities for the execution of such work. The contractor however shall not be required to provide any plant or material for the execution of such work except by special arrangement with the SBI. Such work shall be carried out in such manner as not to impede the progress of the works included in the contract.

25.0 **Insurance of works:**

25.1 Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI and the contractor against all loss or damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBI and contractor are covered for the period stipulated vide clause 27 of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

a) The Works for the time being executed to the estimated current contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.

b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.

c) Such insurance shall be affected with an insurer and in terms approved by the SBI which approval shall not be unreasonably withheld and the contractor shall whenever require produce to the Architect / consultant the policy if insurance and the receipts for payment of the current premiums.

25.2 **Damage to persons and property:**

The contractor shall, except if and so far as the contract provides otherwise indemnify the SBI against all losses and claims in respect of injuries or damages to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the works and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation of damages for or with respect to:

a) The permanent use or occupation of land by or any part thereof.

b) The right of SBI to execute the works or any part thereof on, over, under, in or through any lands.

c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract

d) Injuries or damage to persons or property resulting from any act or neglect of the SBI their agents, employees or other contractors not being employed by the contractor or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the SBI, their employees, or agents or other employees, or agents or other contractors for the damage or injury.

25.3 **Contractor to indemnify SBI:**

The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 25.2 of this clause.

25.4 **Contractor's superintendence:**

The contractor shall fully indemnify and keep indemnified the SBI against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be

payable in respect of any article or part thereof included in the contract. In the event of any claim made under or action brought against SBI in respect of such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the SBI if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Architect / consultant in this behalf.

25.5 **Third Party Insurance:**

25.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 24.0 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBI, or to any person, including any employee of the SBI, by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 24.0 thereof.

25.5.2 **Minimum amount of Third-Party Insurance:**

Such insurance shall be affected with an insurer and in terms approved by the SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to them. Architect / consultant the policy or policies of insurance cover and receipts for payment of the current premiums.

25.6 The minimum insurance cover for physical property, injury, and death is ₹5 Lakh per occurrence with the number of occurrences limited to four. After each occurrence contractor will pay additional premium necessary to make insurance valid for four occurrences always.

25.7 **Accident or Injury to workman:**

25.7.1 The SBI shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the SBI or their agents, or employees. The contractor shall indemnify and keep indemnified SBI against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

25.7.2 **Insurance against accidents etc. to workmen:**

The contractor shall insure against such liability with an insurer approved by the SBI during the whole of the time that any persons are employed by him on the works and shall, when required, produce to the Architect / consultant such policy of

insurance and receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor the contractor's obligation to insured as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured against the liability in respect of such persons in such manner that SBI is indemnified under the policy but the contractor shall require such sub-contractor to produce to the Architect /consultant when such policy of insurance and the receipt for the payment of the current premium.

25.7.3 **Remedy on contractor's failure to insure:**

If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the SBI may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the SBI as aforesaid from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

25.7.4 Without prejudice to the other rights of the SBI against contractors. In respect of such default, the employer shall be entitled to deduct from any sum's payable to the contractor the amount of any damage's costs, charges, and other expenses paid by the SBI and which are payable by the contractors under this clause. The contractor shall upon settlement by the Insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the Insurer in respect of such damage shall be paid to the contractor and the Contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

26.0 **Commencement of Works:**

The date of commencement of the work will be reckoned as the recorded date of handing over site by SBI or15 (Fifteen) days from the date of issue of Letter of Acceptance of the Bank, whichever is later.

27.0 **Time for Completion:**

Time is essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of 90 days (3 months) from the date of commencement. If required in the contract or as directed by the Architect / consultant. The contractor shall complete certain portions of work before completion of the entire work. However, the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

28.0 **Extension of Time:**

If, in the opinion of the Architect/consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/consultant may submit a recommendation to the SBI to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBI through the Architect' Consultant in writing at least 30 days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reason in detail and his justification if any, for the delays. The Architect/consultant shall submit their recommendations to the SBI in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the provision of liquidated damages as stated under clause 8.0 of GCC shall become applicable. Further the contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

29.0 **Rate of Progress:**

Whole of the materials, plant and labour to be provided by the contractor and the mode, manner and speed of execution and maintenance of the works are to be of a kind and conducted in a manner to the satisfaction of the Architect / consultant. Should the rate of progress of the work or any part thereof be at any time be in the opinion of the Architect / consultant too slow to ensure the completion of the whole of the work the prescribed time or extended time for completion the Architect / consultant shall thereupon take such steps as considered necessary by the Architect / consultant to expedite progress so as to complete the works by the prescribed time or extended time. Such communications from the Architect / consultant neither shall relieve the contractor from fulfilling obligations under the contract nor he will be entitled to raise any claims arising out of such directions.

30.0 Work During Nights and Holidays:

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or on holidays without the permission in writing of the Architect / consultant, save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the work in which case the contractor shall immediately advise the Architect / consultant. However, the provisions of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required and continued with the prior approval of the Architect / consultant at no extra cost to the SBI.

All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance.

31.0 **No Compensation or Restrictions of Work:**

If at any time after acceptance of the tender SBI shall decide to abandon or reduce the scope of work for any reason whatsoever and hence not require the whole or any part of the work to be carried out. The Architect / consultant shall give notice in writing that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the Work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work.

Provided that the contractor shall be paid the charges on the cartage only of materials actually and bona-fide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment, curtailment of the work or any portion thereof and then taken back by the contractor, provided however that the Architect / Consultant shall have in such cases the option of taking over all or any such materials at their purchase price or a local current rate whichever is less.

In case of such stores having been issued from SBI stores and returned by the contractor to stores, credit shall be given to him at the rates not exceeding those at which were originally issued to the contractor after taking into consideration and deduction for claims on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of Architect / consultant shall be final.

32.0 **Suspension of Work:**

i) The contractor shall, on receipt of the order in writing of the Architect / consultant (whose decision shall be final and binding on the contractor) suspend the progress of works or any part thereof for such time and in such manner as Architect /consultant may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of following reasons:

a) On account any default on the part of the contractor, or
b) For proper execution of the works or part thereof for reasons other than the default the contractor, or
c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works the extent necessary and carry out the instructions given in that behalf by the Architect / consultant.

ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

The contractor shall be entitled to an extension of time equal to the period of every such suspension. No compensation whatsoever shall be paid on this account.

33.0 **Action When the Whole Security Deposit is Forfeited:**

In any case in which under any clause or clauses of this contract, the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his security deposit the Architect / consultant shall have the power to adopt any of the following course as they may deem best suited to the interest of the SBI:

a) To rescind the contract (of which rescission notice in writing to the contractor by - Architect / consultant shall be conclusive evidence) and in which case the security, deposit of the contractor shall be forfeited and be absolutely at the disposal of SBI.

b) To employ labour paid by the SBI and to supply materials to carry out the work, or part of the work, debiting the contractor with the cost of the labour and materials cost of such labour and materials as worked out by the Architect/consultant shall final and conclusive against the contractor) and crediting him with the value of the work done, in all respects in the same manner and at the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract certificate of Architect /consultant as to the value of work done shall be final conclusive against the contractor.

c) To measure up the work of the contractor, and to take such part thereof as shall unexecuted, out of his hands, and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (The amount of which excess the certificates in writing of the Architects / consultant shall final and conclusive) shall be borne by original contractor and may be deducted f any money due to him by SBI under the contract or otherwise, or from his security deposit or the proceeds of sale thereof, or sufficient part thereof.

In the event of any of above courses being adopted by the SBI the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any material or entered into any engagements or make any advances on account of, or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescind under the provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum or any work thereto for actually performed under this contract, unless, and until the Architect / consultant will have certified in writing the performance of such work and the value payable in respect thereof, and he shall only be entitled to be paid the value so certified.

34.0 **Owner's Right to Terminate the Contract:**

If the contractor being an individual or a firm commit any 'Act of insolvency' or shall be adjusted an insolvent or being an incorporated company shall have an order for

compulsory winding up voluntarily or subject to the supervision of Govt. and of the Official Assignee of the liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him to do so, to show to the reasonable satisfaction of the Architect / Consultant that he is able to carry out and fulfill the contract, and to dye security therefore if so required by the Architect / Consultant or if the contractor (whether an individual firm or incorporated Company) shall suffer execution to be issued or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the contractor.

Or shall assign or sublet this contract without the consent in writing of the SBI through the Architect/Consultant or shall charge or encumber this contract or any payment due to which may become due to the contractor there under:

a) has abandoned the contract; or

b) has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 15 days after receiving from the SBI through the Architect / consultant written notice to proceed, or

c) has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBI through the Architect / Consultant that the said materials were condemned and rejected by the Architect/consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts matters or things by this contract to be observed and performed by the contactor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBI or Architect's / consultant's instructions to the contrary subject any part of the contract. Then and in any of said cases the SBI and or the Architect / consultant, may not withstanding any previous waiver, after giving seven days' notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect / consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBI through the Architect / consultant their agents or employees may enter upon and take possession of the work and all plants, took scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to the work and the contractor shall not in any was interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for complement and finishing or using the materials and plant for the works.

When the works shall be completed or as soon thereafter as convenient the SBI or Architect / consultant shall give a notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within 14 days after receive thereof by him the SBI sell the same by publication, and after due publication, and shall, adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the SBI incidental to the sale of the materials etc.

35.0 **Certificate of Payment:**

The contractor shall be entitled under the certificates to be issued by the Architect / consultant to the contractor within 10 working days from the date of certificate to payment from SBI from time to time. The SBI shall recover the statutory recovering other dues including the retention amount from the certificate of payment.

Provided always that the issue of any certificate by the Architect / consultant during progress of works or completion shall not have effect as certificate of satisfaction relieve the contractor from his liability under clause.

The Architect / consultant shall have power to withhold the certificate if the work or in part thereof is not carried out to their satisfaction.

The Architect / consultant may by any certificate make any corrections required previous certificate.

The SBI shall modify the certificate of payment as issued by the Architect / consultant from time to time while making the payment.

The contractor shall submit interim bills only after taking actual measurements and properly recorded in the Measurement Book (M. B.).

The Contractor shall not submit interim bills when the approximate value of work done by him is less than ₹30.00 Lakh and the minimum interval between two such bills shall be one month.

The final bill may be submitted by contractor within a period of one month from the date of virtual completion and Architect / consultant shall issue the certificate of payment within a period of two months. The SBI shall pay the amount within a period of three months from the date of issue of certificate provided there is no dispute in respect of rates and quantities.

The contractor shall submit the interim bills in the prescribed format with all details.

36.0 **A. Settlement of Disputes and Arbitration:**

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings specifications, estimates, instructions orders or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

i) If the contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Architect or in case the contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the contractor shall forthwith give notice in writing of his claim, or dispute to the Dy. General Manager (Estate)and endorse a copy of the same to the Architect, within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the contractor unless notice of such claim shall have been given by the contractor to the Dy. General Manager (Estate)in the manner and within the time as aforesaid. The Contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the Dy. General Manager (Estate)in writing in the manner and within the time aforesaid.

ii) The Dy. General Manager (Estate)shall give his decision in writing on the claims notified by the Contractor. The Contractor may within 30 days of the receipt of the decision of the Dy. General Manager (Estate) submit his claims to the conciliating authority namely the General Manager (OL&CS) for conciliation along with all details and copies of correspondence exchanged between him and the Dy. General Manager (Estate).

iii) If the conciliation proceedings are terminated without settlement of the disputes, the contractor shall, within a period of 30 days of termination thereof shall give a notice to the Dy. Managing Director (HR) & Corporate Development Officer of the Bank for appointment of an arbitrator to adjudicate the notified claims falling which the claims of the contractor shall be deemed to have been considered absolutely barred and waived.

iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid, and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Dy. Managing Director (HR) &Corporate Development Officer. It will also be no objection to any such

appointment that the Arbitrator so appointed is a technically competent person not below the rank of Superintending Engineer or equivalent position in Public Sector Banks / CPSEs, CPWD, LIC, RBI etc. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Dy. Managing Director (HR) & Corporate Development Officer. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.

It is also a term of this contract that no person other than a person appointed by such Dy. Managing Director (HR) & CDO as aforesaid should act as arbitrator.

The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any or any statutory modification or re-enactment thereof and the rules made there under.

It is also a term of the contract that if any fees are payable to the Arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank Officer.

It is also a term of the contract that the Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any of the arbitrators shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and din what manner, such costs or any part thereof, shall be paid and fix or settle the amount of costs to be so paid.

37.0 **Water Supply:**

The contractor shall make his own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following condition:

i) That the water used by the contractor shall be fit for construction purposes to the satisfaction of the Architect / consultant.

ii) The contractor shall make alternative arrangements for the supply of water if the arrangement made by the contractor for procurement of water in the opinion of the Architect / consultant is unsatisfactory.

37.1 The contractor shall construct temporary well / tube well in SBI land for taking water for construction purposes only after obtaining permission in writing from the SBI. The contractor has to make his own arrangements for drawing and distributing the water at his own cost. He has to make necessary arrangements. To avoid any accidents or damages caused due to construction and subsequent maintenance of the wells. He has to obtain necessary approvals from local authorities, if required, at his own cost. He shall restore the ground to its original condition after wells are dismantled on completion of work or hand over the well to the SBI without any compensation as directed by the Architect / consultant.

38.0 **Power Supply:**

The contractor shall make his own arrangements for power and supply / distribution system for driving plant or machinery for the work and for lighting purpose at his own cost. The cost of running and maintenance of the plants are to be included in his tender prices. He shall pay all fees and charges required for the power supply and include the same in his tendered rates and hold the owner free from all such costs. He has to obtain necessary approval from the appropriate authorities, if required.

