

PUNJAB NATIONAL BANK

Invites

ONLINE TENDER FOR CARRYING OUT CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY

**ASSTT.GENERAL MANAGER,
PUNJAB NATIONAL BANK
GAD SECTION, CIRCLE OFFICE
SHATABDHI BHAVAN, P.O. GOVINDAPURAM
KOZHIKODE – 673 016
Tel: 0495 2743143 / 9871657162
E-mail: cokozgad@pnb.co.in**

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THE TENDER DOCUMENT CONSIST OF 134 (One Hundred and Thirty Four) PAGES ONLY.

NOTICE INVITING TENDER

1. Online tenders are invited on item rate basis on behalf of Punjab National Bank from intending, bonafide & experienced contractors, reputed firms (proprietary/ partnership) /company / organization registered in India under Partnership Act, 1932 / Companies Act, 1956 and their subsequent revisions / amendments, who fulfill the eligibility criteria mentioned in the tender documents for **CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY**

Tender schedule will be as under:

1.	Tender Reference	NIT/KOZ/VTR/2023-24/1
2.	Date of commencement of Tender download	25.06.2023 from 1000hrs
3.	Last date and time for acceptance of queries	01.07.2023 upto 1500hrs
4.	Last date and time for downloading tender	11.07.2023 till 1400hrs
5.	Last date and time for Bid preparation and Hash Submission	11.07.2023 till 1400hrs
6.	Last Date for Bid Submission and Bid re-encryption	12.07.2023 till 1200hrs
7.	Date and Time of Opening of Technical cum Eligibility Bid	12.07.2023 from 1300hrs
8.	Cost of Tender Document	Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One Thousand Seven Hundred and Seventy Only) in the form of Demand Draft in favour of Punjab National Bank payable at Kozhikode
9.	Earnest Money Deposit	Rs. 1.98 Lakhs (Rupees One Lakh and ninety eight thousand only) by crossed Demand Draft/ Bank Guarantee from scheduled commercial bank, payable at Kozhikode and drawn in favour of Punjab National Bank and to be submitted with Envelope-I.
10.	Validity of Tender	90 days
11.	Estimated Cost of Project	Rs. 98.80 Lacs i/c of all taxes (Rupees Ninety Eight Lakhs and Eighty Thousand only)
12.	Time of Completion	12 months
13.	Place of Physical Bid Submission & Opening of Bids	ASSTT.GENERAL MANAGER, PUNJAB NATIONAL BANK, GAD SECTION, CIRCLE OFFICE, SHATABDHI BHAVAN, P.O. GOVINDAPURAM, KOZHIKODE – 673 016, Tel: 0495-2743143, 12.07.2023 from 1300hrs
14.	Contact Person	ASSTT.GENERAL MANAGER, PUNJAB NATIONAL BANK, GAD SECTION, CIRCLE OFFICE, SHATABDHI BHAVAN, P.O. GOVINDAPURAM, KOZHIKODE – 673 016, Tel: 0495 2743143 / 9871657162, E-mail: cokozgad@pnb.co.in.

Bank will be following the e-procurement process. The complete details of the requirements for participation in the e-procurement process of the Bank are available on the website <https://etender.pnbnnet.in> which may be referred for details & clarification. It is

mandatory for the bidder to get itself registered on Bank's website for submission of online bids.

Note: - Technical bids will be opened in the presence of bidders who choose to attend as above. The above schedule is subject to change. Notice of any changes will be published on Bank's website (www.pnbindia.in & <https://etender.pnbnet.in>) wherever feasible. Further, please note that commercial bid opening date and time will be intimated to the technically qualified bidders at a later date.

2. Online tenders are invited on item rate basis on behalf of Punjab National Bank from experienced contractors, reputed firms (proprietary/ partnership)/ company/ organization registered in India under Companies Act, who fulfill the eligibility criteria mentioned in the tender documents for **CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY** against Payment of Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One thousand Seven Hundred and Seventy Only), in two envelope system containing (1) Technical Bid (2) Commercial bid. Tender purchase fee of Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One thousand Seven Hundred and Seventy Only) may be submitted in form of demand draft in a separate envelope with **EMD**. Commercial bid shall be submitted online.
3. The Bidders intending to participate in this tender are required to get enrolled on the Bank's website i.e. <https://etender.pnbnet.in> Enrolment on the above mentioned website is mandatory.
4. As the bids of the Bidders have to be digitally signed by the Electronic/Digital Signature of the respective Bidder before submitting the bids online, the bidders are advised to obtain Electronic/Digital Signature Certificates (Class III & above both encryption & Signing) in order to bid for the tender.
5. The Tender Documents containing detailed terms & conditions can be downloaded online directly from the portal <https://etender.pnbnet.in> (or pnbindia.in) as per tender schedule attached and shall be submitted online.
6. All the bidders are required to submit Demand Draft in favour of Punjab National Bank, Kozhikode of Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One thousand Seven Hundred and Seventy Only) towards the cost of tender document by 12.07.2023 till 1200hrs, failing which, the bids shall be summarily rejected.
7. Bidders may submit their queries regarding any technical clarification before 01.07.2023 upto 1500hrs. No queries shall be entertained after last date fixed for acceptance of queries.
8. Clarifications of Bank on RFP may be downloaded from the "Corrigendum / Addendums" section of the above mentioned portal 11.07.2023 till 1400hrs after clarification on queries. No deviation on the above shall be entertained by the Bank thereafter.
9. Based on the clarification of conditions by the Bank, an intending bidder shall submit its unconditional acceptance on the prescribed format along with tender document.

10. Price bid of only those bidders shall be opened who submit their tender in line with requirements of tender documents and are acceptable to the Bank and the bidder who do not submit the EMD & tender fee in the form of Bank draft, as the case may be, their tenders shall be summarily rejected.
11. First Tender Fee & E.M.D. Envelope shall be opened, and if the hard copy of the same is received on time i.e. 12.07.2023 till 1300hrs only then technical bid shall be opened online. Hard copy i.e. the Demand Draft in favour of Punjab National Bank for an amount of Rs. 1.98 Lakhs (Rupees One Lakh and ninety eight thousand only) towards EMD and Tender Fee amount of Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One thousand Seven Hundred and Seventy Only) is to be submitted physically by the bidder in the office of the **ASSTT.GENERAL MANAGER, PUNJAB NATIONAL BANK, GAD SECTION, CIRCLE OFFICE, SHATABDHI BHAVAN, P.O. GOVINDAPURAM,KOZHICODE – 673 016, Tel: 0495 2743143 / 9871657162, E-mail: cokozgad@pnb.co.in** on or before 12.07.2023 till 1200hrs.
12. The price bid of technically eligible bidder who meets the eligibility criteria stipulated in tender documents will be opened online in the presence of participants or representatives of participant bidders as per the schedule attached. The Date for opening of commercial bids shall be intimated later.
13. The Tenders shall be valid for a period of not less than 90 days after the date of opening of price bid/commercial bid online.
14. All disputes arising out of or in connection with this agreement shall be deemed to have arisen in Kozhikode and only the courts of Kozhikode shall have the jurisdiction to determine the same.
15. Please note that bid preparation and hash submission and bid submission are compulsory activities, failing which bidder will not be able to submit the bids online.
16. For any further information/Queries please contact **ASSTT. GENERAL MANAGER, PUNJAB NATIONAL BANK, GAD SECTION, CIRCLE OFFICE, SHATABDHI BHAVAN, P.O. GOVINDAPURAM, KOZHICODE – 673 016, Tel: 0495 2743143 / 9871657162, E-mail: cokozgad@pnb.co.in** .
17. The Bank reserves the right to accept/reject any or all the offers submitted in response to this advertisement without assigning any reason whatsoever.
18. The Bank will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tenders without assigning any reasons whatsoever.
19. Please note that, on tendering procedure through the electronic tendering system refer to the Instructions for Using the Electronic Tendering System document available along with the tender documents on <https://etender.pnbnet.in>.
20. Bidder must submit documentary proof in respect of all above mentioned criteria while submitting the proposal. Proposal of bidders who do not fulfill the above criteria or who fail to submit documentary evidence thereon would be rejected.
21. It shall be mandatory to sign the integrity pact as mentioned in tender documents by the bidder failing which bidder will stand disqualified for tendering process and their bid shall be rejected summarily.

Asst. General Manager

PURPOSE OF TENDER

Bank intends to construct of Branch Building in R.S. No: 63/23, ward No: 9 at Vatakara village & municipality on the vacant portion of Bank's own land behind the existing old branch building. Further, the old branch will also be dismantled after construction of new building. The branch building is to be constructed as per details given in schedule of quantities/tender documents.