39.0 **Treasure Trove Etc.:**

Any treasure trove, coin or object antique which may be found on the site shall be the property of SBI and shall be handed over to the bank immediately.

40.0 **Method of Measurement:**

Unless otherwise mentioned in the schedule of quantities or in mode of measurement, the measurement will be on the net quantities or work produced in accordance with up-to-date rules laid down by the Bureau of Indian Standards. In the event any dispute / disagreement the decision of the Architect / consultant shall be final and binding on the corrector.

41.0 **Maintenance of Registers:**

The contractor shall maintain the following registers as per the enclosed perform at site of work and should produce the same for inspection of SBI / Architect / Consultant whenever desired by them. The contractor shall also maintain the records / registers as required by the local authorities / Govt. from time to time.

i) Register for secured advance
ii) Register for hindrance to work
iii) Register for running account bill
iv) Register for labour

42.0 **Force Majeure:**

42.1 Neither contractor nor SBI shall be considered in default in performance of the obligations if such performance is prevented or delayed by events such as war, hostilities revolution, riots, civil commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of god or for any other cause beyond the reasonable control of the party affected or prevents or delayed. However, a notice is required to be given within 30 days from the happening of the event with complete details, to the other party to the contract, if it is not possible to serve a notice, within the shortest possible period without delay.

42.2 As soon as the cause of force majeure has been removed the party whose ability perform its obligations has been affected, shall notify the other of such cessation and the actual delay incurred in such affected activity adducing necessary evidence in support thereof.

42.3 From the date of occurrence of a case of force majeure obligations of the party affected shall be suspended during the continuance of any inability so caused. With the caused itself and inability resulting there from having been removed, the agreed time of completion of the respective obligations under this agreement shall stand extended a period equal to the period of delay occasioned by such events.

42.4 Should one or both parties be prevented from fulfilling the contractual obligations by state of force majeure lasting to a period of 6 months or more the two parties shall mutually decide regarding the future execution of this agreement.

43.0 **Local Laws, Acts Regulations:**

The contractor shall strictly adhere to all prevailing labour laws inclusive at contract labour (regulation and abolition act of 1970) and other safety regulations. The contractors should comply with the provision of all labour legislation including the latest requirements of the Acts, laws, any other regulations that are applicable to the execution of the project.

i) Minimum wages Act 1948 (Amended)
ii) Payment of wages Act 1936 (Amended)
iii) Workmen's compensation Act 1923 (Amended)
iv) Contract Labour regulation and abolition act 1970 and central rules 1971 (Amended)
v) Apprentice act 1961 (amended)
vi) Industrial employment (standing order) Act 1946 (Amended)
vii) Personal injuries (Compensation insurance) act 1 963 and any other modifications
viii) Employees' provident fund and miscellaneous provisions Act 1952 and amendment thereof
ix) Shop and establishment act

x) Any other act or enactment relating thereto, and rules framed there under from time to time.

44.0 **Accidents:**

The contractor shall immediately on occurrence of any accident at or about the site or in connection with the execution of the work report such accident to the Architect / consultant. The contractor shall also such report immediately to the competent authority whenever such report is required to be lodged by the law and take appropriate actions thereof.

SPECIAL CONDITION OF CONTRACT

1.0 Scope of work

The scope of work is to carry out roofing and allied infrastructure work of Badminton court.

2.0 **Address of site**

The site is located at Kinellan Tower Nepean Sea Road, Mumbai.

3.0 **Dimensions and levels**

All dimensions and levels shown on the drawings shall be verified by the contractor and the site and he will be held responsible for the accuracy and maintenance of. All the dimensions and the levels. Figured dimensions are in all cases to be accepted and dimension shall be scaled. Large scale details shall take precedence over small scale drawings. In case of discrepancy the contractor shall ask for clarification from the Architect / consultant before proceeding with the work.

4.0 **Notice of operation**

The contractor shall not carry out any important operation without the Consent in with from the Architect / consultant:

5.0 **Construction records**

The contractor shall keep and provide to the Architect / consultant full and accurate records of the dimensions and positions of all new work and any other information necessary to prepare complete drawings recording details of the work as construction.

6.0 **Safety of adjacent structures and trees**

The contractor shall provide and erect to the approval of the Architect / consultant supports as may be required to effectively protect all structures and protective give to trees, which may be endangered by the execution of the works or otherwise such permanent measures as may be required by the Architect to protect the tree structures.

7.0 **Temporary works**

Before any temporary works are commenced the contractor shall submit at least in advance to the Architect / consultant for approval complete drawings of all temporary works he may require for the execution of the works. The contractor shall carry out the modifications relating to strength, if required by the Architect / consultant may require in accordance with the conditions of contract at his own cost the contractor shall be solely responsible for the stability and safety of all

temporary works and unfinished works and for the quality of the permanent works resulting from the arrangement eventually adopted for their execution.

8.0 **Water, Power and other facilities**

a) The rate quoted by the contractor shall include all expenses that are required for providing all the water required for the work and the contractor shall make his own arrangements for the supply of good quality water suitable for the construction and good quality drinking water for their workers If necessary the contractor has to sink a tube well / open well and bring water by means of tankers at his own cost for the purpose. The SBI will not be liable to pay any charges in connection with the above.

b) The rate quoted in the tender shall include the expenses for obtaining and maintaining power connections and shall pay for the consumption charges as instructed.

c) The contractors for other trades directly appointed by the SBI shall be entitled to take power and water connections from the temporary water and power supply obtained by the contractor However, the contractor concerned shall make their own arrangements to draw the supply and pay directly the actual consumption charges at mutually agreed rates between them. All municipal charges for drainage and water connection for Construction purposes shall be borne by the contactor and charges payable for permanent connections, if any, shall be initially paid by the contactor and the SBI will reimburse the amount on production of receipts

d) The SBI as well as the Architect / consultant shall give all possible assistance to the Contractor's to obtain the requisite permission from the various authorities, but the responsibility for obtaining the same in time shall be of the contractor

9.0 **Facilities for contractor's employees**

The contractor shall make his own arrangement for the housing and welfare of his staff and workmen including adequate drinking water facilities. The contractor shall also make the arrangements at his own cost for transport where necessary for his staff and workmen to and from site of work at his own cost.

10.0 **Lighting of works**

The contractor shall at all times provide adequate and approved lighting as required for the proper execution and supervision and inspection of work.

11.0 **Firefighting arrangements**

i) The contractor shall provide suitable arrangement for firefighting at his own cost. This purpose he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are to be always kept filled with sand and some with water this equipment shall be provided at suitable prominent and easily accessible place and shall be properly maintained.

ii) Any deficiency in the fire safety or unsafe conditions shall be corrected by the contractor at his own cost and, to the approval of the relevant authorities. The contractor makes the following arrangements at his own cost but not limited the following:

a) Proper handling, storage and disposal of combustible materials and waste.

b) Work operations which can create fire hazards.

c) Access for fire-fighting equipment.

d) Type, number and location of containers for the removal of surplus materials and rubbish.

e) Type, size, number and location of fire extinguishers or other tire fighting equipment.

f) General house keeping

12.0 **Site order book**

A site order book shall be maintained at site for the purpose of quick communication between the Architect / Consultant. Any communication relating to the work may be conveyed through records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of contract Each site order book shall have machine numbered pages in triplicate and shall carefully maintained and preserved by the contractor and shall be made available to the Architect / consultant as and when demanded- Any instruction which the Architect /consultant may like to issue to the contractor or the contractor may like to bring to the Architect / consultant two copies of such instructions shall be taken from the site order book and one copy will be handed over to the party against proper acknowledgment and the second copy will be retained for their record.

13.0 **Temporary fencing/ barricading**

The contractor shall provide and maintain suitable temporary fencing / barricading and gates at his cost to adequately enclose all boundaries of the site for the protection of the public and for the proper execution and security of the work and in accordance with the requirement of the Architect I consultant and regulations of local authorities. These shall be altered, relocated and adopted from time to time as necessary and removed on completion of the work.

14.0 **Site meetings**

Site meetings will be held to review the progress and quality evaluation. The contractor shall depute a senior representative along with the site representative and other staff of approved sub-contractors and suppliers as required to the site meetings and ensure all follow up actions. Any additional review meetings shall he held if required by the Architect / consultant.

15.0 **Disposal of refuse**

The contractor shall cart away all debris, refuse etc. arising from the work from the site and deposit the same as directed by the Architect / consultant at his own cost. It is the responsibility of the contractor to obtain from the local authorities concerned to the effect that all rubbish arising out of contractor's activities at the construction site, or any other off-site activities borrow pits has been properly disposed of.

16.0 **Contractor to verify site measurement.**

The contractor shall check and verify all site measurements whenever requested other specialist contractors or other sub-contractors to enable them to prepare the own shop drawing and pass on the information with sufficient promptness as will in any way delay the works.

17.0 **Displaying the name of the work**

The contractor shall put up a name board of suitable size as directed by the Architect / consultant indicating therein the name of the project and other details as given by the Architect / consultant at his own cost and remove the same on completion of work.

18.0 **As built drawings**

i) For the drawings issued to the contractor by the Architect / Consultant. The Architect Consultant will issue two sets of drawings to the Contractor for the items for some changes have been made. From the approved drawings as instructed by the SBI / Architect / Consultant. The contractor will make the changes made on these copies and return these copies to the Architect / Consultant for their approval. In cases revision is required or the corrections are not properly marked the Architect / Consultant will point out the discrepancies to the contractor. The contractor will have to incorporate these corrections and / or attend to discrepancies either on copies as directed by the Architect / consultant and resubmit to him for approval. The Architect / consultant will return one copy duly approved by him.

ii) For the drawings prepared by the contractor

The contractor will modify the drawing prepared by him wherever the changes made by the SBI / Architect / Consultant and submit two copies of such modified drawings to the Architect / Consultant for approval. The Architect / consultant will return one copy of the approved drawing to the contractor.

19.0 **Approved make**

The contractor shall provide all materials from the list of approved makes at his own cost and also appoint the specialized agency for the waterproofing anti-termite, aluminum doors and windows and any other item as specified in the tender. The Architect / Consultant may approve any make / agency within the approved list as given in the tender after inspection of the sample/mockup.

20.0 **Procurement of materials**

The contractor shall make his own arrangements to procure all the required materials for the work. All wastages and losses in weight shall be to the contractor's account.

21.0 **Excise Duty, Taxes, Leveis etc.**

The contractor shall pay and be responsible for payment of all taxes, duties, levies, royalties, fees, cess or charges in respect of the works including but not limited to sales tax, tax on works contract excise duty, and octroi, payable in respect of materials, equipment plant and other things required for the contact. All of the aforesaid taxes, duties, levies, fees and charges shall be to the contractor's account and the SBI shall not be required to pay any additional or extra amount on this account. Variation of taxes, duties, fees, levies etc. if any, till completion of work shall be deemed to be included in the quoted rates and no extra amount on this account. Variation of taxes, duties, fees, levies etc. if any, till completion of work shall be deemed to be included in the quoted rates and no extra claim on this account will in any case be entertained. If a new tax or duty or levy or cess or royalty or octroi is imposed under as statutory law during the currency of contract the same shall be borne by the contractor.

22.0 **Acceptance of tender**

The SBI shall have the right to reject any or all tenders without assigning any reason. They are not to bind to accept the lowest or any tender and the tenderer or tenderers shall have no right to question the acts of the SBI. However adequate transparency would be maintained by the SBI.

23.0 **Photographs:**

- The Contractor shall at his own expense supply to the Architects with duplicate hard copies of large photographs not less than 25 cm. x 20 cm. (10" x 8") of the works, taken from two approved portions of each building, at intervals of not

more than one month during the progress of the work or at every important stage of construction.

- In addition to above, the contractor shall be bound to submit adequate no. of site photographs along with each Running Bill for the project clearing showing major progress of work measured and claimed therein failing which the Architect / SBI may consider returning the Bill to the contractor and no claim for delay on this account will be entertained.

SAFETY CODE

1. All personnel as site should be with Helmets and Safety Boots with some Identification Mark. Visitors also should be ensured that these are used properly.

2. First Aid Box should be kept at site with all requisite materials.

3. No one should be allowed to inspect / work at a height without Safety Belt.

4. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ : 1 (¼ horizontal and 1 vertical).

5. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary 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 staging and extending along the entire length of the outside and ends thereof with only such 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 or structure.

6. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.

7. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 meter.

8. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 Meters in length while the width between side rails in rung ladder shall in no case be less than 30cms for ladder up to and including Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30 cms. Uniform step spacing shall not exceed 30 cms.

9. Adequate precautions shall be taken to prevent danger from electrical equipment. For electrical on-line works gloves, rubber mats, and rubber shoes shall be used.

10. for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.

11. Before any demolition work is commenced and also during the process of the work:

a) All roads and open areas adjacent to the Work Site shall either be closed or suitably protected.
b) No electrical cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
c) All practical steps shall be taken to prevent danger to persons employed from risk or fire or explosion or flooding. No floor, roof or other part of the building shall be so over-loaded with debris or materials as to render it unsafe.
d) All necessary personal safety equipment as considered adequate by the Site Engineer should be kept available for the use of the persons employed on the Site and maintained in a condition suitable for immediate use; and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.
e) Workers employed on mixing Asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
f) Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
g) Those engaged in welding works shall be provided with Welder's protective eye-shields.
h) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
i) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals and boards to prevent accident to the Public.

12. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standard or conditions:-

a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repairs and in good working order.

b) 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.

c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffold, winch or give signals to the operator.

d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.

e) Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.

g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, sleeves, and boots as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices, mentioned or described herein shall be maintained in 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 of work.

ARTICLES OF AGREEMENT

(On non-judicial Stamp Paper of ₹500/- or as per latest Govt. Rules)

This agreement made the ……day of …… between DGM (Estate), State Bank of India, …….. (hereinafter called the Bank or SBI) which expression shall include the successors and assigns) of the one part and M/s. ……... company / partnership for registered under the Indian Companies Act / Partnership Act having its registered office……..…… (hereinafter called 'the Contractors' which expression shall include the present directors / partners and also the directors / partners from time to time as also their respective heirs, legal representatives, administrators and assigns) of the other part.

WHEREAS the employer is desirous of execution of ……. (Name of work)…….. and has caused drawings and specifications describing the works to be done prepared by Project Architects M/s ……. having their offices at ……. (hereinafter called "the Architect")

AND WHEREAS THE SAID Drawings numbered as mentioned in the tender documents hereinafter mentioned and to be issued from time to time, the specifications and the Schedule of items and quantities have been signed by or on behalf of the parties hereto.

AND whereas the contractors have agreed to execute upon and subject to the condition set forth herein and Schedule of items and quantities, General & special Conditions of Contract, specification etc. contained in the tendered documents including all correspondences exchanged by or between the parties from the submission of tender till the award of work, both letters inclusive, (all of which are collectively hereinafter referred to as "the said conditions"). The works shown upon the said drawing and /or described in the said specification and included in the schedule of Items and Quantities at the respective rates therein set forth amounting to the sum of ₹…… (Rupees ……..in words) as there in arrived at or such other sum as shall become payable there under (hereinafter referred to as "the said Contract Amount".

NOW IT IS HEREBY AGREED AS FOLLOWS:

1) In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said Conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work shown upon the said Drawings and described in the said Specifications and the priced Schedule of Quantities.

2) The Employer shall pay to the Contractor the said Contract Amount, or such other sum as shall become payable, at the times and in the manner specified in the said Conditions.

3) The term "the Architect" in the said condition shall mean the said "M/s _____" or in the event of their ceasing to be the Architect for the purpose of this contract for whatever

reason, such other person or persons as shall be nominated for that purpose by the Employer, not being a person to whom the Contractor shall object for reasons considered to be sufficient by the Employer provided always that no person or persons subsequently appointed to be Architect under this contract shall be entitled to disregard or over rule any previous decisions or approval or direction given or expressed in writing by the architect for the time being.

4) The said Conditions and Appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by submit themselves to the said Conditions and perform the Agreements on their part respectively in the said Conditions contained.

5) The Plans, Agreements and Documents mentioned herein shall form the basis of this Contract.

6) This Contract is neither a fixed lump-sum contract nor a piece work contract but a contract to carry out the work in respect of the entire building complex to be paid for according to actual measured quantities at the rates contained in the Schedule of Quantities and Rates or as provided in the said Conditions.

7) The Bank / Employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.

8) Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work soon after the Site is handed over to him or from 15th day after the date of issue of formal work order as provided for in the said conditions of contractor whichever is later and to complete the entire work within ……. (period of contract) months subject nevertheless to the provisions for extension of time.

9) All payments by the SBI under this Contract will be made only at Mumbai.

10) Any disputes arising under this Agreement shall be referred to arbitration in accordance with the stipulations laid down in the tender.

11) That all the parts of this contract have been read by the contractor and fully understood by the contractor. They further agree to complete the said work to fullest satisfaction of architect / Employer.

12) IN WITNESS WHEREOF the Employer and the contractors have set their respective hands to these presents through their duly authorized official and the said two duplicates hereof to be executed on its behalf of the day and year first herein above written.

Signed on behalf of the

Signed on behalf of the

Signature of Contractor with Seal

STATE BANK OF INDIA	CONTRACTORS
In the presence of: 1. Signature: Name: Address:	In the presence of: 1. Signature: Name: Address:
In the presence of: 2. Signature: Name: Address:	In the presence of: 2. Signature: Name: Address:

APPENDIX HEREINBEFORE REFERRED TO

1	Name of the Organization Offering Contract	:	Dy. General Manager (Estate), State Bank of India, Estate Department, 9th Floor, State Bank Bhavan, Nariman Point, Mumbai - 21.
2	Name of the Consultants	:	M/s Shetgiri & Associates
3	Site Address	:	Kinellan Tower Nepean Sea Road, Mumbai.
4	Scope of Work	:	Proposed Roofing & Allied Infrastructure Works of Badminton Court
5	Name of the Contractor	:	
6	Address of the Contractor	:	
7	Period of Completion	:	90 days (3 months) from the date of Commencement
8	Earnest Money Deposit	:	₹89,000.00 (Rupees Eighty Nine Thousand Only) by means of Demand Draft / Pay Order from any scheduled Nationalized Bank drawn in favor of State Bank of India and payable in Mumbai
9	Retention Money	:	As per clause no. 1.0.c. of General Conditions of Contracts
10	Defects Liability Period	:	12 Months from the date of Virtual Completion
11	Insurance to be undertaken by the contractor at his cost	:	125% of Contract Value (Contractor's All Risk Policy)
12	Liquidated Damages	:	0.5% of the Contract amount shown in the tender per week subject to max. 5% of the contract value or actual final bill value.
13	Value of Interim Bill (Min.)	:	₹ 30.00 Lakhs
14	Date of Commencement	:	15 days from the date of acceptance letter is issued to the Contractor / or the day on which the Contractor is instructed to take possession of the site whichever is earlier.
15	Period of Final Measurement	:	2 Months from the date of Virtual Completion
16	Initial Security Deposit	:	2% of the Accepted Value of the Tender. (Clause No. 1.0. b of General Conditions of Contract).
17	Total Security Deposit	:	As per clause No. 1.0 of General Conditions of Contracts.
18	Refund of initial Security Deposit Comprising of EMD and ISD	:	50% of the Security Deposit shall be refunded to the Contractor on completion of the work and balance refunded only after the Defect Liability Period is over.
19	Period for Honoring Certificate	:	1. One Month for R.A. Bills 2. The final bill will be submitted by the Contractor within one month of the date fixed for completion work and the Bill shall be Certified within 3 months from the date of receipt of final bill provided the bills are submitted with all pre-requisite documents/test reports etc. prescribed in the tender.

Signature of Tenderer.
Date:

INDEX
PROFORMAS OF VARIOUS TESTS

TABLE NO.	DESCRIPTION	PAGE NO.
1.	Record of Cement/Received/Used/Balance.	
2.	Proforma for Register of Material of Site Account.	
3.	Proforma for Bulkage Test of Sand Register.	
4.	Proforma for Silt Test Register.	
5.	Proforma for Sieve Analysis of Fine Aggregate Register.	
6.	Proforma for Sieve Analysis of Coarse Aggregate Register.	
7.	Proforma for Slump Test Register.	
8.	Proforma of Cube Test Register.	
9.	Proforma for Hindrance to Work.	
10.	Proforma for Running A/c. Bill.	
11.	Account of Secured Advance if Admissible on Materials Held at Site by the Contractors	
12.	Memorandum for Payment.	

TABLE-I

RECORD OF CEMENT RECEIVED / USED / BALANCE

S. No.	Cement in stock Bags	Cement received (Bags)	Total Cement received (Bags)	Source4 from which received	Description of work where cement is used	Number of cement bags consumed	Balance in stock	Signature of Contractors Bank / Engineer
1	2	3	4	5	6	7	8	9

Signature of Contractor with Seal

TABLE-II

PROFORMA FOR REGISTER OF MATERIAL AT SITE ACCOUNT

Name of Work :
Name of Contractor :
Agreement No. :

Name of Article :
Estimated Requirement :
Issue Rate :

Date of Receipt	Received from/Issued to (with Ret. to So/Indent)	Receipt	Issue	Balance	Initials of Contractor	Initial of Bank's/Architect's representative	Remark
1	2	3	4	5	6	7	8

Signature of Contractor with Seal

TABLE-III

PROFORMA FOR BULKAGE TEST OF SAND REGISTER

Sr. .No.	Date of Test	Volume of dust sand in Cylinder inundated & stirred	Volume inundated Sand in Cylinder	Percentage of Bulkage	Signature of Site Engineer	Signature of Contractor	Initial of Bank's Architect's representative (Periodical)
1	2	3	4	5	6	7	8

Signature of Contractor with Seal

TABLE-IV

PROFORMA OF SILT TEST REGISTER

Sr. No.	Date of Test	Height of Sand in Cylinder inundated& stirred	Height of Silt	Max percentage of silt as specified	Percentage of silt obtained	Signature of Site Engineer	Signature of Contractor	Initial of Bank's / Representative (Periodical)
1	2	3	4	5	6	7	8	9

Signature of Contractor with Seal

TABLE-V

PROFORMA SIEVE ANALYSIS OF FINE AGGREGATE REGISTER

Sr. No	Date of Test	Wt. of Material to be tested	Sieve as per I.S. designation	Wt. of Sand retained in sieve	%a retained in each sieve successively	Cumulative % retained in each sieve	F.M.	Signature of Site Engineer	Signature of Contractor	Signature of Banks/ Architect's representative & Remarks (Periodical)

Signature of Contractor with Seal

TABLE-VI

PROFORMA OF SIEVE ANALYSIS OF COARSE AGGREGATE REGISTER

S. No.	Date of Testing	Wt. of Material to be tested	Nominal size of Aggregate	I.S. Sieve designation	Standard passing for graded aggregate. of nominal size	Test Result	Obtained passing	Signature of Site Engineer	Signature of Contractor	Signature of Banks/ Architect's representative & Remarks (Periodical)
1	2	3	4	5	6	7	8	9	10	11

Signature of Contractor with Seal

TABLE-VII

PROFORMA FOR SLUMP TEST REGISTER

Sr. No.	Date of Testing	Type of work for which slump taken	Specified slump		Slump Obtained		Signature of Site Engineer	Signature of Contractor	Signature of Banks/ Architect's representative & Remarks (Periodical)
			When Vibrators are used	When Vibrators are not used	When Vibrators are used	When Vibrators are not used			
1	2	3	4	5	6	7	8	9	10

Signature of Contractor with Seal

TABLE-VIII

PROFORMA OF CUBE TEST REGISTER

Date of taking Cube + Lime	Sample No.	No. of Cubes taken	Specific marking of Cubes	Proportion of mixture	Description of work carried out	Signature of Engineer taking sample	Signature of Contractor	7/28 Days Testing				Permissible Compressive strength of Concrete / 28 Days / 7 days		Remarks on Test Report and No.	Remarks of Banks/ Architects representative Periodicals
								Date of Test	Test Result Kg/ Sq.cm	Av. Stren-gth Kg. / Sq.cm.	Stran-dard stren-gth Kg / Sq.cm.	7 Days	28 Days		
1	2	3	4	5	6	7	8	9	10	11	12	13		14	15

Signature of Contractor with Seal

TABLE-IX

PROFORMA FOR HINDRANCE TO WORK

Name of Work :
Name of Contractor :
Agreement No. :

Date of Start of work :
Period of Completion :
Dt. of Completion of work :

S.No.	Nature of Hindrance	Date of Occurrence of Hindrance	Date of which Hindrance was removed	Period of which Hindrance existed	Signature of Site Engineer	Signature of Bank / Architects Representative
1	2	3	4	5	6	7

Signature of Contractor with Seal

TABLE - X

PROFORMA FOR RUNNING A/C BILL

i.	Name of Contractor / Agency	:
ii.	Name of Work	:
iii.	Sl.No. of this Bill	:
iv.	No. & Date of previous Bill	:
v.	Reference to Agreement No.	:
vi.	Date of Written order to commence	:
vii.	Date of Completion as per Agreement	:

S.No.	Item Description	Unit	Rate (₹)	As per Tender	
				Quantity	Amount (₹)
1	2	3	4	5	

Up to Previous R.A. Bill		Up to Date (Gross		Present Bill		Remarks
Quantity	Amount (₹)	Quantity	Amount (₹)	Quantity	Amount (₹)	
6		7		8		9

Note: 1. If part rate is allowed for any items, it should be indicated with reasons for allowing such a rate.

2. If ad-hoc payment is made, it should be mentioned specifically.

_____

_____

Net Value since previous bill

Signature of Contractor with Seal

CERTIFICATE

The measurements on the basis of which the above entries for the Running Bill No. ---------- were made have been taken jointly on ---------- and are recorded at pages ---------- to ---------- of measurement book No. ----------.

----------	----------	----------
Signature and date of Contractor	Signature and date of Architects Representative (Seal)	Signature and date of Site Engineer

The work recorded in the above-mentioned measurements has been done at the site satisfactorily as per tender drawings, conditions and specifications.

----------	----------
Architect	Signature and date of Site Engineer

TABLE - XI

ACCOUNT OF SECURED ADVANCE, IF ADMISSIBLE ON MATERIALS HELD AT SITE BY THE CONTRACTOR

S.No.	Item	Quantity	Unit	Amount	Remarks
1	2	3	4	5	6

Total value of materials at Site.

Secured Advance @ ---------- of above value - B

CERTIFIED:

(i) That the materials mentioned above have actually been brought by the Contractor to the site of the work and on advance on any quantity of any of this item is outstanding on their security.

(ii) That the materials (are of imperishable nature) and are all required by the Contractor for use in the work in connection with the items for which rates of finished work have been agreed upon.

Dated Signature of
Site Engineer
Preparing the bill
Rank ----------

Date signature of
Banks Architects----------
(Name of the Architects)

Dated Signature of
the Contractor

TABLE - XII

MEMORANDUM FOR PAYMENT

R/A BILL NO.