ELIGIBILITY CRITERIA

1. The Bidder should possess the requisite experience, resources and capabilities in providing the services necessary to meet the requirements, as described herein. The Bidder should also possess the technical know-how and the financial wherewithal that would be required to complete the scope of work. The Bid must be complete in all respects and should cover the entire scope of work as stipulated in the tender document. Bidders not meeting the Eligibility Criteria will not be considered for further evaluation and bid submitted by them shall be summarily rejected.
2. This invitation of bids is open to all intending, bonafide & experienced contractors (proprietary / partnership / private / limited company) registered in India under Partnership Act, 1932 / Companies Act, 1956 and their subsequent revisions / amendments, provided they fulfill the minimum eligibility criteria as below. Consortium/Joint Ventures and Special Purpose Vehicles are not eligible for the tender and the bid, if any, submitted by them shall be summarily rejected. Proposals not complying with minimum eligibility criteria, as enumerated below, will be rejected and will not be considered for evaluation of technical bid.
3. The proposal should adhere to the following minimum eligibility criteria:

S. No.	Minimum Eligibility Criteria
1	<p>The Bidder should have satisfactorily completed similar works during last 7 (seven) years ending last day of the month of May 2023 with Central/State Government Department/Central Autonomous Body/Central Public Sector Undertaking/City Development Authority/Municipal Corporation of City formed under any Act by Central/State Government and published in Central/State Gazette/ Scheduled Commercial Banks or its subsidiaries/Private organizations should be either of the following: -</p> <ol style="list-style-type: none">1. One similar nature work amounting to Rs. 79.04 Lakhs Or2. Two similar nature work amounting to Rs. 49.40 Lakhs Or3. Three similar nature work amounting to Rs. 39.52 Lakhs <p>Similar work means Construction of office / commercial / institutional buildings including Civil, Structural, Sanitary, Plumbing, Electrical/ All Composite etc. executed under one agreement. Cumulative works executed under rate contract shall not be treated as one work.</p> <p>Components of work executed other than those included in definition of similar</p>

	<p>works shall be deducted while calculating cost of similar work. Bidder shall submit abstract of cost of work in support of the same.</p> <p>Certificates of satisfactory completion of similar work should be issued by an Authority not below the rank of Executive Engineer/Chief Manager of Principal Employer / Client department and the same are to be uploaded on Bank's website along with supporting documents.</p> <p>In case the similar work/s is of private nature other than Central/State Government/ Central Autonomous Body/ Central Public Sector undertaking/ City Development Authority/ Municipal Corporation of city, they shall be required to submit T.D.S. Traces/ Certificates for such works issued by respective Principal Employer/ Clients.</p> <p>The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple interest of 7% per annum, calculated from the date of completion to the last date of receipt of application for tender.</p>
2	<p>The minimum average annual turnover of Bidder for the last three financial years i.e. 2019-20, 2020-21 & 2021-22 must not be less than Rs. 29.64 Lakhs. Bidder to upload audited Balance sheet, Profit & Loss statement and trading account details for these financial years, if applicable.</p> <p>The multiplication factor of 7% per annum simple interest is not applicable on the Annual Financial Turnover figures.</p>
3	<p>The Applicant should not have been black-listed/ barred by any Central/ State Government Department/ Central Autonomous Body/ Central Public Sector Undertaking/ City Development Authority/ Municipal Corporation of City formed under any Act by Central/ State Government and published in Central/ State Gazette/ Public Sector Banks etc. Further, similar eligible works should not have been carried out on Back to Back basis and the Applicant shall have to furnish undertaking as under. An undertaking in this regard is to be submitted to Bank by Bidder (on stamp paper of Rs.100/-)</p> <ol style="list-style-type: none"> <i>"I/We have not been black-listed/ barred by Department of Financial Services and my company does not feature in the debarment list on Central Public Procurement Portal (CPPP) maintained by Department of Expenditure, Ministry of Finance, Govt. of India.</i> <i>"I/ We undertake and confirm that eligible similar work(s) has/ have not been got executed through another agency on back to back basis.</i> <p><i>Further that, if such a violation comes to the notice of the Bank, then I/ we shall be debarred for bidding in PNB in future forever. Also, if such violation comes to the notice of the Bank before date of start of work, the Bank shall be at liberty to forfeit the entire amount of Earnest Money Deposit."</i></p>

Note: The bidder must submit the Compliance Statement failing which the bids may not be taken for further evaluation.

- The bidder should be Class-I local supplier. "Class-I local supplier" means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum "local content" as prescribed for Class-I local supplier as per DPIIT vide OM P-45021/2/2017PP (BE-II) dated 16.09.2020 issued the Public Procurement (Preference to Make in India) Order 2017-revision.

The “local content” requirement to categorize a supplier as “Class-I local supplier” is minimum 50%. “Local content” means the amount of value added in India which shall, unless otherwise prescribed by the nodal ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

4. **Verification of “local content”:** The “Class-I local supplier” with the bid document shall be required to submit self-certification the bidder meets the local content requirement for “Class-I local supplier”.
5. Bidder must submit documentary evidence in respect of all above mentioned criteria while submitting the proposal. Proposal of bidder who do not fulfill the above criteria or who fail to submit documentary evidence thereon would be rejected.
6. Bidder has to upload scanned and legible copies of all supporting documents on Bank’s e-procurement website <https://etender.pnbnet.in> for its scrutiny.
7. The Bank reserves the right to request for any additional information and also reserves the right to reject or accept the bid of a bidder, if in the opinion of Bank the qualification data is incomplete or the bidder is found not qualified to satisfactorily execute the requirements of the project and no communication shall be entertained in this regard in future.

INSTRUCTIONS TO BIDDERS

1. BIDDING PROCESS (TWO STAGES)

For the purpose of the present job, a three-envelope bidding process will be followed. The response to the present tender will be submitted in two parts:

- Technical bid
- Commercial bid

The bidders will have to submit the technical bid in Banks e-procurement system as well as in hard copy and commercial bids in only online form through Bank's e-procurement system.

1.1 TECHNICAL BID

TECHNICAL BID will also contain the Compliance statement as per the Terms & Conditions mentioned in the Tender Documents, and NOT contain any pricing or commercial information at all. Technical bid documents with any commercial information will be rejected.

In the first stage, only TECHNICAL BIDs will be opened and evaluated. Only those bidders confirming compliance to all the terms & conditions of Tender document shall be short-listed for commercial stage.

1.2 COMMERCIAL BID

In the second stage, the COMMERCIAL BID of only those bidders, whose technical bids are short listed, will be opened.

2. SUBMISSION OF BIDS

2.1 Bidders are required to strictly submit their bids in electronic form using the e-procurement system at <https://etender.pnbnnet.in> the Bank by using their digital certificates of class II and above (both encryption and signing). All the interested bidders should register themselves in the e-procurement system <https://etender.pnbnnet.in> for submitting the bids online, if they have not done earlier. The Tender document and further corrigendum, if any can also be downloaded from Bank's website www.pnbindia.in. Bids received after closing of the bid in the e-procurement system are summarily rejected without any reason. The commercial bid should be submitted online only.

Envelope No.1- Tender Cost & EMD – Marked Cover-I

Envelope No.1 shall contain Cost of Tender Document of **Rs. 1,770/- non-refundable i/c GST @ 18% (Rupees One thousand Seven Hundred and Seventy Only)**, in the form of Demand Draft which shall be non-refundable along with **Earnest Money Deposit (EMD) of Rs. 1.98 Lakhs (Rupees One Lakh and ninety eight thousand only)**. EMD shall be accepted in form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Bankers' Cheque or Bank Guarantee (including e-Bank Guarantee) (from any Scheduled Commercial Bank other than our own Bank) or online payment in non-customer account of the procuring office of Bank. This envelope shall be super scribed **"Tender Cost and EMD for CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY**

Envelope No. 2 – Technical Bid – Marked Cover-II

Envelope No. 2 shall contain technical bid (one set of duly signed tender document except commercial bid). Each page and correction duly signed by Bidders including tender form duly filled in with complete details and descriptions. Bidder shall submit supporting documents in support of eligibility criteria as mentioned in tender documents. This envelope shall be super scribed **“Envelope No. 2 - CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY** Both Envelope No. 1 and Envelope No. 2 shall be contained in Envelope No. 3 super scribed **“Envelope No. 3 – Cover-III– CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY**

Both Envelope No. 1 and Envelope No. 2 contained in Envelope No. 3 should reach the below mentioned address before the final date & time of bid submission mentioned in the tender schedule.

**ASSTT.GENERAL MANAGER,
PUNJAB NATIONAL BANK,
GAD SECTION, CIRCLE OFFICE,
SHATABDHI BHAVAN, P.O. GOVINDAPURAM,
KOZHIKODE – 673 016,
Tel: 0495-2743143
E-mail: cokozgad@pnb.co.in**

3. CONTENT OF DOCUMENTS TO BE SUBMITTED

- i. Documents required in Technical Bid Envelope (Sealed Cover):
 - a) Bidders undertaking letter
 - b) Supporting documents as per Eligibility Criteria
 - c) Performance/Completion Certificate from clients
 - d) Bidder Information
 - e) Acceptance of Compliance Statement
 - f) Duly signed Tender document and corrigendum, if any
 - g) Power of attorney in favour of authorized person signing the Bid documents.
 - h) Certificate of Incorporation & Partnership Deed, if applicable
 - i) PAN No.
 - j) ESI & EPF Registration, if applicable
 - k) GST Registration No.
 - l) Copy of last three years audited balanced sheet, Profit & Loss Statement, Balance Sheet and ITR.
 - m) List of similar work completed in last 7 (Seven) years with details enclosing completion certificate from the principal employer / clients along with the names of two responsible clients/ persons with address & telephone number who will be in position to certify about quality as well as past performance of your organization.
 - n) List of Govt./ Quasi-Govt. Deptt. and other organizations of repute with whom the company is empanelled.