1.	Total value of work done since previous bill (A)	₹----------
2.	Total amount of secured advance due since Previous Bill (B)	₹----------
3.	Total amount due since Previous Bill (C) (A+B)	₹----------
4.	PVA on account of declaration in price of Steel, Cement and other materials and labour as detailed in separate statements enclosed.	₹----------
5.	Total amount due to the Contractor	₹----------

OBJECTIONS:

i)	Secured Advance paid in the previous R/A	₹----------
ii)	Retention money on value of works as per accepted tenders up to date amount	₹----------
	Less already recovered	₹----------
	Balance to be recovered	₹----------
iii)	Mobilization Advance, if any	
(a)	Outstanding amount (principal + interest) as on date	₹----------
(b)	To be recovered in this bill	₹----------
iii.	Any other Departmental materials cost to be recovered as per contract, if any	₹----------
iv.	Any other Departmental service charges to be recovered if any, as per contract (water, power etc.) enclose	₹----------

Signature of Contractor with Seal

statement.

Total Deduction as per contract (F) ₹----------

Adjustments, if any ---------- Amount less received by Contractor in --------- R/A Bill (as per statement of Contractor) ₹----------

P.V.A. ₹----------

Total amount payable as per contract (E+F+G) ₹----------

(Rupees ---------- in words)

The bill amount to ₹---------- (both figures and words) has been scrutinized by us after due checking of the measurements of work as required and is recommended for payment.

Date: ----------

Signature of Architect
with Seal

The bill amount to ₹---------- certified by Consultants has been scrutinized by me after due test checking of measurements of works as required and is recommended for payment for an amount of ₹.....

Date : ----------

Signature of Owners
Engineer

STATUTORY DEDUCTION:

i) Total Amount due (E) ₹----------

ii) Less I.T. Payable ₹----------

iii) Less S.T. Payable ₹----------

Net Payable ₹----------

These figures given in the Memorandum for payable has been verified and bill passed for payment ---------- (in words and figures)

Date: ----------

Signature of the Dy. General Manager (Estate)

Signature of Contractor with Seal

LIST OF MATERIALS OF APPROVED BRAND AND THEIR MANUFACTURERS

S. No	Material / Product	Approved Brand / Manufacturers
7.	Paints of all types	Asian Paint, Dulux, Nerolac, Berger
16.	Glass & Structural Glazing / Glazing	Saint Gobain, Pilkington, ASAHI Glaverbell MODI Guard
17.	Electro chromatic Glass	Saint Gobain
18.	PVC Flooring	Premier Vinyl, Krishna Vinyl, Stilex Flooring
24.	Ceramic & Vitrified tiles	RAK, Johnson. Kajaria, NITCO, Somany
27.	Reinforcement & Structural Steel	Tata Steel / SAIL / Jindal
28.	Aluminum Sections/Fittings	Jindal, Hindalco, Indal, Bharat
29.	ACP Sheets	Alcobond, Alu-K-Bond, Durabuild, Alstrong Alu Decor
30.	Special Fittings	Dorma, Kich, Hettich, Hafele India.
31.	All Repair Work chemicals	BASF, Dr. Fixit, Sunanda Specialty Coatings Pvt Ltd.
38.	Sun Control Film & Reflective films	3M, Llumar
39.	Cement	Ultratech, ACC, Ambuja
40.	Glazing Sealants	DOW Corning, GE Sealant
47.	Glass Blocks	Hilox or equivalent approved.
52.	Translucent Panels / Cut Panels/ Paneling	EDGE, Translucent Methacrylate sheet – EDGE CREO, EDGE ARTECH Panels or equivalent approved & (With/Without backlit arrangements)Acryllic Solid surfaces – Neonnex or equivalent approved
56.	Polycarbonate Sheet	Lexan, Tuflite or equivalent approved.

Signature of Contractor with Seal

NB. 1) The contractor should obtain prior approval from Employer / Consultants before placing order for any specific materials. Employer may / delete any of the make or brands out of the above list.

2) All materials should conform to relevant standards and codes of BIS.

3) Materials with I.S.I. mark shall be used duly approved by the Bank's Engineer / Architect

4) All types of paints to be used must have low VOC level.

PREAMBLE TO SCHEDULE OF QUANTITIES

Note: While quoting rates for the work, the contractor shall include for the following irrespective whether it has been mentioned or not in the description of the item without any extra claim / payment.

1. All unexposed surfaces of timber (any variety) used shall be treated with necessary coats of wood preservative.
2. All exposed surfaces of timber (any variety) shall also have necessary coat of wood primer / putty and paint / polish as per description in the item.
3. Before making bulk quantities, the contractor shall make each of the item as sample and get it approved in writing from the consultant's minor modification if and as suggested by the consultant the same shall have to be incorporated without any extra cost.
4. All exposed edges of ply board shall be fixed with cedar / teak wood lipping.
5. For furniture item where required whether mentioned or not shall be include providing fixing of Brass / Power coated handles /knobs multipurpose locks, mini tower bolts, ball catchers, hinges, screws and sliding rails etc.
6. Back of all storage, cabinets, and consoles shall be in 6mm commercial ply only.
7. Thickness of laminates to be used shall be 1 mm except where specified.
8. Ant termite treatment is to provide for all wood / board /ply used in the storage.

SECTION – A: MATERIALS

1) Material shall be of best approved quality obtaining and they shall comply with the respective Indian Standard Specification.
2) Samples of all materials shall be got approved before placing order and the approved sample shall be deposited with the Architect.
3) In case of non-availability of materials in metric sizes the nearest size in FPS units shall be provided with prior approval of the Architects for which neither extra will be paid nor shall any rebates be recovered.
4) If directed, materials shall be tested in any approved Testing Laboratory and the test certificates in original shall be testing including charges for repeated tests, if ordered, shall be borne by the Contractor.
5) It shall be obligatory for the Contractor to furnish certificate, if deemed by the Architects, from manufacturer or the material supplier that the work has been carried out by using their material and as per their recommendations.
6) All materials supplied by the Employer / any other Specialist Firms shall be properly stored and the Contractor shall be responsible for its safe custody until they are required on the works and till the completion of the work.
7) Unless otherwise shown on the Drawings or mentioned in the "Schedule of Quantities" or special specification, the quality of materials, workmanship, dimensions, etc., shall be as specified as hereunder.
8) All equipment and facilities for carrying out field tests on materials shall be provided by the Contractor without any extra cost.

a) **Cement:**

Cement shall comply in every respect with the requirements of the latest publications of IS: 269 and unless otherwise specified ordinary Portland Cement shall be used.

The weight of ordinary Portland Cement shall be taken as 1440 kg. per cu.m. (90 lbs. per c.ft.). Cement shall be measured by weight and in whole bags, and each undisturbed and sealed 50 kg. bag being considered equivalent to 35 liters (1.2 c.ft.) in volume care should be taken to see that each bag contains full quantity of cement. When part bag is required, cement shall be taken by weight or measured in measuring boxes.

No other make of cement but that approved by the Architects will be allowed on works and the source of supply will not be changed without approval of Architect in writing. Test certificates to show that cement is fully complying the specifications shall be submitted to the Architects and
notwithstanding this, the Architect may at his discretion, order that the cement brought on site and which he may consider damaged or of doubtful quality for any reason whatsoever, shall be re-tested in an approved testing laboratory and fresh certificates of its soundness shall be produced.

Cement ordered for re-testing shall not be used for any work pending results of re-test.

Cement shall be stored in weather-proof shed with raised wooden plank flooring to prevent deterioration by dampness or intrusion of foreign matter. It shall be stored in such a way as to allow the removal and use of cement in chronological order of receipt i.e., first received being used first used. Cement deteriorated and or clotted shall not be used on the work but shall be removed at once from the site. However, allowing use of warehouse set cement shall be determined by the Architects.

b) **River Sand:**

River sand shall confirm to IS: 383 and relevant portion of IS: 515. It shall pass through pass through a I.S. sieve 4.75 mm. (3/16 B.S.) test sieve, leaving a residue not more than 5%. It shall be from natural source i.e. only river or crushed stone screenings, if allowed, chemically clean, sharp, hard durable, well graded and free from dust, pebbles, clay, shale, salt, organic matter, loam, mica or other deleterious matter. The sum percentages of all deleterious substances to acceptable limits. River sand shall not contain any trace of salt and it shall be tested and river sand containing any trace of salt shall be rejected.

The fine aggregate i.e. river sand for concrete shall be graded within limits as specified in IS: 383 and the fineness Modules may range between 2.60 to 3.20.

The fine aggregate shall be stacked carefully on a clean hard dry surface so that it will not get mixed up with deleterious foreign materials. If such a surface is not

available a platform of planks or corrugated iron sheets or brick floor or a thin layer of lean concrete shall be prepared.

c) **Fine & Coarse Aggregate:**

Shall consist of crushed or broken stone 95% of which shall be retained on 4.75 mm. IS tests sieve. It shall be obtained on crushing Granite, Quartzite, Trap, Basalt, or similar approved stones from approved quarry and shall confirm to IS:383 and IS 515. Fine & Coarse aggregate shall be chemically inert when mixed with cement and shall be cubical in shape and be free soft, friable, thin, porous, laminated or flaky pieces. It shall be free from dust and any other foreign matter.

Gravel / Shingle of desired grading may be permitted as a substitute in part or full in plain cement concrete if the Architect is otherwise satisfied about the quality of aggregate. For all the R.C.C. works the size of coarse aggregate shall be 20 to 25 mm. and fine aggregate shall be 10 to 15 mm.

d) **Reinforcement:**

Reinforcement shall be of mild steel tested quality confirming to I.S.: 432-1966 and any other I.S. applicable or deformed bar confirming to IS:1786 and Is:1139 or hard drawn Fe 415 (Tor Steel) steel wire fabric confirming to IS:1566;1967.

All finished bars shall be free from cracks, surface flaws, laminations, jagged and imperfect edges.

e) **Bricks:**

Bricks shall generally comply with IS:1077 except in size which shall be classified as 1st and 2nd class.1st class bricks shall be the best quality locally available table moulded, well burnt but not over burnt, have plain rectangular faces with parallel sides and sharp right-angled edges, have a find compact and uniform texture. The bricks shall be free from cracks, chips, flaws, stones or subsequent to soaking in water. It shall emit a clear ringing sound on being struck and shall not absorb water more than 20% by weight. Common building bricks shall have a compressive strength of 35 kg. / sqm unless otherwise specified for first class bricks.

f) **Water:**

Water for mixing cement / lime / surkhi mortar or concrete shall not be salty or brackish and shall be clean, reasonably clear and free from objectionable quantities of silt and traces of oil, acid and injurious alkali, salts, organic matter and other deleterious materials which will either weaken the mortar or concrete or cause affluence or attack the steel in reinforced cement concrete. Water shall be obtained from sources approved by the Architect. Potable water is generally considered satisfactory for mixing and curing concrete, mortar masonry, etc., where water other than main source is used this shall be tested in an approved testing

laboratory to establish its suitability. All charges connected therewith shall be borne by the Contractor.

g) **Kotah / Shahbad / Cudappa / Granite:**

Shall be of selected quality, hard, sound, dense, and of homogenous texture, free from cracks decay, weathering and flaws. Stone slabs shall be of uniform colour as approved by the Architect. They shall be machine cut and machine polished where specified and shall confirm to the required size. Thickness shall be specified in the respective items.

h) **Paints:**

Lime for lime wash, dry distemper, oil bound distemper cement primer, oil paint, enamel paint, flat oil paint, plastic emulsion paint, anti-corrosive primer, red lead, water-proof cement paint and exterior grade Acrylic Emulsion paint, cement paint, sand-tex matt shall be from an approved manufacturer and shall conform to the latest Indian Standard for various paints. Ready mixed pains as received from the manufacturer without any admixture shall be used, except for addition of thinner, if recommended by the manufacturer.

i) **Mortar:**

Cement Mortar:

Cement mortar shall be of proportions specified for each type of work in the schedule. It shall be composed of Portland Cement and sand. The ingredients shall be accurately gauged by measure and shall well and evenly mixed together in a mechanical pan mixer, care being taken not to add more water than is required. No mortar that has begun to set shall be used. River sand shall be used unless otherwise specified.

If hand mixing is allowed, then it shall be done on pucca water-proof platform. The gauged materials shall be put on the platform and mixed dry. Water will then be added and the whole mixed again until it is homogenous and of uniform colour. Not more than one bag of cement shall be mixed at one time and which can be consumed within half an hour of its mixing.

j) **Polycarbonate Sheets:**

supply and Installation of Multicell Standing Seam polycarbonate sheets having flux 7.0 as per EN 16153 & EN ISO 10077-2. For min joints, panel shall be 1000 - 1200 mm wide with standing seam on both sides. Panels shall have minimum six-seven layers with truss bridge design for higher flexibility and strength. The system shall be secured using suitable connectors with double tooth grip lock locking mechanism and fixed on purlin(to be paid separately) having a pull out load of min 7000N tested as per ISO 6892-1998 and IS 1608-2005. Panels must satisfy impact test as per IS 14443-97 shall show no sign of breakage which have been exposed to UV for 500

Hours (min) as per ASTM G 155. Panels shall have Yellowness Index of not more than 15 units as per ASTM D 1925 when tested on a sample exposed to UV for 500 Hours as per ASTM G 155. Panel shall be closed at the end with additional Aluminium U profile as required. All aluminium should be factory finished / mill finished. Panel shall be fixed over MS structural steel / USING M.S, section for Raft and purlin. This is below the pargola beam. The rate shoud inclusive down take PVC110mm dia thick rain water pipe. PVC Gutter and vertical pipe conforming to the details in the specifications as per direction of Engineer in charge of work. All M.S structucture should be painted with one coat primer and two coats of approved shade and colour of enamael Paint. 12mm Thick Multicell Polycarbonate Panels having U value of 1.9 W/m2 K (max)
k)

Note :

In connections with the I.S. Code numbers indicated under Section, Specification, Section A – General
Refer to the following I.S. Code numbers and the year and or otherwise latest modified I.S. Code Number.

1) Cement	:	I.S. 269 – 1976
2) Lime	:	I.S. 712 – 1964
		I.S. 1624 – 1960
3) Fine – Aggregate	:	I.S. 383 – 1970
4) Coarse – Aggregate	:	I.S. 515 – 1970
5) Reinforcement	:	I.S. 432 – 1966 Fe 415
		I.S. 1786 – 1966 (Tor Steel)
		I.S. 1139 – 1966
6) Bricks	:	I.S. 1077 – 1970
7) Neeru	:	I.S. 712 – 1964
8) Surkhi	:	I.S. 1344 – 1968
9) Timber	:	I.S. 287 – 1960
10)Flush Doors	:	I.S. 2202 – 1966
11)Floor Tiles	:	I.S. 1237 – 1980
12)Ceramic / Vitrified Tiles	:	I.S. 777 – 1970
13) Asbestos Roofing and Rainwater pipes	:	I.S. 459 – 1962
14) R.C.C. design mix M-25	:	I.S. 456 – 2000

SECTION – B: MODE OF MEASUREMENTS

The method of measurement for various items in the tender shall be generally in accordance with the IS: 1200 subject to the items for which the mode of measurements is not given under or elsewhere in the tender.

1) **Cement Concrete (Plain & Reinforcement)**:

Cement concrete in R.C.C. and P.C.C. items shall be measured exclusive of reinforcement and plaster thickness but shall include necessary costs of shuttering, centering, hire charges of all equipment, curing, hacking and fair finish. Reinforcement and plaster shall be measured and paid separately.

Items line R.C.C. precast jalli, R.C.C. pipes and other such items which are normally manufactured in factories as well as those items which have been specifically mentioned in the Schedule of Quantities shall be measured inclusive of reinforcement.

No deductions will be made for openings up to 0.1 sq.mtr. and no extra labour for forming such openings or voids shall be paid.

Columns shall be measured from face to face of columns / beams and shall include haunches, if any. The depth of the beams (other than raft foundations beam) shall be measured from the top of the slab to the bottom of the beam.

In case of combined footings and raft foundations, the exposed, portion of the beam rib shall be measured as beam and remaining portion measured in footing / raft slab.

Slabs (other than in raft foundations) shall be measured in bays (clear of beams) with deductions for columns portions.

Chajja: only projected portion shall be measured in Square meter.

Staircase: Measurements shall be in Cum Staircase comprising if steps, soffit slab, landing slab shall be measured and paid under this them. Side parapet walls, railings, finishing of raisers and treads, M.S. reinforcement and plastering etc., shall be paid separately under respective items.

2) **Reinforcement**:

Shall be measured in lengths of bars as actually placed in position on standard weight basis; no allowance being made in the weight for rolling margin, Wastage and binding wire shall not be measured, authorised overlaps and spacers shall only be measured.

Standard weight for steel reinforcement bars

Diameter of the steel bars in mm.	6	8	10	12	16	20	25	32
Weight of steel bars in kg per Rmt.	0.22	0.39	0.62	0.89	1.58	2.47	3.85	6.31

3) **Brick Work**:

Except walls of half-brick thickness or less, all brick work shall be measured in cubic meters.

Thickness of Wall:

Brick walls up to and including three bricks in thickness shall be measured in multiples of half-brick which shall be deemed to be inclusive of the mortar joints. Where fractions on half-bricks occur due to Architectural or other reasons, the measurement shall be taken half-bricks.

For walling, which is more than three bricks in thickness, the actual thickness of the wall be measured to the nearest centimeter.

Honey-combed brick walling shall be given in square meters stating the thickness of wall and the pattern of honeycombing. Honeycomb openings shall not be deducted.

Deductions:

No deductions or additions shall be made on any account for

a) Ends of dissimilar materials (i.e. joists, beams, lintels, lofts, grinders, rafters, purlins, trusses, corbels, steps, etc.) up to 500 square centimeters in section.
b) Opening up to o.1 sq. in section.
c) Wall plates, bed plates and bearing of slabs, chajjas and the like where the thickness does not exceed 10 cm. and the bearing does not extend over the full width of the wall.

4) **Woodwork**:

All work shall be measured net as fixed. No extra measurement will be given for shape, joints, splayed meeting styles of doors and windows and shall be measured in unit of square meters.

Area over the face inclusive of exposed frame thickness (excluding width of cover mould) shall be measured in case of door, windows and ventilators when frames are included in the item. Portions embedded in masonry or flooring shall not be measured. Where frames are measured separately mode of measurement shall be as per C.P.W.D. practice or IS:1200.

5) **Steel doors, windows, ventilators, louvers**:

Clear area over one face inclusive of exposed frame shall be measured. Holdfasts or portions embedded in masonry or flooring shall be measured.

6) **Steel rolling shutters and rolling grilles**:

Clear width between side jambs and clear height between floor and bottom of lintel / beam shall be measured. Hood shall not be measured separately. The rate should be inclusive of the cost of hood.

7) **Flooring, Skirting, Dado**:

Flooring shall be measured from skirting to skirting and where the wall surface is plastered or provided with Dado, it shall be measured from plaster to plaster or dado to dado.

8) **Plastering and Pointing**:

All plastering and pointing shall be measured in square meters unless otherwise described.

Net is of surface plastered shall be measured. No deductions will be made for ends of joints, beams, posts, etc., and opening not exceeding 0.5 sq.mtr. each and no additions shall be made neither for reveals, jambs, soffits, sills, etc. of these openings nor for finishing the plaster around openings, ends, of joists, beam and posts, etc.

Full deductions will be made for door, window and ventilator from each side with adding jambs for door, window and ventilator.

9) **Painting, Whitewashing, Colour Washing and Distempering**:

All painting work shall be measured in square meters.

Net area of surface painted shall be measured. No deductions will be made for unpainted surfaces of ends of joists, beams, posts etc., and opening not exceeding 0.5 sq.mtr. each and no additions shall be made for reveals, jambs, soffits, sills, etc., of these openings.

Full deductions will be made for door, window and ventilator from each side with adding jambs for door, window and ventilator.

No coefficient will be considered for painting over sponge finished or sand faced plaster.

The following multiplying factors for obtaining equivalent areas shall be adopted.

No.	Description of works	How measured	Multiplying Factor
a)	Wood paneled framed ledged, braces and battened.	Measured flat (not girthed) including frame, edges, chawkats, cleats, etc., shall be deemed to be included in the	1 1/8 (for each side).

		item.	
b)	Wood flush part paneled and part.	-- do – glazed or gauzed.	1 (for each side).
c)	Fully glazed or gauzed or glazed louvered ventilators / window / door.	-- do --	¼ (for each side).
d)	Fully venetioned of louvered (not with glazing).	-- do --	1 ½ (for each side).
e)	Weather boarding.	Measured flat (not girthed supporting framework shall not be measured separately).	1 1/8 (for each side).
f)	Trellis (or Jaffri) work one way or two ways.	Measured flat overall, no deduction shall be made for opening (supporting members shall not be measured separately)	1 (for each side).
g)	Guard bars, balustrades, gratings, grille railings, grille partitions, etc.	--- do ---	1 (for painting all over).
h)	M.S. gates & open palisades fencing, door including standards, braces, rails, stays, etc.	See note below	1 (for painting over all).
i)	Steel rolling / alligator type shutters.	Measured flat over jambs, guides, bottoms, rails and locking arrangement etc. shall be deemed to be included in the item.	1 ¼ (for each side).
j)	Carved or enriched work.	Measured flat.	2 (for each side).
k)	Fully glazed or gauzed steel windows or partitions.	Measured flat.	1 ¼ (for all over).

Note:
The height shall be taken from the bottom of the lowest rail, if the palisades do not go below it (or from the lower end of the palisades, if they project below the lowest rail) up to the top of the palisades, but not up to the top of the standards, if they are higher than the palisades. Similarly, for the gates, depth of roller shall not be considered while measuring the height.

Area painted over sand cement plaster; sponge finished / sand faced plaster / rough cast plaster area painted without considering any coefficient for painting over sand faced plaster

SECTION – C: WORKMANSHIP

PLAIN & REINFORCED CEMENT CONCRETE

A) **VOLUMETRIC BASIS**:

General:

Except where they are varied by the requirements of this specification due provision of Indian Standard Specification IS-456-1964 for plain and reinforced concrete and IS-432 part I and II for Mild and Medium Tensile steel Bars and hard drawn steel wire for concrete reinforcement and any other relevant ISS applicable together with the latest amendments shall be held to be incorporated this specification. It shall be intent of these specifications to ensure that all concrete placed at various location of the job should be durable, strong enough to carry design, loads, it should wear well and practically be impervious to water. It should be free from such defects as shrinkage, cracking and honeycombing.

Proportioning the Mix:

In ordinary concrete, excluding controlled concrete, proportions of cement to fine and coarse aggregate shall be as specified in the respective items and shall be accurately measured as in table “A” below. These proportions are based on assumption that the aggregates are dry. If aggregates are moist allowance shall be made for bulking in accordance with IS:2386/-. Allowance shall also be made for surface water present in aggregate when computing water contents. Surface water present shall be determined by one of the field methods described in IS:2386/- (Part III). In the absence of exact data, the amount of surface water may estimate by the value given in table “B” below (Table “A” and “B” please see on page nos.124 & 125).

Mixing:

Concrete of 1:2:4 or richer mix shall be mixed in an approved mechanical mixer. The mixer and mixing platform shall be suitably protected from wind and rain. Aggregates shall be accurately measured out in boxes and mixed dry along with cement, water shall be then added in measured quantity and mixing shall be continued until there is a uniform distribution of the materials and the mass is uniform in colour and in consistency but in no case shall he mixing be done for less than 2 minutes.

When hand mixing is permitted with the approval of the Architect it shall be carried out on water-tight mixing platform and care shall be taken to ensure that mixing is continued until mass is uniform in colour and consistency.

Consistency:

Quantity of water for making reinforced concrete shall be sufficient so as to ensure that concrete shall surround and properly grip all the reinforcement. The best consistency shall be that, which will flow sluggishly without flattening out and without separation of

coarse aggregates from the mortar. The degree of plasticity shall depend on the nature of work and atmospheric temperature and whether the concrete is vibrated or hand compacted. The slumps shown in table "C" obtained by standard slump test carried out in accordance with the procedure laid down in IS:119-1959 shall be adopted for different types of work.

Admixtures:

The usage of admixtures is allowed only if approved by the structural consultant and his decision in this regard shall be final.

Transportation:

Concrete shall be conveyed from the place of mixing to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of any of the ingredients. If segregation does occur during transport, the concrete shall remix before being placed. In no case, more than 30 minutes shall elapse between mixing the consolidation in its position.

Placing and Compacting:

Concrete shall be placed in layers of suitable thickness or in strips and compacted before initial setting commences and should not be subsequently disturbed. Method of placing shall be such as to preclude segregation and as far as practicable the placing shall be continuous. Special care shall be taken in accordance with IS:456 while laying concrete under extreme weather.

Concrete shall be thoroughly compacted during the operation of placing and thoroughly working around the reinforcement, embedded fixtures and spaded against corners of the form work and by punning, rodding, mechanically vibrating or by any other approved means. In addition, form work shall be tapped lightly by using wooden mallet at the pouring head. The number and type of vibrator to be used shall be subject to the approval of the Architects and in general immersion type vibrators shall be used. External vibrators shall also be used whenever directed.

The intensity and duration (of vibration shall be sufficient to cause complete settlement and compaction without any stratification of successive layers or separation of ingredients or formation of laitance. Vibrator shall be inserted vertically in the concrete at points not more than 45 cm. apart and withdrawn very slowly when air bubbles no longer come on the surface. Over vibration or vibration of very wet mixes is harmful and should be avoided. Care shall be taken to utilize the vibrator only to compact the concrete and

not to spread it, sufficient number of reserve vibrator in good working condition shall be kept on hand at all times, so as to ensure that there is no slackening or interruption in compacting.

Construction Joints:

Concreting shall be carried out end to end continuously as far as possible and when construction joints are totally unavoidable, it shall be located in a predetermined position approved by the Architect. The joints shall be kept at places where the shear force is the minimum and these shall be straight and at right angles to the direction of main reinforcement. When the work has to be resumed, on a surface which has hardened, such surface shall be roughened. It shall be swept clean, thoroughly wetted and covered with a 13 mm. layer of mortar composed of cement and sand in the same ration as the cement concrete mix. This 13 mm. layer of mortar shall be freshly mixed and placed immediately before the placing of the concrete.

Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the
Wet surface with wire or bristle brushes, care being taken to avoid dislodgment of particles of aggregate. The surface shall then be coated with neat cement grout. In horizontal joints the first layer of concrete to be placed on this surface shall not exceed 15 cm. thickness and shall be well rammed against old work, particular attention being paid to corners.

Expansion Joint:

Expansion joint shall be provided where required as shown on the drawings or as directed by the Architect / Consultant. The joints shall be filled by the approved quality filler.

Curing:

Concrete shall be carefully protected during first stage of hardening from harmful effects of excessive heat, drying winds, rain or running water. It shall be covered with a layer of sacking, sand canvas, hessian, or similar absorbent materials and kept constantly, wet for ten days from the date of placing of concrete. Alternatively, the concrete being thoroughly wetted and covered by layer of approved water-proof material which should be kept in contact with it for seven days.