Note:

- a. All pages of the bid documents must be signed by authorized person.
- b. All pages of the bid documents should be numbered in serial order i.e. 1, 2, 3...
- c. Commercial bid to be submitted in e-procurement process only. No hardcopy of the same be enclosed with the supporting documents.

d. Earnest Money Deposit & Tender Document cost (Sealed Cover= **Envelope No.1-Tender Cost & EMD – Marked Cover-I**).

4. PRELIMINARY EXAMINATION

4.1 Bank will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required information has been provided as underlined in the bid document, whether the documents have been properly signed, and whether bids are generally in order.

4.2 The bid determined as not in order as per the eligibility criteria will be rejected by the Bank. The decision of the Bank is final towards evaluation of the bid documents.

5. EVALUATION AND AWARD CRITERIA

5.1 After opening of the technical bids, all the documents and annexure (except commercial documents/offer) will be evaluated first by the Bank. First, received bids will be evaluated based on the eligibility criteria. Technical bids of only those bidders satisfying the eligibility criteria will be evaluated.

5.2 Only those bidders satisfying the technical requirements and accepting the terms and conditions of this document shall be short-listed for further steps.

5.3 PNB will determine to their satisfaction whether the bidder selected as having submitted the best evaluated responsive bid is qualified to satisfactorily perform the contract. The decision of PNB will be final in this regard.

5.4 The determination will take into account bidder's financial, technical and support capabilities, based on an examination of documentary evidence submitted by bidders in support of eligibility criteria.

5.5 The award of contract will be based on evaluation of technical and commercial bids.

LETTER SUBMITTING TENDER
(To be submitted in the letter head of the bidder)

**ASSTT.GENERAL MANAGER,
PUNJAB NATIONAL BANK,
GAD SECTION, CIRCLE OFFICE,
SHATABDHI BHAVAN, P.O. GOVINDAPURAM,
KOZHIKODE – 673 016,
Tel: 0495-2743143
E-mail: cokozgad@pnb.co.in**

Dear Sir,

**Reg: CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9
AT VATAKARA VILLAGE & MUNICIPALITY**

1. Having visited the site and examined the drawings, conditions of contract, special conditions of contract, general specifications and detailed specifications, schedules and bill of quantities for the execution of the above named works, we offer to complete and maintain the whole of the said works in conformity with the said drawings, conditions of contract, specifications, schedules and bill of quantities for the sum stated in bill of quantities of this Tender Document No NIT/KOZ/VTR/2023-24/1 or such other sum as may be ascertained in accordance with the said conditions of contract.
2. We undertake to complete and deliver the whole of the works comprised in the contract within the stipulated time stated in the tender.
3. We have independently considered the amount of liquidated damages shown in the Appendix to form of tender hereto and agree that it represents a fair estimate of the loss likely to be suffered, by you in the event of the works not being completed in time.
4. We agree to abide by this tender for the period of 90 days from opening of Price Bid/Commercial Bid or extension thereof as required by the Bank from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiry of that period.
5. We confirm that the period and rates as referred in the agreement or general conditions of contract are given or summarized in the tender, to which we give our consent and agree to abide by the same.
6. We understand that if our tender is accepted, we are to be jointly and severally responsible for the due performance of the contract.
7. We understand that you are not bound to accept the lowest or any tender you may receive and may reject all or any tender, accept or entrust the entire work to the Contractor without assigning any reason or giving any explanation whatsoever.
8. I/we have deposited Earnest Money **Rs. 1.98 Lakhs (Rupees One Lakh and ninety eight thousand only)** by demand draft which amount is not to bear any interest. I/we do hereby agree that this sum shall be forfeited by you in the event our tender is accepted and I/we fail to execute the contract when called upon to do so.

Dated this day of _____ 2023.

Signature _____ in the capacity of _____ duly
authorized to sign tenders for and on behalf of _____
(IN CAPITALS)

Tender submitted on _____ before _____ P.M.

LETTER OF TRANSMITTAL
(To be submitted on letter head of the Bidder)

**ASSTT.GENERAL MANAGER,
PUNJAB NATIONAL BANK,
GAD SECTION, CIRCLE OFFICE,
SHATABDHI BHAVAN, P.O. GOVINDAPURAM,
KOZHIKODE – 673 016,
Tel: 0495-2743143
E-mail: cokozgad@pnb.co.in**

Dear Sir,

**Reg: CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9
AT VATAKARA VILLAGE & MUNICIPALITY**

Having examined the details given in Press advertisement and tender document No NIT/KOZ/VTR/2023-24/1 for the above work, I/we hereby submit the relevant information.

1. I/We here by certify that all the statement made and information supplied in the enclosed forms A to D and accompanying statement are true and correct.
2. I/We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/We submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works:-

S No	Name of the Work	Value of Work	Date of Completion	Certificate issued by

“Certify that the information given in the enclosed tender documents is correct. It is also certified that I/we shall be liable to be debarred, disqualified / cancellation of bid in case any information furnished by me/us found to be incorrect.”

Enclosures:

Date of submission

SIGNATURE(S) OF APPLICANT(S)
Seal of applicant

APPENDIX TO FORM OF TENDER

1	Defects Liability period	12 Months from date of virtual completion of work. Virtual completion of the project will be certified and recorded by Architect.
2	Date of Commencement	Date of start of work shall be reckoned from 7 th day from the date of acceptance letter or date of handing over of site, whichever is later.
3	Time of completion	12 months from the date of commencement of work.
4	Period of Final Measurements	1 (One) months from the Date of Virtual Completion
5	Liquidated Damages	0.5% of the contract amount shown in the tender per week subject to the ceiling of 7.5% of the accepted contracted sum.
6	Minimum Value of work for Interim Certificate	Rs. 8.25 Lakhs (This value shall be difference of work done of consecutive bills).
7	Total Security Deposit	8% of the contract amount
8	Retention Percentage	8% of the gross value of each interim bill with the maximum amount 5% of the contract value
9	Period of Honouring Certificate	15 days from date of receipt of certificate from the Architect.
10	Refund of total Security Deposit	<p>The Retention amount will be refunded to the Contractor within 30 days after end of the defect liability period. Provided he has satisfactorily carried out all the works attended to all defects in accordance with the conditions of the Contract, including the site clearance.</p> <p>After completion of work, retention money can be refunded after obtaining a Bank Guarantee of equivalent amount for a time period till the end of defect liability period plus claim period. Bank Guarantee should be from any Scheduled Commercial Bank other than Punjab National Bank. Claim period would be considered as mentioned on Bank Guarantee or 03 Months after the end of defect liability whichever is later.</p>

BIDDER'S INFORMATION

1. Name
2. Constitution
3. Address
4. Names & Addresses of the Proprietor/Partners/Directors, as applicable
5. Name of Contact Person(s) with their Mobile Numbers
6. Office Telephone, Fax, e-mail
7. PAN No.
8. GST No.
9. Manpower Employed

ARTICLES OF AGREEMENT

AGREEMENT

This agreement is made at on..... Day of..... 2023 between Punjab National Bank, a body corporate constituted under the Banking Companies (Acquisition and transfer of Undertaking Act 1970) having its Corporate office at Plot No. 4, Sector 10, Dwarka, New Delhi – 110075 and its General Administration Department at Circle Office: Kozhikode, Shatabdhi bhavan, P.O. Govindapuram, Kozhikode – 673 016, Tel: 0495 2743143 / 9871657162 (Hereinafter referred to as "The Bank " which expression shall be deemed to mean and include its successors, administrators and permitted assigns) of the one part & (herein after called "the Successful Bidder/Contractor" which expression shall be deemed to mean and include its successors, administrators and permitted assigns) of the other part.

WHEREAS the Bank is desirous of executing work of **CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY** and has by letter of acceptance dated.....accepted a tender by the Contractor for the execution, completion & maintenance of such work.