Form Work:

The form work shall conform to the shape, lines and dimensions as shown on the plans and be so constructed as to remain sufficiently rigid during the placing and compacting of the concrete and shall be sufficiently watertight to prevent loss of cement slurry from the concrete. Form work or centering shall be constructed of steel or timber and adequately designed to support the full weight of wet concrete without deflection and retain its form

during laying, ramming and setting of concrete. Timber used shall be properly seasoned so as to prevent deformation when wetted.

All props shall be straight and of full height and no joints shall be allowed. Props shall be braced with thin bamboos or wooden battens and where additional staging is necessary, extra care shall be taken to use bigger diameters props with bracing at 4 or 5 levels. All props shall be supported on sole plates and double wedges. At the time of removing props these wedges shall be gently eased and not knocked out.

All rubbish, chippings, shavings and saw dust shall be removed from the interior of the forms before the concrete is placed and the form work in contact with the concrete shall be cleaned and thoroughly wetter or treated with non-staining mineral oil or any other approved materials is kept out of contact with the reinforcement.

All form work shall be removed without shock or vibration and shall be eased off carefully in order to allow the structure to take up its load gradually. Forms shall not be disturbed until concrete has adequately hardened to take up superimposed load coming on it and in no circumstances shall forms be struck until the concrete may be subjected at the time of striking.

In the normal circumstances (generally where temperatures are above 21 degrees centigrade) and where ordinary cement is used, forms may be struck after expiry of following periods:

a)	Walls, Columns and Vertical sides of beam}	48 hours as may be directly by the Architect
b)	Bottom of slab up to 4.5 m. span.	7 days.
c)	Bottom of slab up to 4.5 m. span. bottom of beam and arch rib up to 6 m. span.	14 days.
d)	Bottom of beams and arch rib over 6 m. span.	21 days.

However, this period may be increased or decreased at the discretion of Architects. Special care shall be taken while striking the centering of cantilevered slab canopies, portal frames, folded plate construction and period of striking centering shall be as determined by the Architect.

If directed, form shall be given an upward camber to ensure that the beams do not have any sag. Surface that becomes exposed on removal of forms shall be carefully examined and any fins, burrs, projections etc., that are detected shall be removed. Any honeycombing of minor nature shall be finished neatly with cement mortar 1:2.

Any work showing signs of damage through premature or careless removal of centering or shuttering, shall be reconstructed by the contractor at his own cost.

Strength:

Concrete mixed in the proportion desired shall have compressive strength after placing, not less than the following:

No	Concrete Mix.	Minimum compressive strength @ 7 days	Minimum compressive strength @ 28 days
1	1:1:2	160 Kg. / Sq.mtr. (2250 Lbs. / Sq. inch).	250 Kg. / Sq.mtr. (3500 Lbs. / Sq. inch).
2	1:1½:3	132 Kg. / Sq.mtr. (1875 Lbs. / Sq. inch).	200 Kg. / Sq.mtr. (2850 Lbs. / Sq. inch).
3	1:2:4	106 Kg. / Sq.mtr. (1500 Lbs. / Sq. inch).	150 Kg. / Sq.mtr. (2250 Lbs. / Sq. inch).

Tests:

Tests on concrete shall be carried out in accordance with IS-456/- and any other is applicable. The frequency of work test shall be at such intervals as ordered by the Architect and subject to that every 150 cu.m. of concrete placed or part thereof and for a day's concrete exceeding 30 cu.m. a batch of 6 cubes shall be made for every sample and 3 of them tested after 7 days and the remaining 3 cubes shall be tested after 28 days. The criteria for acceptance of a concrete as confirming to a specified proportion / grade of concrete shall be in accordance with IS:456 and the Contractor shall entirely re-do the rejected work at his own cost. Strength of 28 days shall alone be considered for acceptance.

The Contractor shall arrange to carry out the tests in accordance with the relevant Indian Standards Specifications in an approved laboratory and the test reports in original be submitted to Architect. The entire cost of testing shall be borne by the Contractor.

Steel Reinforcement:

Reinforcement shall be accurately fabricated, placed and adequately maintained in position as shown on the drawings or as directed by the Architect. All finished bars shall be free from cracks, surface flaws, laminations, jagged and imperfect edges. Cement mortar blocks shall be used to give requisite cover as shown be firmly tied with binding wire of 16 to 18 gauge. Reinforcement shall be bent in accordance with the procedure stipulated in IS:2502-1963 and will not be straightened in a manner which will injure the material.

All reinforcement shall immediately before placing in concrete be thoroughly cleaned of loose mill scale, loose rust, oil and grease or other deleterious matter that would destroy or reduce bond.

Reinforcement in reinforced concrete members shall not be connected by welding or coupling except in accordance with relevant ISS and with the previous approval of the

Architect. Overlaps and joints shall be staggered and located at points, along the spans where neither shear nor bending moment is maximum.

Cover:

Reinforcement shall have cover as shown on the R.C.C. drawings and where not specified the thickness of cover shall be as follows. Cement mortar blocks in C.M. 1:1 shall be used for making cover blocks.

a) At each end of reinforcing bar not less than 25 mm. not less than twice the diameter of such rod or bar.
b) For a longitudinal reinforcing bar in a column not less than the diameter of such rod or bar. In the case of columns of minimum of 20 mm. or under whose reinforcing bars do not exceed 13 mm. the cover of 25 mm. may be used.
c) For longitudinal reinforcing bar in a column not less than 25 mm. not less than diameter of such rod or bar.
d) For tensile, compressive, shear or other reinforcement in a slab not less than 13 mm. nor less than diameter of such reinforcement, and
e) For any other reinforcement not less than 13 mm. not less than the diameter of such reinforcement.

A) **WEIGH-BATCHING BASIS i.e. (DESIGN MIX CONCRETE):**

Workmanship of Design Mix Concrete shall be carried out in accordance with I.S:456 – 2000 and any other I.S. Code is applicable.

TABLE – A

No	Nominal Mix.	Quantity of aggregates required per 50 kgs of cement.		Quantity of water required per 50 kgs of cement.	
		Fine Cu.m.	Coarse Cu.m.	Vibrated (For dry aggregate)	Un-vibrated (For dry aggregate)
1	1:1:2	0.035 (1.2 C.ft.)	0.070 (2.4 C.ft.)	22 lit. (4.8 Gal.)	27 lit. (6 Gal.)
2	1:1½:.3	0.052 (1.8 C.ft.)	0.106 (3.6 C.ft.)	23 lit. (5 Gal.)	30 lit. (6 Gal.)
3	1:2:4	0.070 (2.4 C.ft.)	0.138 (4.8 C.ft.)	27 lit. (6 Gal.)	32 lit. (7 Gal.)
4	1:3:6	0.105 (3.6 C.ft.)	0.210 (7.2 C.ft.)	28 lit. (6.25 Gal.)	34 lit. (7.5 Gal.)
5	1:4:8	0.150 (4.8 C.ft.)	0.280 (9.6 C.ft.)	-- --	45 lit. (10 Gal.)

TABLE – B

No	Aggregate	Approx. quantity of surface water in Lit / Cu.m.
1	Very wet sand.	120
2	Moderately wet sand.	80
3	Moist sand.	40
4	Moist gravel or crushed sock. Coarser the aggregate, lesser the water it will carry.	20 to 40

TABLE – C

No.	Type of Work	SLUMPS	
		When vibrated	When not vibrated
1.	Mass concrete in R.C.C. foundation footings.	2.5 cms. (1")	5 cms. (2")
2.	Beams, slabs, columns with simple reinforcement.	2.5 cms. to 5 cms. (1" to 2")	5 cms. to 10 cms. (2" to 4")
3.	Thin sections with congested reinforcement.	5 cms. to 10 cms. (2" to 4")	10 cms. to 15 cms. (4" to 6")

Note: Should conditions governing slump and workability changed pointing to advisability of an increased slump, this shall only be done by decreasing the amount of aggregate and not by increasing the amount of water.

B) **WEIGH-BATCHING BASIS i.e. (DESIGN MIX CONCRETE)**:-

Workmanship for design mix concrete shall be carried out in accordance with I.S. 456-2000 and any other I.S. code is applicable.

BRICK MASONRY

General :

All brick work should be carried out as shown on the drawings with setbacks, projections, cuttings, toothings, etc. Wherever the proportion of cement mortar has not been specifically mentioned, cement mortar in the proportion of 1:6 shall be used. Flat bricks arches shall be provided wherever required without any extra cost. Brick work shall be kept wet while in progress, till mortar has properly set. On holidays or when work is topped, top of all unfinished masonry shall be kept wet. Should the mortar become dry, white or powdery, for want of curing work shall be pulled down and rebuilt at the Contractor's expenses.

Brick Work 1st Class:

Bricks shall be thoroughly cleaned, well wetted and soaked for at least twelve hours in fresh water before being used on the work. Bricks shall be of locally, available best quality.

English bond shall be used throughout in walling. A good bond shall be maintained throughout the work, both laterally and transversely. In walling, the courses shall be kept perfectly horizontal and in plumb with the frogs facing upwards. Vertical joints shall not exceed 10 mm. thickness and shall be full of mortar. No broken bricks shall be used except as closers. After day's work all joints shall be raked to 12 mm. depth to provide for proper key to plastering.

Mortar used shall be as specified in respective items and every third course of brick work shall be flushed with mortar grout.

Whole of the masonry work shall be brought up at one uniform level throughout the structure; but where breaks are unavoidable, joints shall be made in good long steps. All junctions of walls and cross walls shall be carefully bounded into the main walls. The rate of laying masonry may be up to a height of 60 cm. per day if cement mortar is used and 45 cm. per day if lime mortar is used. Greater heights may be built only if permitted by the Architect.

During rains, the work shall be carefully covered to prevent mortar from being washed away. Should any mortar or cement be washed away, the works shall be removed and rebuilt at the Contractor's expenses.

Bricks Work 2nd Class:
Shall be similar to 1st class brick work except that 2nd class bricks shall be used and joints shall be 10 mm. t0 12 mm. thick.

Half Brick Masonry:

Shall be set in cement mortar as specified. Hoop iron bands of 2.5 cm. x 0.16 (1" x 1/16") shall be embedded in every fourth course with thick mortar band or 2 Nos. 6 mm. (1/4") dia. bars shall be used in every sixth course otherwise as specified under item.

FLOORING, SKIRTING, DADO AND STONE VENEERING

All flooring, skirting, dado and stone veneering etc., shall be executed strictly as per relevant IS Specification and in workman-like manner.

Indian Patent Stone:

Selection of materials, method of mixing, placing and compacting shall generally conform to the specifications under plain and reinforced cement concrete described earlier. A stiff mix consistent with workability shall be used.

Preparation of Surface:

Before the operation for laying topping is started the surface of base concrete shall be thoroughly cleaned of all dirt, loose particles coked mortar droppings and laitance if any, by scrubbing with coir or steel wire brush. Where the concrete has hardened so much that roughening of surface by wire brush is not possible, the surface shall have roughened by chipping or hacking at close intervals. The surface shall then be cleaned with water and kept wet for 12 hours and surplus water shall be removed by mopping before the topping is laid.

Laying:

The screed strips shall be fixed over the base concrete dividing it into suitable panels. Before placing the concrete for topping, neat cement slurry shall be thoroughly brushed into the prepared surface of the base concrete just ahead of the finish. Concrete of specified proportion and thickness shall be laid in alternate panels to required level and slope and thoroughly tamped.

Finishing the Surface:

After the concrete has been fully compacted it shall be finished by troweling or floating with neat cement rendering. Finishing operations shall start shortly after the compaction of concrete and the surface shall be troweled three times at intervals so as to produce a uniform and hard surface. The satisfactory resistance of floor to wear depends largely upon the care with troweling is carried out. The time intervals allowed between successive troweling is very important. Immediately after placing cement rendering, only just sufficient troweling shall be done to give a level surface. Excessive troweling in the earlier stages shall be avoided as this tends to bring a layer rich in cement to the surface. Sometime, after the first troweling, the duration depending upon the temperature, atmospheric conditions and the rate of the set of cement used, the surface shall be re-troweled to close any pores in the surface and to bring to surface and to scrape off any excess water in concrete or laitance. No dry cement shall be used directly on the surface to absorb moistures or to stiffen the mix. The final troweling shall be done well before the concrete has become too hard but at such time that considerable pressure is required to make any impression on the surface.

If directed by the Architect, approved mineral pigment shall be added to the rendering to give desired colour and shade to the flooring at no extra cost.

When instead of 1:2:3 or 1:2.5:3.5 mix, 1:2:4 is specified the topping shall be rendered with 1:1 cement mortar with a suitable mineral pigment, if directed, instead of cement

only. If specified in the Schedule of Quantities, the flooring shall be machine polished as per the Architect's instructions.

Wherever the patent stone flooring is used as finishing on roof the joints shall be filled with an approved bitumastic filler in workman like manner.

Ironite Topping:

Instead of finishing the top with rendering coat of 1:1 cement mortar, the top shall be finished with 12 mm. thick ironite topping. Unless otherwise specified, one part of ironite and four parts of ordinary cement by weight shall be mixed dry thoroughly. This dry mixture shall be mixed with stone grit 6 mm. (1/4") and downsize or as otherwise directed in the ratio of 1:2 by volume and well turned over. Just enough water shall be added to this dry mix and mixed thoroughly well and laid to uniform thickness of 12 mm. and compacted. After initial set has started the surface shall be finished as directed.

Plain and Coloured Cement Tiles, Marble Mosaic and Terrazzo Tiles Flooring:

The tiles shall conform to IS : 1237 having the colour approved the Architect and the rate shall include provision of border tiles and tiles of different colours in pattern if directed. The mosaic topping of lighter shade tiles shall be made of White Cement with an approved shade pigment and neutral shade shall be of Grey cement with an approved shade pigment. The type of tiles shall be as specified in respective items.

The sub-grade shall be thoroughly wetted after cleaning of all dirt, laitance, and loose material. A bed of lime mortar consisting of one part of lime and two parts of sand shall be laid and properly leveled to an average thickness of 25 mm. and the surface shall be kept slightly rough to form a satisfactory key for tiles. Neat cement paste of honeylike consistency shall be spread over mortar bed, over such area at a time as would accommodate about 20 tiles. Tiles shall be soaked in water for 15 minutes and allowed to dry for the same duration. Tiles shall then be fixed with a thin coat of cement paste on back of each tile and then each tile being gently tapped with a wooden mallet till it is properly bedded and in level with adjoining tiles. Joints shall be fine and as imperceptible as possible.

After tiles have been laid in a room or a day's fixing work is completed, surplus cement grout that may have come out of the joints may be wiped off gently and joints cleaned. A

thin slurry of coloured cement matching to the colour of tiles shall be spread over it and rubbed so as to seal even a thinnest joint between the tiles and make it impervious and the flooring cured for 7 days. The tiles shall be polished and finished according to IS:1443.

Dado, Skirting and Risers:

Tiles shall conform to IS:1237 and shall be of approved design. The tiles shall be fixed near cement grout on a blacking coat consisting of 1:4 cement sand plaster of 15 mm.

thick. The top and bottom junctions of tiles shall be rounded off neatly as directed. The joints shall be filled with matching shade coloured cement slurry. The surface shall be kept wet for 7 days and then polished with carborundum stone to obtain smooth surface and fine polish.

Shahabad / Tandur / Kotah / Cuddappa Stone Flooring:

The flooring shall be either with rough stone or machine cut and machine polished as specified in respective items and shall be of specified thickness and of approved quality and size, free from cracks and flakes and shall be uniform in colour with straight edges. The sides of machine cut and machine polished stone shall have perfect right angles and surface smooth. The stone slabs shall be laid and finished as described under plain cement or colour cement tiles on a bedding of 1:2 lime mortar 25 mm. (Average) thickness. The finished stone surface thus laid shall then be polished to the required degree as approved by the Architect.

In Dado, Skirting, Risers etc.:

Stone slabs shall be laid on backing plaster of cement mortar 1:4 of 15 mm. to 20 mm. thick and finished as described under plain and coloured cement tile dado.

Marble mosaic / Terrazzo in situ work in flooring, dado, skirting etc.:

The terrazzo / mosaic finish shall be laid on an under layer of thickness as specified in the respective items. The topping shall consist of a layer of marble chips of selected sizes, colour and design approved by Architect, mixed with cement with desire shade of pigment.

For lighter shade mosaic. terrazzo white cement shall be used and for neutral shade, grey cement shall be used. The proportion of terrazzo mix shall be three parts of cement one part of marble powder by weight. For every part of cement marble powder mix, the proportion of marble aggregate by volume shall be 1.5 parts unless otherwise specified.

The topping shall be mixed and laid in panels as described in IS:2114 and as per decorative designs prepared by Architects. The dividing strips of panels shall be Aluminum or as specified in the Schedule of Quantities. It shall be polished as specified in IS: 2114.

Broken Mosaic Flooring:

Broken mosaic finish shall be laid on an underlayer of thickness as specified in the item.

Pieces of mosaic tiles shall be obtained from broken marble mosaic tiles of approved shade conforming to IS:1257. The sizes of pieces shall be suitable to obtain the desired pattern of flooring as shown on the drawings or as approved by Architect.

Broken pieces shall be thoroughly wetted before fixing them. Ordinary or coloured cement grout shall be spread on the bedding. Mosaic tile pieces shall be fixed piece by piece to the desired pattern. The flooring shall be laid to correct level and slopes and compacted by straight screed tamper. The grout shall cream up to the surface. The junctions of the flooring and the wall shall be rounded and the flooring shall be extended along the wall to about 15 cm. (6”). After the day’s work, the surplus cement grout that may have come out of the joints shall be cleaned off. The flooring shall be cured for seven days and then polished with a machine as stipulated in IS:1443.

Broken China Mosaic:

Broken China Mosaic flooring shall be exactly as per broken mosaic tile flooring except that the broken pieces shall be of China of approved colour and manufacturer and the floor shall not be polished.

Marble Flooring:

Marble slabs shall be of the best Indian marble of White or other approved colour as specified in the item. They shall be hard, dense, uniform and homogeneous in texture. They shall have even crystalline grain and free from defects and cracks. The surface shall be machine polished to an even and perfectly plane surface and edges machine cut true to square. The rear face shall be rough enough to provide a key for the mortar.

No slab thinner than the specified thickness at its thinnest part. The sizes of the slabs shall be as specified in the respective items.

The slabs shall be paid as described under mosaic tile flooring in every respect.

White Glazed / Ceramic Tiles / Vitrified Tiles in Flooring and Dado:

White Glazed Tiles from an approved manufacturer conforming to IS:777 shall be used. They shall be of specified size and thickness. All specials viz. coves, internal and external angles, corners, beads etc., shall be used wherever directed. Underlayer of specified thickness and mortar of stipulated proportion shall be laid as described in marble mosaic flooring. Tiles shall be washed clean and set in cement grout and each tile being gently tapped with a wooden mallet till it is properly bedded and in level with the adjoining
tiles. The joints shall be kept as thin as possible and I straight lines or to suit the required pattern. After the tiles have been laid, surplus cement grout shall be cleaned off.

The joints shall be cleaned off the grey cement grout with a wire brush or trowel to a depth of 5 mm. (3/16”) and all dust and loose mortar removed. Joints shall then be flush pointed with white cement. The floor shall then be kept wet for seven days. After curing, the surface shall be washed with mild hydrochloric acid and clean water. The finished floor does not sound hollow when tapped with a wooden mallet.

PLASTERING

Scaffolding:

Scaffolding for carrying out plastering work shall be double steel scaffolding having two sets of vertical supports so that the scaffolding is independent of the walls.

Preparation of surface:

All putlog holes in brick work and junction between concrete and brick work shall be properly filled in advance. Joints in brick work shall be racked about 10 mm. if not raked out while constructing brick masonry work and concrete surface hacked to provide the grip to the plaster, if not hacked earlier projecting burns of mortar formed due to gaps at joints in shuttering shall be removed.

The surface shall be scrubbed clean with wire brush / coir brush to removed dirt, dust etc., and the surface thoroughly washed with clean water to remove efflorescence, grease and oil etc., and shall be kept wet for a minimum of six hours before application of plaster.

Neeru Plaster:

Cement mortar of specified proportion and thickness shall be prepared in small batches and applied to the wall surface / ceiling. Ensure proper thickness, gauged patches shall be made at 1.5 to 2 m. apart and the surface plastered true to line, level and plumb taking special care to finish jambs of windows, doors, wall returns, corners, junctions etc. A thin layer of neeru shall then be applied and rubbed into surface and finished by means of trowel until the surface is even and smooth. The surface shall be kept moist for seven days and then given a coat of whitewash.

Sand-faced Plaster:

The surface shall be prepared as above.

The coat of cement mortar in proportion of 1:4 or as specified, shall be applied uniformly all over the surface to a thickness of 12 mm. and finished true to level and line and keys shall formed on the surface. The surface shall be kept moist till the finishing coat is applied.

The finishing coat shall be applied a day or two after. The proportion of mortar for finishing coat shall be one part of cement and three parts of selected, well graded and washed sand, or as specified under item and it shall be applied in a uniform thickness of 6 mm. (1/4”).

The surface shall be tapped to uniform grained texture by using sponge pads as directed. Curing shall start after 24 hours and the surface kept wet for seven days.

Rough Cast Plaster:

Except for the finishing coat the surface shall be prepared and base coat of plaster applied as under sand-faced plaster.
Finishing coat mortar shall be in proportion of one part of cement and one part of specially selected and graded sand and one part of gravel of 3 to 6 mm. size. It shall be flung upon the first coat with large trowel to form an even and decorative coat. The work shall generally conform to clause 16.5 of IS:1661-1960. The thickness of the coat shall be about 12 mm. (1/2”). It shall be cured for seven days.

Rough coat plaster with colour finish:

This finish shall be similar to Rough cast plaster above except a high-grade mineral pigment of approved shade shall be mixed with white cement instead of ordinary grey cement while preparing the mortar.

Water-proofing Treatment:

Unless otherwise specified, the Contractor shall carry out waterproofing treatment of basements, terrace and water retaining structures through reputed firms having specialization in the line and approved by the Architects. The Contractor shall also furnish full details of such treatment to the Architects and provide all information / proof etc., regarding the effectiveness of the treatment when called upon to do so. All such treatment shall have to be guaranteed in the form approved by the Employer for a minimum period of ten years. Any defects / leakages noticed during the guarantee period shall have to be rectified free of cost by the Contractor including reinstating the surface to its original condition and finish.
Waterproofing of sunk portions of floor slabs for baths, W.C. and kitchen mories etc., in residential buildings, unless otherwise specified, shall be done as specified in the schedule and shall generally comprise of:

a) A coat of hot bitumen, min. 6 mm. thick screened with stone grit.
b) Min. 20 mm. thick cement plaster in cement mortar 1:3 with approved water-proofing cement compound as per manufactures specifications. The plaster shall be cured by pounding for seven days.

The rate for the above treatment shall include drying and cleaning surfaces free of dust etc. and wiping with kerosene before application of bitumen. The vertical faces and returns shall also be treated similarly. The actual area treated including vertical faces and returns shall be measured and paid for. The work should be done in such a way that the finished flooring in bath has a minimum slope of 20 to 25 mm.

PAINTING

General:
Wherever scaffolding is necessary, it shall be double scaffolding.

The surface shall be thoroughly brushed free from mortar droppings and foreign matter. All steel work shall be cleaned of loose rust, mill scales etc. so as to expose the original

surface. All broken edges, cracks, loose plaster and wavy surface shall be brought up either by patch plaster work or by plaster of paris.

All materials viz., dry distemper, oil bound distemper, oil paint, flat oil paint, synthetic enamel paint, plastic emulsion paint, cement primer, red lead and other primers and metallic paints shall conform to respective I.S. specifications and shall be obtained from approved manufactures. All paints shall be brought on site in sealed thins in ready mixed form and shall be applied directly with the addition of thinner, if recommended by the manufacturers.

White Washing:

White was shall be prepared from lime slaked on spot, mixed and stirred with sufficient water to make a thin cream. This shall be allowed to stand for 24 hours and shall be screened through clean cloth. Four kg. gum dissolved in hot water shall be added to each cubic meter of the cream (115 gm. per cft.).

Blue shall be added to give required whiteness. The approximate quantity of water to be added in making cream shall be five liters per kg. of lime.

Whitewash shall be applied in specified coats by using flat brushes or spray pumps. Each coat shall be allowed to dry before next coat is applied. If additional coats than what have been specified, are necessary to obtain uniform and smooth finish, it shall be given at no extra cost.

The finished dry surface shall not show any signs of cracking and peeling nor shall it come off readily on the hand when rubbed.

If directed by the Architects one coat of chalk and glue shall be applied before application of white / colour wash at no extra cost.

Colour Wash:

Colour wash shall be prepared by adding mineral colours not affected by lime to whitewash. No colour wash shall be done until a sample of the colour wash to the required tint or shade has been got approved form the Architects.
Colour wash shall be applied as specified under whitewash.

Dry Distemper:

Shade shall be got approved from the Architects before application of distemper.

The surface shall be prepared as specified earlier. A primer coat using approved primer or sizing shall be applied. Distemper prepared as per manufacturer's directions shall be applied and each coat shall be allowed to dry before subsequent coat is applied. The finished surface shall be free form chalking when rubbed, even uniform and shall show not brush marks. If additional coats are necessary, they shall be given at no extra cost.

Oil Bound Distemper:

The surface shall be prepared as specified above. A primer coat of either cement primer or any approved distemper primer shall be applied.

After the primer coat has dried, the surface shall be lightly sand papered and dusted to make to smooth to receive distemper.

Distemper shall be prepared as per the directions of the manufacturer and conforming to shade approved. It shall be applied in specified coats, taking care to allow for drying of each coat before subsequent coats are applied.

Water-proof Cement Paint / Sand-tex matt Paint:

The surface shall be prepared as specified above and thoroughly wetted with clean water before water-proof cement paint is applied.

The paint shall be prepared strictly as per manufacturers specifications and in such quantities as can be used up in an hour of its mixing, as otherwise the mixture will set and thicken, affecting flow and finish.

The paint thus prepared shall be applied on clean and wetted surface with brush or spraying machine. The solution shall be kept stirred during the period of application. It shall be applied on the surface which is on the shady side of the building so that the direct heat of the sun on the surface is avoided. The completed surface shall be watered after the day's work. Number of coats shall be s specified in the item.