After discussion, the Bank and the bidder agree to enter into this agreement on the terms and condition set out hereunder:

NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the said conditions of contract hereinafter referred to:
2. The following documents, terms and conditions contained therein shall form and construe as integral part and parcel of this agreement and be read as part and parcel of this agreement, viz.
 - a. Original tender document duly signed and stamped on each page by the authorised signatory of the bidder;
 - b. Relevant correspondence letters / communications forming parts of contract and referred to in acceptance letter;
 - c. Acceptance of Award of Work;
 - d. Bill of quantities ;
 - e. Corrigendum/Addendums (if published) ; and
 - f. Other additional documents as may be required.
3. The aforesaid documents shall be taken as complementary and mutually explanatory of one another, but in the case of ambiguities of discrepancies the latest documents issued by the Bank shall prevail over the earlier documents.
4. In consideration of payment to be made by the Bank to the successful bidder as hereinafter mentioned, the successful bidder hereby covenants with the Bank to perform execute, complete and maintain the work in due respects and in conformity with the provision of the contract and tender documents.
5. The Bank hereby covenants to pay the Contractor/successful Bidder in consideration of the execution, completion of the work such sums as shall become payable hereunder at the time(s) and in the manner prescribed in the said conditions and price schedule of quantities / bill of quantities prescribed in the contract.

6. All disputes or differences whatsoever arising between the parties shall be settled amicably. If parties are not able to solve amicably, the same shall be settled by arbitration by a sole Arbitrator to be nominated by the competent authority of Punjab National Bank in accordance with Arbitration and Conciliation Act 1996 and the Rules and Regulations framed thereunder, as may be amended from time to time. The award made in pursuance thereof shall be binding on the parties.. Venue of arbitration shall be at Kozhikode and the language shall be English. The Parties to the arbitration shall bear their own costs. The Arbitrator shall give a reasoned award.
7. All disputes arising out of or in connection with this agreement shall be deemed to have arisen in Kozhikode and only the courts of Kozhikode shall have the jurisdiction to determine the same.
8. Notices as required by the agreement that shall be entered with the successful bidder shall be sent to the addresses as would be mentioned first therein or such other addresses as the Parties may designate from time to time, and shall be sent by certified or registered mail with acknowledgement due on receipt.

SIGNED AND SEALED AND DELIVERED BY THE

Said

Said

(Name)

(Name)

on behalf of the Contractor

on behalf of the Bank

In the presence of

In the presence of

Name:

Name

Address:

Address:

This form is included in the tender documents only for the information of the bidders. Only the successful bidder will be in due course, required to complete the form.

INTEGRITY PACT
(Applicable for projects above Rs.60Lakhs)

To,

.....,
.....,
.....

Sub: **NIT No. NIT/KOZ/VTR/2023-24/1 for the work CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY**

Dear Sir,

| It is hereby declared that PNB is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/ bidder shall stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the PNB.

Yours faithfully

Asst. General Manager
General Administration Department,
Circle Office: Kozhikode,
Shatabdhi bhavan, P.O. Govindapuram,
Kozhikode – 673 016.

INTEGRITY PACT

(Applicable for projects above Rs.60Lakhs)

To,

The Asst. General Manager
General Administration Department,
Circle Office: Kozhikode,
Shatabdhi bhavan, P.O. Govindapuram,
Kozhikode – 673 016.

Sub: **Submission of Tender for the work of CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY**

Dear Sir,

I/We acknowledge that PNB is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/ bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/ We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/ We will stand disqualified from the tendering process. I/ We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/ We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by PNB.

I/ We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with the enclosed Integrity Agreement.

I/ We acknowledge that in the event of my/ our failure to sign and accept the Integrity Agreement, while submitting the tender/ bid, PNB shall have unqualified, absolute and unfettered right to disqualify the tenderer/ bidder and reject the tender/ bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

Pre Contract Integrity Pact
(Applicable for projects above Rs.60Lakhs)

Punjab National Bank, a body corporate constituted under the Banking Companies (Acquisition and Transfer of Undertaking) Act 1970 (Act no V of 1970) and having its Head Office at Plot no. 4, Sector 10, Dwarka, New Delhi 110075, hereinafter referred to as "The Principal", which expression shall mean and include unless the context otherwise requires, its successors in office and assigns of the First Part.

And

M/s. _____ having its registered office at _____ hereinafter referred to as "The Bidder/ Contractor", expression shall mean and include unless the context otherwise requires, successors and permitted assigns of the Second part.

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for..... The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

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

c. The Principal will exclude from the process all known prejudiced person.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/ PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2- Commitments of the Bidder(s)/ Contractor(s)

(1) The Bidder(s)/ Contractor(s) commit themselves to take all measures necessary to prevent corruption during any stage of bid process/ contract. The Bidder(s)/ Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm,

offer promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or the other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidder(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposal and business details, including information contained or transmitted electronically.

d. The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any, similarly the Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/ Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/ representative have to be in Indian Rupees only.

e. The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any, and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

f. Bidder(s)/ Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2). The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section-3 Disqualification from tender process and exclusion from future contracts.

If the Bidder(s)/ Contractor(s) before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings".

Section 4- Compensation for Damages

(1). If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to earnest Money Deposit/ Bid Security.

(2). If the Principal has terminated the contract according to Section 3, or the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the contract value or

the amount equivalent to Performance Bank Guarantee/ Initial Security Deposit.

Section 5- Previous transgression

(1) The Bidder declares that no previous transgression occurred in the last three years immediate before signing of this integrity pact with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprises or central/ state government department in India that could justify his exclusion from the tender process.

(2). If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealing".

Section 6- Equal treatment of all Bidders/ Contractors/ Subcontractors

(1) In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of integrity Pact by the Sub-contractor.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

(3) The Principal will disqualify from the tender process all the Bidders who do not sign this Pact or violate its provisions.

Section 7- Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor (s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Sub contractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8- Independent External Monitor

(1) The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under the agreement.

Shri Deepak Anurag (IA & AS, Retd) and Dr. Sarat Kumar Acharya, (Ex- CMD, NLC India Ltd) have been appointed as Independent External Monitors (IEMs) by our Bank. Their e-mail addresses are as under:

Sl.	Name of IEM	e-mail	Mob. No.
1.	Shri Deepak Anurag (IA & AS, Retd)	Anuragd@cag.gov.in	9810676339
2.	Dr. Sarat Kumar Acharya, (Ex- CMD, NLC India Ltd)	sarat777@rediffmail.com	9442118060

(2) Only Integrity pact related queries to be addressed to IEMs. Also the bids of the bidders who do not sign the Integrity Pact will not be evaluated further.

(3) The Monitor is not subject to instructions by the representatives of the parties and performs his/ her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him/her to treat the information and documents of the Bidders/ Contractors as confidential. He/she reports to the Managing Director and CEO, Punjab National Bank.

(4) The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will also grant the Monitor, upon his/ her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractor.

(5) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Subcontractor(s) with confidentiality. The Monitor has also signed declarations on „Non-Disclosure of Confidential Information“ and of „Absence of Conflict of Interest“. In case of any conflict of interest arising at a later date, the IEM shall inform MD & CEO, Punjab National Bank and recues himself/ herself from that case.]

(6) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and Contractor. The parties offer to the Monitor the option to participate in such meetings.

(7) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/ she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action. The Monitor will submit a written report to the MD & CEO, Punjab National Bank within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to the MD& CEO, Punjab National Bank, a substantiated suspicion of an offence under relevant IPC/PC Act, and the MD & CEO, PNB has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word ‘**Monitor**’ would include both singular and plural.

Section 09- Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion future business dealings.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by MD & CEO, PNB.

Section 10- Other provisions

(1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the “Place of award of work”.

(2) The actions stipulated in this Integrity Pact are without prejudice to any other legal

action that may follow in accordance with the provisions of to the extant law in force relating to any civil or criminal proceedings.

- (3) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- (4) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- (5) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (6) Issues like warranty/ Guarantee etc. shall be outside the purview of IEMs.
- (7) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

(For & On behalf of the Principal)

(For & On behalf of Bidder/ Contractor)

(Office Seal)

(Office Seal)

Place.....

Date.....

Witness 1:

Witness 2:

(Name & Address)

(Name & Address)

GENERAL CONDITIONS OF CONTRACT (GCC)

Except where provided for in the description of the individual items in the Schedule of quantities and in the specification and conditions laid down herein after and in the drawings, the work shall be carried as per standard specifications and under the directions of the Bank.