Painting – Oil / Enamel / Plastic Emulsion etc.:

Ready mixed oil paint, flat oil paint, plastic emulsion paint, ready mixed synthetic enamel paint, etc., shall be brought in original containers and in sealed tins. If for any reason thinner is necessary, the brand and quantity of thinner recommended by the manufacturer or as instructed by the Architect shall be used. The surface shall be prepared as specified above and a coat of approved primer shall be applied. After 24 hours drying approved or specified quality paint shall be applied evenly and smoothly. A filler putty coating may be given to give a smooth finish. Each coat shall be allowed to dry out thoroughly and then lightly rubbed down with sandpaper and cleaned of dust before the next cost is applied. Number of coats shall be as specified in the item and if the finish of the surface is not uniform, additional coats as required shall be applied to get good and uniform finish at no extra cost. After completion no hair marks from the brush or clogging of paint puddles in the corners of panels, angles or mouldings etc., shall be left on the work. The glass panes, floor etc. shall be cleaned of stains.

When the final coat is applied, if directed, the surface shall be rolled with a roller of if directed, it shall be stippled with a stippling brush.

TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORK GENERAL

These specifications are for work to be done, item to be supplied and materials to be used in the works as shown and denned on the drawings and described herein, to the satisfaction of the Owners / Architects.

The workmanship is to be the best possible and of a high standard. The contractor shall take all steps immediately to make up deficiency if any noticed by the Owners / Architects. Use must be made of special tradesmen in all aspects of the work and allowance must be made in the rates for the same.

The materials to be provided by the contractor shall be in accordance with the samples already got approved from the Owners / Architects by the contractor and in conformity with specification and approved list of manufacturers and brand. The contractor shall produce all invoices, vouchers or receipts for any material if called upon to do so by the Owners / Architects.

Samples of all materials are to be submitted to the Owners / Architect for their approval before the contractor orders or delivers the material to the site. Samples together with their packing are to be provided free of charge by the contractor and should any materials be rejected they will be removed from the site at the contactors expense. All samples will be retained by the Owners / Architects for comparison with materials which will be delivered at site. Also, the contractor will be required to submit specimen finishes of colours, fabrics, etc., for the approval of the Owners / Architects before proceeding with the work.

The contractor shall be responsible for providing and maintaining temporary coverages required for the protection of finished work. He is also to clean out all wood shavings, cut ends and other waste from all parts of the works before covering or infilling are constructed.
Contractor shall maintain unformed quality and consistency in workmanship throughout the execution of the work.

TECHNICAL SPECIFICATIONS (Electrical – part I)

The Electrical installation work shall confirm to the following I.S. Standards (latest additions), Local Supply Authorities Rules and Regulations and Fire Safety Norms.

1) IS:732 Code of Practice for Electrical wiring installation. (System Voltage not exceeding 650V)

2) IS:1646 Code of Practice for fire safety of buildings (General Electrical Installation).

3) IS:9537 (PART-II) 1981Rigid steel conduits for electrical wiring.

4) IS:2667 Fittings for rigid steel conduits for electrical fittings.

5) IS:2509 Rigid non-metallic conduits for electrical installations.

6) IS:1293 Pin Plugs and Sockets.

7) IS:694 PVC insulated cables with copper conductors for voltages up to 1100 volts.

8) IS:9532 Specification for conduits for Electrical Installation.

9) IS:3854 5A & 15A Switch socket and accessories.

10) IS:3043 (1981) Earthing.

11) IS:2026 Specification for power transformer.

12) IS:3639 Specification for fittings and accessories for power transformers.

13) IS:2099 Specification for high voltage porcelain bushings.

14) IS:335 Specification for insulating oil.

15) Indian Electricity Act, 1956 and Rules and Fire Insurance Regulations.

DISTRIBUTION BOARDS

This specification covers the design, manufacture, assembly, testing at works, supply, installation and commissioning of distribution boards at site.

The system and accessories shall be complete in all respects and any device not included specifically in this specification, but essential for proper operation of the equipment and also to meet statutory requirements shall deemed to be within the scope of the specification whether it is mentioned in the Technical Specification, or not.

If the vendor finds that it is required to undertake any work which is not sufficiently defined in this specification or discovers that this specification conflicts with any other codes, standards and regulations which shall be required to comply, the same shall be clarified in writing from the Owner/Consultant before undertaking the work involved for avoiding the delay.

These shall be of sheet metal and of standard design with copper bus bars. The board shall be fixed at accessible heights. The boards shall be solidly fixed on MS brackets to walls/partitions, concealed or open as directed. All connections inside the distribution board shall be neatly arranged and tied with PVC strings. The MCB's shall be of 10KA for fault level. The distribution boards shall be suitably earthed. Legend shall be written on DB with paint for identification of DB & Circuits.

EARTH PITS/STATION

The Earthing station shall be done as per IS 3043 (1981) and as per drawing no. E1. The earth pit shall be at least 3.0 mtrs deep with CU/GI Plate electrode. The GI plate electrode shall be hot dipped of 600x600x6 mm thick. The size for copper plate electrode shall be

600x600x3mm thick. An alternate layer of salt and charcoal shall be filled up to 200 mm above the top of the electrode. The electrode shall be connected with 32x6 mm thick GI Flat (for copper earth electrode size of flat shall be 25x3 mm) which shall be terminated with nuts and bolts into brick masonry chamber on top. The brick masonry chamber shall be of size 300x300x450mm deep which will carry the funneling arrangement for watering. A GI Flat of 32x6 mm from brick masonry chamber to the switch gear inside the switch room shall be laid underground and/or fixed to walls. The rate for laying GI/ CU strip from earth pit to switch room shall be paid under separate item.

All the main earth conductor above the ground level shall be painted with two coats of enamel paint. The following colour codes have to be followed:

Main body earth bus	-	Green colour
Main neutral earth bus	-	Black colour
Lightning protection earth bus	-	Red colour or as preferred by Owner/Consultant.

Earthing system of equipment earthing, neutral earthing, Data Networking earthing and lightning protection earthing should not be mixed together above the ground. These systems/connections shall be tested in accordance with IS 3043-1987. Earth resistance of the individual system shall be measured after connecting all the electrodes to the bus and the combined value shall be less than 1 ohm (One ohm).

INSTALLATION OF ELECTRIC FITTINGS

All electrical fittings shall be fixed with down rods or on round blocks as stated in schedule of quantities. The down rods shall be of 19/20 mm dia. and with 1.6mm wall thickness of ERW black enamelled MS or GI. The down rods shall be fixed with ball and socket joints, check nuts etc. Special fixtures like spot lights etc.; shall be fixed to the false ceilings as per manufacturer's recommendations. The fittings shall be connected with 3 core 1.5 sq.mm flexible copper cord/cable from ceiling rose and suitable earthed.

TECHNICAL SPECIFICATION OF TESTING AND COMMISSIONING

The scope of work for testing and commissioning of the total installation shall be for switchgears, cables etc., and also for the associated equipments

The scope of work for testing and commissioning of electrical equipment for the above shall include but not be limited to the following:

e) Providing sufficient number of experienced Engineers, Supervisors, Electricians so that the installation can be commissioned in stipulated time.

f) All the instruments, tools and tackles required for carrying out the testing and commissioning shall be provided by the bidder.

g) The testing of electrical equipment shall be carried out as per the relevant Indian Standards/Code or Practices/Manufacturer's instructions.

h) Cleaning of electrical equipment, contacts cleaning and greasing etc. All the equipment and material required for above shall be supplied by the bidder.

i) Connecting the panel/equipment wiring for proper functioning of the schemes required/called for.

j) Installation and wiring of additional equipment on panels like auxiliary contactors, timers, etc. which may be additionally required for proper functioning of the schemes.

k) Checking of equipment earthing and system earthing as a whole.

l) Testing of all the cables.

m) Co-ordination with other contractors for testing and commissioning of interface cables.

TESTING

a) Measure the insulation resistance of each circuit without the lamps (load) being in place and it should be more than one M-ohms to earth. The insulation resistance measured as above shall not be less than 50 divided by the number of points on the circuit provided on the circuit provided that the whole installation shall not be required to have an insulation greater than one megohms.

b) Check the earth continuity for all socket outlets. A fixed relative position of the phase and neutral connections inside the socket shall be established for all sockets.

c) The insulation resistance between the case of framework of housing and power appliances and all live parts of each appliance shall not be less than that specified in the relevant Indian Standard Specifications.

d) On completion of cable laying work the Insulation Resistance (Sectional and overall), Continuity Resistance test, Sheathing continuity test, Earth Test., shall be conducted.

e) Checking the operation of all devices, as ACBs, MCCBs Emergency stops, etc.

1. Voltage, Current, Wattage, Power factor parameter checking at each Panel and DB level to ensure no overloading.

1. Neutral to earth voltage at all UPS DB and socket level.

2. Polarity test at UPS socket level.

3. Earth testing and Earth continuity.

4. Integrated testing of entire facility.

COMMISSIONING

The contractor shall obtain the written permission and sanction of commissioning the equipment from Electrical Inspector of I. E. & L. Department of State Government and Supply authority. If required under the specific rules of the Government.

Current and voltage of all the phases shall be measured at the lighting panel busbars with all the circuits switched on with lamps, if required load shall be balance on the three phases.

After inserting all the lamps and switching on all the circuits minimum and maximum illumination level should be measured in the area.

Annexure – 'A'

DRAFT FORMAT OF BANK GUARANTEE IN LIEU OF ADDITIONAL SECURITY DEPOSIT

(Site specific format shall be approved by the SBI prior to its execution)

(To be submitted on non-judicial stamp paper of appropriate value purchased in the name of the issuing Bank)

B.G. No._____ Value _____
Date:

To,
The Dy. General Manager (Estate),
State Bank of India, Estate Department,
9th Floor, Corporate Centre, State Bank Bhavan,
Nariman Point, Mumbai – 21.

Dear Sir,

Bank Guarantee of ₹……..towards Additional Security Deposit for the work of located in Mumbai.

WHEREAS (Name and address of contractor/ vendor) (hereinafter called the Contractor) have entered into contract (for …….. State Bank of India, ……. situated at Mumbai) with SBI as mentioned vide Bank letter no…….. dated ……..and the correspondence and tender relating thereto which is hereinafter referred to as "the said contract" the Contractor has now agreed to produce a Bank Guarantee amounting to ₹……. of the ……% of contract value less earnest money deposit of ₹..……(Rupees ……..only), to SBI …… for performing their part of the contract obligations.

AND WHEREAS in terms of said contract, the contractor is required to furnish to SBI …… a Guarantee of a Scheduled Bank for a value of …….. to be valid up to (date).

AND WHEREAS (Name of Bank and its branch) having their office at (address) the Guarantor, at the request of the contractor hereby furnishes a Performance Bank guarantee in favour of SBI …… and Guarantees in the manner hereinafter appearing. In consideration of the premise, we (name of Bank and its branch) having our office at (address) here after called the "Guarantor" (which expression shall include it successors and assigns) hereby expressly, irrevocably &unreservedly undertaken and guarantee under that if the Contractor fails to execute the work according to his obligations under the said contract, then notwithstanding any dispute between SBI …….. and the contractor, the Guarantor shall, on demand without demur and without reference to the contractor pay to SBI …… immediately any sum

claimed by SBI …….. under the said contract up to a maximum amount of ₹…….. (Rupees …….. only).

In case the amount demanded by SBI …….. is not paid within 48 hours of receipt of demand, the Guarantor agrees to pay the aforesaid amount of ₹……/- (Rupees ……..only).

Such payment shall be notwithstanding any right the contractor may have directly against SBI …….. or any disputes raised by the Contractor with SBI …….. or any suits or proceedings pending in any competent court or before any arbitrator. SBI's written demand shall be conclusive evidence to the Guarantor that such payment is payable under the terms of the Contract and shall be binding in all respect on the guarantor.

The Guarantor shall not be discharged or released from the undertaking and Guarantee, by any arrangement, variations made between SBI and the Contractor and or indulgence shown to the contractor by SBI, with or without the consent and knowledge of the guarantor or by alterations in the obligations of the contractor by any forbearance, whether as to payment, time performance or otherwise.

This guarantee shall remain valid until or as may be caused to be extended by the contractor or until discharged by SBI in writing whichever is earlier.

This guarantee shall be a continuing guarantee and shall not be revocable during its currency except with the previous written consent of SBI ……

This guarantee shall not be affected by any change in the constitution of the contractor, by absorption with any other body or corporation or dissolution or otherwise and this guarantee will be available to or enforceable against such body or corporation.

In order to give effect to this guarantee SBI will be entitled to act as if the Guarantor were the Principal debtor and the Guarantor hereby waives all and any of its rights or surety ship.

This guarantee shall continue to be in force notwithstanding the discharge of the contractor by operation of law and shall cease only on payment of the full amount by the Guarantor to SBI of the amount hereby secured.

This guarantee shall be in addition to and not in substitution for any other guarantee or security for the contractor given or to be given to SBI in respect of the said contract.

Any notice by way of request and demand or otherwise here under may be sent by post or any other mode or communication to the guarantor addressed as aforesaid and if sent by post it shall be deemed to have been given at the time when it would be delivered in due course of post and in providing such notice when given by post it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of SBI that the envelope was so posted shall be conclusive.

Signature of Contractor with Seal

These presents shall be governed by and constructed in accordance with Indian Law.

Notwithstanding anything contained hereinbefore the liability of the guarantor under this guarantee is restricted to a sum of ₹…….

This guarantee will remain valid up to ……. unless a demand or claim under this guarantee is made in writing against us within three months from that date, i.e. on or before ……..., the guarantor shall be discharged from all liability under the guarantee thereafter.

We have power to issue this guarantee in your favour under the Memorandum and Articles of Association of our Bank and the undersigned has been duly authorised by the Bank (Bank issuing the Bank Guarantee) to execute this Guarantee Deed.

Dated the …….

SIGNED AND DELIVERED For & on behalf of (the above-named Bank)

For & on behalf of (Bankers Name & Seal)

(Signature/s with designation/s of signatories)
(Banker's seal)