1. INTERPRETATION

In construing these conditions, the specifications, the schedule of quantities, tender and agreement, the following words shall have the meaning herein assigned to them except where the subject of context otherwise requires :

- i. **Employer:** The term employer shall denote Punjab National Bank with their Head Office at Plot No. 4, Sector 10, Dwarka, New Delhi – 110075, and any of its employees or representative authorized to act on its behalf.
- ii. **The Bank:** The term Bank shall mean Punjab National Bank, the Employer.
- iii. **Architects:** The term "Architects" shall mean M/s. **Shahid & Associates, 2/61 H, Karaparamba, Kozhikode - 673010.** or in the event of his/their ceasing to be the Architects for the purpose of this contract such other person/s the Employer shall nominate for the purpose
- iv. **The Engineer in charge:** The term means Engineer of the Bank deployed to look after the work.
- v. **Contractor:** The term Contractor shall mean M/S _____ (name and address of the Contractor) and his/their heirs, legal representatives assigns and successors.
- vi. **Site:** The site shall mean the site **CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY** where the works are to be executed as shown within boundary on the Site Plan including any building and erections thereon allotted by the employer for the Contractor's use.
- vii. **Site Engineer:** The Site Engineer may be appointed by the Bank/ Architect. The Bank may also determine the number of Site Engineers and the supporting staff at site office- to assist him/ her and also whether the Site Engineer shall be temporary or permanent. As far as possible, the Site Engineer should assume charge of his post before the Contractor reports onsite of work. Where more than one Site Engineer is appointed, one of them shall be designated as Senior Site Engineer by the Bank and the other Site Engineer shall be reporting to the Senior Site Engineer.
- viii. **Drawings:** "Drawings" means the drawings referred to in the Specification and any modification of such drawings approved in writing by the Bank and such other drawings as may from time to time be furnished or approved in writing by the Bank. The work is to be carried out in accordance with drawings, specifications, the schedule of quantities and any further drawings, which may be supplied or any other instruction, which may be given by Bank/ Architect during the execution of the work

All drawings relating to work given to the contractor together with copy of schedule of quantities are to be kept at site and the Bank's Engineer / Architect shall be given access to such drawings or schedule of quantities whenever necessary. In case any detailed Working /Fabrication/Shop Drawings are necessary, contractor shall

prepare such detailed drawings and /or dimensioned sketches thereof and have it confirmed by PUNJAB NATIONAL BANK's Engineer / Architect prior to taking up such work.

The contractor shall ask in writing for all clarifications on matters occurring anywhere in drawings, specifications and schedule of quantities or to additional instructions at least 10 days ahead from the time when it is required for implementations so that the Employer may be able to give decision thereon

- ix. "The Works" shall mean the work or works to be executed or done under this contract and shall include materials, apparatus, equipment, plant, fittings and other things for incorporation in the works
- x. "Contract" means the contract effected by the contractor's Tender and the Employer's acceptance thereof comprising (in addition to the Tender and Acceptance) the priced bill of Quantities and Schedules, Schedules of particulars (if any), Specifications and Drawings, these General Conditions of Contract, Special Conditions contained in or attached to any of the forgoing documents, any alterations agreed in writing between the parties before the formal acceptance of the Tender, all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
- xi. "Specification" means the specification annexed to or issued with these conditions and includes Indian or British or other approved standard specifications where required by the specification and where such a specification is not available, the specification approved by the Architect and the Engineer.
- xii. "Approved" means approved in writing including subsequent written confirmation of previous verbal approval and "approval" means approval in writing including as aforesaid.
- xiii. "Market rate" means the rate as prevailing in the market and recommended by the Architect and as approved by the Employer on the basis of cost of materials, labour, plant etc. inclusive of any tax, duty, etc. at the time of execution of work.
- xiv. "Act of Insolvency" shall mean any act as such as defined by the Presidency Towns Insolvency Act or Provincial Insolvency Act or any Amending Statutes.
- xv. "The Schedule of Quantities" shall mean the schedule of quantities as specified and forming part of this contract.
- xvi. Order of precedence for any ambiguity in the schedule of quantities, general conditions, special conditions, specifications and drawings for the Contractor shall be as per the decision of the Employer and the same will be binding on the Contractor, and shall be read as under in the decreasing order of importance.
 - a) Schedule of Quantities.
 - b) Drawings.
 - c) Special Conditions
 - d) General Conditions.
 - e) C.P.W.D specifications
 - f) Standard (Technical) Specifications of Contract.
 - g) Bureau of Indian Standards specifications.
 - h) State P.W.D./General Engineering Practice.

i) Integrity Pact.

Any ambiguity observed shall be brought to the notice of Employer and shall be executed only after obtaining approval from the Employer. In case of any ambiguity between the above, the most stringent one shall follow.

2. SCOPE OF WORK

The work consists of **CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY** in accordance with the "Schedule of Quantities". Civil, Plumbing, Sanitary & electrical works e.t.c. are within the scope of this tender. It includes furnishing all materials, labour, tools and equipment and management necessary for and incidental to the completion of the work. All work, during its progress and upon completion, shall conform to the lines, elevations and grades as shown on the drawings furnished by the Employer. Should any detail essential for efficient completion of the work be omitted from the drawings and specifications it shall be the responsibility of the contractor to inform the Employer and to furnish and install such detail with Employer's concurrence only, so that upon completion of the proposed work the same will be acceptable and ready for use.

Employer or his representative may in their absolute discretion issue further drawings and/or written instructions, details, directions and explanations, which are, hereafter collectively referred to as "The Employer's instructions" in regard to :

- a) The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work; or
- b) Any discrepancy in the drawings or between the schedule of quantities and/or drawings and/or specification; or
- c) The removal from the site of any defective material brought thereon by the contractor and the substitution of any other material thereof; or
- d) The demolition removal and/or re-execution of any work executed by the contractors; or
- e) The dismissal from the work of any persons employed there upon; or
- f) The opening up for inspection of any work covered up; or
- g) The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the maintenance period (retention period).

The contractor shall forthwith comply with and duly execute any work comprised in such Employer's or his representative's instructions, provided always that verbal instructions, Directions and explanations given to the contractor's or his representative upon the works by the Employer or his representative shall, if involving a variation, be confirmed in writing to the contractor(s) within seven days. No works for which rates are not specifically mentioned in the priced schedule of quantities shall be taken up without written permission of the Employer or his representatives. Rates of items not mentioned in the priced schedule of quantities shall be fixed by the Employer as provided in Clause "Variation/Deviation" hereunder.

The contractor shall set up necessary field testing equipments for day to day testing of materials like slump test for concrete, moulds for preparing concrete cube test samples, silt content and bulkage of sand etc.

Regarding all factory made products for which ISI marked products are available, only products bearing ISI marking shall be used in the work

The scope of works involves completing the construction of the building fit for occupation, which also involves & means submitting As-Built Drawings to statutory authorities, Water Supply & Sanitary, Electrical Board Authorities and any such other statutory/ regulatory authorities, arranging for their Inspection of works, rectifications, following up with them for securing their permissions/ clearances no objection certificates, sewerage, water & electrical connections. Bank shall make necessary payments directly to the concerned authorities on demand & against receipts or reimburse such charges to the contractor on production of demand notices & paid receipts. The successful contractor shall make necessary liaisoning works including making submission of applications to the statutory authorities for obtaining above mentioned services, clearances & completion/ occupation certificates and no extra payment will be considered by Bank.

3. VISIT OF SITE

Intending Bidder shall visit the site and make himself thoroughly acquainted with the local site conditions, nature and requirements of the works, facilities of transport conditions, effective labour and materials, accesses and storage for materials and removal of rubbish. The Bidder shall provide in their bid for cost of carriage, freight and other charges as also for any special difficulties and including police restriction for transport etc. for proper execution of work as indicated in drawings. The successful Bidder will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site conditions which existed before the commencement of the work or which in the opinion of the Employer might be deemed to have reasonably been inferred to be so existing before commencement of work.

4. TENDERS

The e-tender should be submitted by bidder duly priced and also digitally signed.

The schedule of quantities shall be filled in as follows:

- i. The rates column to be filled.
- ii. The employer reserves the right to reject the lowest or any tender.

The Bank reserves the right to accept the tender in full or in part and the bidder shall have no claim for revision of rate or other conditions if his tender is accepted in parts.

The bidders should note that the tender is strictly on item rate basis and their attention is drawn to the fact that the rates for each and every item should be correctly worked out and self-supporting. The Employer may call upon a bidder for the detailed analysis of any or all of the rates shall be quoted/submitted by the Contractor. The Employer shall not be bound to recognize the Contractor's analysis.

The works shall be paid for as "measured work" on the basis of actual work done and not as "lump sum" contract.

All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved directly related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges shall be allowed in this connection. In the case of lump sum charges in the tender in respect of any item of works, the payment of such items of work shall be made for the actual work done on the basis of lump sum charges as shall be assessed to be payable by the Employer and the same shall be binding on the Contractor.

The Employer has power to add to, omit from any works as shown in drawings or described in specifications or included in schedule of quantities and intimate the same in writing to the Contractor. However, no addition, omission or variation shall be made by the Contractor in any of the works without authorization from the Employer, and any such variation by the Bank shall not vitiate the contract.

The bidder shall note that his bid shall remain open for consideration for a period of 90 days from the date of opening of the tender (Price Bid).

5. CONTACTING THE BANK

Any effort by a bidder to influence the Bank in evaluation of the bid, bid comparison or contract award decision may result in the rejection of the Bidders' bid. Bank's decision will be final and without prejudice and will be binding on all parties.

6. CLARIFICATIONS OF BIDS

The Bank to assist itself in the examination, evaluation and comparison of bids may, at its discretion, ask any bidder for a clarification. The response should be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

7. AMENDMENT OF BIDDING DOCUMENTS

At any time prior to the last Date and Time for submission of bids, the Bank at its sole discretion may, for any reason, modify the Bidding Documents through amendments. All amendments shall be uploaded on the Bank's websites (www.pnbindia.in and <https://etender.pnbnnet.in>) and shall be binding on all who are interested in bidding.

In order to provide prospective Bidders a reasonable time to take into account the amendment if any, while preparing their bid, the Bank may, at its discretion, extend the deadline for submission of bids.

8. MODIFICATION AND WITHDRAWAL OF BID BY THE TENDERER

8.1. Modification of the submitted bid shall be allowed on-line and the bidder may modify and resubmit the bid on-line only before the deadline of Bid Hash Preparation. For modification of e-bid, bidder has to rework and upload/resubmit digitally signed modified bid on bank's e-tendering portal i.e. <https://etender.pnbnnet.in>.

8.2. Bids once submitted will be treated as final and no bid may be modified subsequent to the deadline for Bid Hash Preparation.

8.3. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of period of bid validity specified in tender documents. For withdrawal of bid after the end date of online bid submission, the bidder will have to make a request in writing to Tender Inviting Authority of Bank. Withdrawal of bid may be allowed till issue of work order with the following provision of penal action:

- a) If the request of withdrawal is received before fixing the date for opening of price bid, the EARNEST MONEY DEPOSIT submitted by bidder will be forfeited and bidder will be debarred for 6 months from participating in tenders in Punjab National Bank. The price bid of remaining technically qualified bidders will be opened and the tender process shall go on.
- b) If the request of withdrawal is received after fixing the date for opening of price bid, the EARNEST MONEY DEPOSIT submitted by bidder will be forfeited and bidder will be debarred for 1 year from participating in tenders in Punjab National

Bank. The price bid of all technically qualified bidders including this bidder (if he found technically eligible) will be opened and action will follow as under:

a) If the bidder withdrawing his bid is other than L-1, the tender process shall go on.

b) If the bidder withdrawing his bid is L-1, the re-tendering shall be done.

9. AGREEMENT

The successful contractor shall sign a Contract Agreement as per enclosed proforma shall pay for all stamps and legal expenses, incidental thereto. The contractor shall submit Indemnity Bond, Guarantee Certificates for specialized works in stamp papers as per Bank's approved proformas

9 A. PERMITS AND LICENCES

Permits and Licenses for release of materials, which are under Government control, shall be arranged by the contractor. The Employer may render necessary assistance, sign any forms or applications that may be necessary but shall not be responsible for actual procurement or for any delay in procurement

It may be clearly understood that no compensation or additional charges can be claimed by the contractor for non-receipt of any controlled materials in due time on this account or according to his own requirements.

The contractor shall at his own cost arrange for storage shed adequate for taking delivery and storing of the quantity of controlled materials released by the authorities or supplied by the Employer. The costs of storing, transporting, etc., of all materials including those under Government control are to be included by the tenderer in his quoted rates.

The Employer/Architects shall be indemnified against all Government or legal actions for theft or misuse of controlled materials in the custody of the contractor.

10. RELATIONSHIP BETWEEN PARTIES:

The engagement of bidder shall not constitute the appointment of either Party as the legal representative or agent of the other Party. This engagement is on a principal to principal basis between the Parties hereto. No Party to this engagement shall have any right or authority to assume, create or incur any liability or any obligation of any kind, express or implied, against or in the name of or on behalf of the other Party to this Agreement except as may be specifically provided.

11. PUBLICITY

In connection with the transactions contemplated by this engagement/agreement each Party agrees that it will not use other Parties name, marks, symbols, or logos in any advertising, promotional material, press release, publication, public announcement, or through other media, whether written or oral, without the prior written consent of such other Party.

12. NON-EXCLUSIVITY:

It is expressly agreed that the engagement/agreement between the parties, shall be on a non-exclusive basis. Bank reserves its right to appoint/ engage one or more contractors/ agencies/ service providers to provide the like services or/ and work concurrently during the currency of engagement.

13. GOVERNMENT AND LOCAL RULES

The Contractor shall confirm to the provisions of all local Bye-laws and acts relating to the work and to the regulations etc. of the Government and local authorities and of any company with whose system the structure is proposed to be connected. The Contractor shall give all notices required by said act, rules, regulations and Bye-laws etc. and pay all fees payable to such concerned administrative/municipal authorities for execution of the work involved. The cost if any shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses etc. He shall indemnify the employer against such liabilities and shall defend all actions arising from such claims or liabilities.

14. TAXES AND DUTIES

The bidders must include in their quoted bid prices all duties, royalties, cesses, labour cess, GST or any other taxes or local charges, as applicable. TDS shall be deducted at source and the certificate in respect of TDS shall be issued by the Bank as per rule. Any variation in taxes and duties and/or imposing any new taxes and duties during currency of contract or extended period shall be borne by the bidder. No claim whatsoever on this account shall be entertained.

15. PROVISIONAL SUM (P.S.)

All provisional sums described in the schedule of quantities as P.S. shall be exclusively allotted to the purchase of materials and not for any handling and fixing to be done by the Contractor. Such cost of handling and fixing with profit (including transport charges if required) shall be separately included in the contract price as described in the schedule of quantities. The disposal of the amounts covered under this head shall be absolutely at the discretion of the Employer. The Contractor is liable to make payments for these materials to the suppliers on certificate or orders issued by the Employer and shall realize them through his bills from the Employer.

16. QUANTITY OF WORK TO BE EXECUTED

The quantities shown in the schedule of quantities are intended to cover the entire work but the Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore and the same shall be binding on the Contractor.

17. OTHER PERSONS ENGAGED BY THE EMPLOYER

The employer reserves the right to execute any part of the work included in this contract or any work which is not included in this contract by other agency or persons and Contractor shall allow all reasonable facilities and use of his scaffolding for the execution of such work.

18. TOTAL SECURITY DEPOSIT

The Total Security Deposit on the contract should be 8% of the contract amount. Total Security Deposit comprises of the following:

i) Earnest Money Deposit

The bidder will have to deposit EMD for an amount of **Rs. 1.98 Lakhs (Rupees One Lakh and ninety eight thousand only)**. EMD shall be accepted in form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Bankers' Cheque or Bank Guarantee (including e-Bank Guarantee) (from any Scheduled Commercial Bank other than our own Bank) or online payment in non-customer account of the procuring office of Bank.

EMD of unsuccessful bidders will be returned within 30 days of declaration of result of technical evaluation. The employer is not liable to pay any interest on the Earnest Money.

ii) Initial Security Deposit: EMD of the successful bidder shall be converted into Initial security Deposit (ISD) subsequent to award of work

iii) Retention Money

- a) The retention percentage (i.e. deduction from the interim bill) shall be 8% of the gross value of each interim bill.
- b) The maximum amount of retention money shall be 5% of the contract value
- c) The retention money will be refunded within 30 days after expiry of defects liability period provided he has satisfactorily carried out all the works, attended to all defects in accordance with the conditions of the Contract, including the site clearance.
- d) After completion of work, Total Security Deposit (i.e. ISD + retention Money) can also be refunded after obtaining a Bank Guarantee of equivalent amount for a time period till the end of defect liability period plus claim period. Bank Guarantee should be from any Scheduled Commercial Bank other than Punjab National Bank. Claim period would be considered as mentioned on Bank Guarantee or 3 months after the end of defect liability whichever is later.
- e) Bank guarantee if any submitted by the contractor/ bidder shall remain valid for a period of 90 days beyond the date of completion of all contractual obligations.

19. PERFORMANCE SECURITY

- a) Performance Security shall be 3% of the value of the contract.
- b) Performance security shall be accepted in form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Bankers' Cheque or Bank Guarantee (including e-Bank Guarantee) (from any Scheduled Commercial Bank other than our own Bank) or online payment in non-customer account of the procuring office of Bank.
- c) Performance security shall be valid till the currency period of the contract including any authorized Extension of Time by the Bank and the same shall be returned to successful contractor within 15 days after virtual completion of work

20. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY

The Contractor shall provide everything necessary for the proper execution of work according to the intent and meaning of the drawings, schedule of quantities and specifications taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the Contractor finds any discrepancies therein, he shall immediately and in writing refer the same to the employer whose decision shall be final and binding.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of the contract and beyond the unit price. No extra payments will be allowed for incidental or contingent work, labour and/or materials inclusive of all taxes and duties whatsoever except for specific taxes, if any, stipulated in the tender documents.

The Contractor shall supply, fix and maintain at his own cost for the execution of work, all tools tackles, machinery and equipment and all the necessary centering, scaffolding, fencing, boarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the said work but also for the protection of the public and safety of any adjacent roads, streets, walls, houses, buildings all other erections, matters and things and Contractor shall take down and remove any or all such centering, scaffolding, planking, timbering, strutting, shoring etc. as occasion shall be required or when ordered to do so and shall fully reinstate and matters and things distributed during the execution of works to the satisfaction of the Employer.

The contractor shall also provide such temporary road on the site as may be necessary for the proper performance of the contract and for his own convenience but not otherwise. Upon completion, such roads shall be broken up and leveled where so required by the drawings unless the Employer shall otherwise direct.

The contractor shall at all times give access to workers employed by the Employer or any men employed on the buildings and to provide such parties with proper sufficient and if required, special scaffolding, hoists and ladders and provide them with water and lighting and leave or make any holes, grooves etc., in any work, where directed by the employer as may be required to enable such workmen to lay or fix pipes, electrical wiring, special fittings etc. The quoted rates of the tenderers shall accordingly include all these above-mentioned contingent works.

21. TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART

20.1 Time of completion

The entire work is to be completed in all respects within the stipulated period stated in the Appendix-I. The work shall deemed to be commenced on seventh day from the date of acceptance letter or date of handing over of site, whichever is later. Time is the essence of the contract and shall be strictly observed by the contractor.

The work shall not be considered as completed until the Employer have certified in writing that work has been completed and the defects liability period shall commence from the date of such certificate.

20.2 Extension of Time

If, in the opinion of the Employer the works be delayed

- a) By reason of instruction from the employer in consequence of proceedings taken or threatened by or disputes, with adjoining or neighboring owners or
- b) By the works, or delay, of other contractors or tradesmen engaged or nominated by the Employer and not referred to in the specification or
- c) By reason of authorized extra and additions or
- d) By reason of any combination of workmen or strikes or lock-out effecting any of the building trades or
- e) From other causes which the employer may consider are beyond the control of the Contractor, the Employer at the completion of the time allowed for the contract, shall make fair & reasonable extension of the time for completion in respect therefore. In the event of the Employer failing to give possession of the site upon the day specified above the time of completion shall be extended suitably.

In case of such strikes or lock-outs, as are referred to above, the Contractor shall immediately give the Employer, written notice thereof. Nevertheless, the Contractor shall use his best endeavors all that to prevent delay, and shall do all that may be reasonably

required, to the satisfaction of the Employer to proceed with the works and on his doing so that it will be ground of consideration by the Employer for an extension of time as above provided. The decision of Employer as to the period to allow for an extension of time for completion hereunder (Which decision shall be final and binding on the Contractor) shall be promulgated at the conclusion of such strike or lock-out and the employer shall then, in the event of an extension being granted, determine and declare the final completion date. The provision in clause 20.4 with respect to payment of liquidated damages shall, in such case, be read and construed as if the extended date fixed by the employer were substituted for and the damage shall be deducted accordingly.

20.3 Progress of work

During the period of execution the Contractor shall maintain proportionate progress on the basis of a programmed chart submitted by the Contractor immediately before commencement of work and agreed to by the Employer. Contractor should also include planning for procurement for scarce material well in advance and reflect the same in the programmed chart so that there is no delay in completion of project. A Progress report of the work is to be submitted by the Contractor fortnightly in the format approved by the Employer.

20.4 Liquidated Damages

Should the work be not completed to the satisfaction of the Employer within the stipulated period, the Contractor shall be bound to pay to the employer a sum calculated as given below by way of liquidated damages and not as penalty during which the work remains un commenced or unfinished after the expiry of the completion date.

0.5% of the contract amount shown in the tender per week subject to the ceiling of 7.5% of the accepted contracted sum. Any delay beyond this, Punjab National Bank shall be free to terminate the contract and get the work done from an alternate source at the risk of the contractor.

22. TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS

The Contractor shall provide, fix up and maintain in an approved position proper office accommodation for the contractor's representative and staff which offices shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the works and make good all work disturbed.

All drawings maintained on the site are to be carefully mounted on boards of appropriate size and covered with a coat of approved varnish. They are to be protected from ravages of termites, ants, and other insects.

The contractor shall provide at his own cost all artificial light required for the work to complete the work within the specified time.

The contractor shall arrange for temporary latrines and other welfare provision as per the applicable labour laws for the use of workers and field staff and keep the same in a clean and sanitary condition to the satisfaction of the Public Health Authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works disturbed by these conveniences.

Every precaution shall be taken by the contractor to prevent the breeding of mosquitoes on the works during the construction, and all receptacles cisterns, water tanks etc. used

for the storage of water must be suitably protected against breeding of mosquitoes. The contractor shall indemnify the Employer against any breach of rules in respect of anti-malarial measures.

The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any boarding, gantry, building structure other than those approved by the Employer.

Protective- Measures: The contractor from the time of being placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Contractor shall indemnify the Employer against any possible damage to the building, roads, or members of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances, etc., for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

Storage of materials: The contractor shall maintain proper storage and adequate protection of the materials etc. and other work that may be executed on the site including the tools and materials and remove same on completion.

Godown shall be erected / provided for storing about six weeks' requirement of material. Structure shall be water-proof from all the sides and top. Material should be stored one feet-above the ground level and have pucca/ wooden raised floor.

Tools: Theodolite levels, prismatic compass, chain, steel and metallic tapes and all other surveying instruments found necessary on the works shall be provided by the contractor for the due performance of this contract as instructed by the Bank/ Architect. All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for safely taking measurement shall be supplied by the contractor.

The mistries and the supervisors on the works shall carry with them always a one metre or two metre steel tape, a measuring tape of 30 metres, a spirit level, a plumb bob and a square and shall check the work to see that the work is being done according to the drawing and specifications. The Site Engineer/ Architect will use any or all measuring instruments or tools belonging to the contractors as he chooses for checking the works executed or being executed on the contract. The contractor should cover in his rates for making provision for all reasonable facilities for the use of his scaffolding, tools and plant etc., for their work and no claims shall be entertained afterwards by the Employer in any case whatsoever.

23. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND OWNERS

The Contractor shall confirm to the provisions or any acts of the legislature relating to the work, and to the regulations and by-laws of any authorities, and / or any water, lighting and other companies, and / or authorities with whose system the structures were proposed to have renovated and shall before making any variation from the drawings or specifications that may be associated to so confirm, give the Employer written notice, specify the variations proposed to be made and the reasons for making them and apply for instructions thereon. The Employer on receipt of such intimation shall give a decision within a reasonable time.

The Contractors shall arrange to give all notices required for by the said acts, regulations or By- laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the work and lodge the receipts with the Employer.

The Contractor shall indemnify the Employer against all claims in respect of patent rights, royalties, and damages to buildings, roads or member of public in course of execution of work and shall defend all actions arising from such claims and shall keep the Employer saved harmless and indemnified in all respects from such actions, costs and expenses.

24. CLEARING SITE AND SETTING OUR WORKS

The site shown on the plan shall be cleared of all obstructions, grass, plants, loose stone, and materials rubbish of all kinds. All holes or hollows whether originally existing or produced by removal of loose stone or materials shall be carefully filled up with earth well rammed and leveled off as directed at his own cost.

The contractor shall set out the works and shall be responsible for the true and perfect setting out of the work and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the contractor shall at his own expenses rectify such error, if called upon to the satisfaction of the Employer. The contractor shall further set out the works to the alternative positions at the site until one is finally approved and the rates quoted in his tender should include for this and no extra on this account will be entertained.

25. BENCHES

The contractor is to construct and maintain proper benches of all the main walls, in order that the lines and levels may be accurately checked at all times.

These benches will consist of Salwood post of adequate length and minimum diameter 75 mm to be driven in the ground at suitable distance as directed encased with brickwork. The wire nails will be driven on the top of Salwood post on the center lines of columns, walls, inside and outside faces of foundation trenches, in order that lines may be stretched between the benches and accurate intersection of excavation. Enter line of walls, columns etc., may be clearly indicated and checked at any time if it is so required.

26. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS FROM THE SITE

The Contractor shall keep the surroundings of work places free from water, debris and excess / waste materials at his own expenses Electrical or other power driven equipment to the satisfaction of the Employer for the purpose, until the site is handed over to the Employer. The Contractor shall arrange for the disposal of the same so accumulated to the satisfaction of the Employer and the local authority and no claims will be entertained afterwards if he does not include in his rates for the purpose.

27. ACCESS

Any authorized representative of the Employer shall at all reasonable times have free access to the works and / or to the workshops, factories or other places where materials are being prepared or constructed for the work and also to any place where the materials are lying or from where they are being obtained, and the Contractor shall give every facility to the Bank or their representatives necessary for inspection and

examination and test of the materials and workmanship. Except the representatives of the Employer, no person shall be allowed at any time without the written permission of the Employer.

28. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS

All the works specified and provided for in the specification or which may be required to be done in order to perform and complete any part thereof shall be executed by the Contractor in the best and most workman like manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars and instructions as may from time to time be given by the Employer during the execution of the work, and to his entire satisfaction.

If required by the Employer the Contractor at his own cost shall have to carry out tests on materials and workmanship in approved materials testing laboratories or as prescribed by the Employer to prove that the materials etc. under test confirming to the relevant IS standards or as specified in the specifications. The necessary charges for preparation of sample, transporting, testing etc. shall have to be borne by the Contractor. No extra payment on this account would in any case be entertained by the Employer.

All the materials (except where otherwise described) stores and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charge for import duties, sales taxes, octroi, GST and other charges and must be the best of their kind available and contractors must be entirely responsible for the proper and efficient carrying out of the work. The work must be done in the best workman like manner. Samples of all materials to be used must be submitted to the Employer when so directed by the Site Engineer/ Architect and a written approval from Employer must be obtained prior to placement of order of such materials.

During the inclement weather the Contractor shall suspend works for such times as the Employer may direct and shall protect from damage all work during course of execution. Any damage (during repair & renovation) to any part of the work for any reason due to rain, storm or neglect of Contractor shall be rectified by the Contractor in an approved manner at no extra cost to the Bank.

Should the work be suspended by reason of rain, strike, lock-outs or any other cause, the Contractor shall take all precautions necessary for the protection of work and at his own expense shall make good any damage arising from any of these causes.

The Contractor shall cover up and protect from damage, from any cause, all new work and supply all temporary doors, protection to windows, and any other requisite protection for the execution of the work whether by himself or special tradesmen or sub-Contractor and any damage caused must be made good by the Contractor at his own expenses.

Contractor to carry out all mandatory tests as per CPWD specifications besides the tests required to be done as ordered and desired by the Bank to prove that quality of material conforms to tender provisions. Cost of such tests shall be borne by the contractor and no extra payment in this regard shall be payable.

29. REMOVAL OF IMPROPER WORK

The Employer shall during the progress of the work have power to order in writing from time to time the removal of any materials etc. from the work within such reasonable time or times as may be specified in the order which in the opinion of the Employer are not in

accordance with specification or instructions. The employer shall have the said powers in case of the substitution or proper re-execution of any work executed with materials or workmanship is not in accordance with the drawings and specifications or instructions. In case the Contractor refuses to comply with the order the Employer shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental there to as certified by the Employer. Such expenses or costs paid by the Employer shall be borne by the Contractor or may be deducted from any money due to or that may become due to the Contractor.

30. SITE ENGINEER

The term "Site Engineer" shall mean the person posted at site by Employer to superintend the work. The Contractor shall afford the Site Engineer every facility and assistance for examining the works and materials for checking and measuring work and materials. The Site Engineer shall have no power to revoke, alter, enlarge or relax any requirements of the Contractor or to sanction any day work, additions, alterations, deviations, or omissions or any extra work whatever, except in so far as such authority may be specially conferred by a written order of the Employer.

The Site Engineer shall have power to give notice to the Contractor or to his foreman of non- approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the Employer is obtained. The work will from time to time be examined by the Engineer from the Bank and the Site Engineer, if any, but such examination shall not in any way exonerate the contractor from the obligation to remedy and defects which may be found to exist at any stage of the work or after the same is complete. Subject to the limitations of this clause, the Contractor shall take instruction only from the Employer.

31. OFFICE ACCOMMODATION FOR THE SITE ENGINEER

The contractor shall provide, erect, and maintain at his cost a separate simple watertight office accommodation for the Site Engineer. This accommodation shall be well lighted and ventilated and provided with windows, door with a lock.

The Site Engineer's office shall be a minimum of 100 sq. ft. and the contractor shall provide a desk, chairs, drawers for keeping drawings, a cupboard having proper lock and a tack board for displaying drawings the accommodation shall be demolished when directed. The cost of the site office construction shall be borne by the contractor & the cost of the same will not be paid by Circle Office Kozhikode of Bank separately. Tenderers are advised to quote their rates duly considering this aspect.

32. CONTRACTOR'S EMPLOYEES

The Contractor shall employ technically qualified and competent supervisors for the work who shall be available (by turn) throughout the working hours to receive and comply with instructions of the Employer. The Contractor shall engage at least one experienced Engineer as Site-in-Charge for execution of the work. The Contractor shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently.

The Contractor shall employ local labourers on the work as far as possible. No labourer below the age of eighteen years and who is not an Indian national shall be employed on the work. Any Labourer supplied by the Contractor to be engaged on the work on day work basis either wholly or partly under the direct order or control of the Employer or his Representatives, shall always be deemed to be a person employed by the Contractor. The Contractor shall comply with the provisions of all applicable labour legislations, rules and regulations framed thereunder, including but not limited to the requirements of:-

- a. The payment of Wages Act
- b. Employer's Liability Act
- c. Workmen's Compensation Act
- d. Contract labour (Regulation 7 Abolition) Act, 1970 and Central Rules 1974
- e. Apprentices Act 1961
- f. Minimum Wages Act
- g. Any other Act or enactment relating thereto and rules framed there under from time to time.

The Contractor shall keep the Employer saved, harmless and indemnified against all the claims under applicable labour laws or otherwise, if any, of the workmen or any other person and all costs and expenses as may be incurred by the Employer in connection with any claim that may be made by any workman or any other person. The successful bidder shall be responsible for settling any claim / compensation against any and all damages and accidents caused due to negligence on the part of his employees/workers engaged by it for fulfilling the obligations under this agreement and keep Bank indemnified from any compensation / liability.

The contractor shall comply at his own cost with the order of requirement of any Health Officer of the State or any local authority or of the Employer regarding the maintenance of proper environmental sanitation of the area where the contractor's labourers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The contractor shall provide, maintain and keep in good sanitary accommodation and provide facilities for pure drinking water at all times of the use of men engaged on the works and shall remove and clear away the same on completion of the works. Adequate precautions shall be taken by the contractor to prevent nuisance of any kind on the works or the lands adjoining the same.

The Contractors shall arrange to provide first-aid treatment to the labourers engaged on the works. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the works, report such accident to the employer and also to the competent authority where such report is required by law.

33. DISMISSAL OF WORKMEN

The Contractor shall in the request of the Employer immediately dismiss from works any person employed thereon by him who may in the opinion of the Employer be unsuitable or incompetent or who may misconduct himself. Such discharges shall not be the basis of claim for compensation or damages against the Employer or any of its officers or employee.

34. ASSIGNMENT

The whole of the works included in the contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or sublet the Contract or any part, share or interest therein nor, shall take a new partner without written consent of the Employer and no subletting shall relieve the Contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

35. (a) PROTECTION OF WORKS AND PROPERTY

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

He/ She shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protection of his temporary / permanent / contract employees/workers engaged on the works and shall comply with all applicable provisions of state/central Government and local bodies including all applicable safety laws and building codes to prevent accidents, or injuries to persons or property of about or adjacent to the place of work.

The Contractor shall be responsible for all injury to the worker or workmen or persons, animals or things and for all damages to the project works, materials, equipment, structural and / or decorative part of property which may arise from the operations or neglect of himself or employees/workers whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract.

The clause shall be held to include inter-alia any damage to buildings whether immediately adjacent or otherwise and any damage to roads, streets, foot paths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather.

The Contractor shall reinstate, rectify and remedy all damages of every sort mentioned in this clause so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third party.

35. (b) DAMAGE TO PERSONS AND PROPERTY

The contractor shall be responsible for all injury to the worker or workmen, persons, animals or things and for all damages to the project works, materials, equipment, structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-contractor or of any of his or a sub-contractor's employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract. The clause shall be held to include inter-alia, any damage to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, foot paths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather. The contractor shall indemnify the Employer and hold harmless in respect of all and any expenses arising from any such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damages under any acts of compensation or damage consequent upon such claim. The contractor shall submit an indemnity bond in the approved proforma (enclosed under Appendix-5) in a stamp paper indemnifying Bank / Architect from any damages, prosecution, other legal suits and claims arising out of any mishaps occurring at the site due to faulty work, faulty construction and for violating rules and regulations for which the contractor shall be solely responsible.

The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

The contractor shall affect the insurance necessary and indemnify the Employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the Employer and must be effected jointly in the name of the contractor and

the Employer and the policy lodged with the latter. The scope of insurance is to include damage or loss to the works itself till this is made over in a complete state. Insurance is compulsory and must be affected from the very initial stage.

The contractor shall also be responsible for anything, which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

The Employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or accruing from or in respect of any such claim or damages from any sums due or to become due to the contractor.

36. INSURANCE

Unless otherwise instructed the Contractor shall insure the works for all risk (include fire & third party) of the Contractor for total tender value in the joint names of the Punjab National Bank and the contractor (the name of Punjab National Bank placed first in the policy) and keep them insured until the virtual completion of the contract against any loss or damage of the material and of project. The insurance must be placed with a company approved by Punjab National Bank for such amount and for any further sum if called to do so by Punjab National Bank. The premiums of such further sum being allowed to the Contractor as an authorized extra. The Contractor shall deposit the policy and receipt of premium paid with Punjab National Bank within three (3) days from the date of issue of work order unless otherwise instructed.

The scope of the cover shall include fire, lightning, explosion, crashing, aircraft, extinguishing water or other fighting measures, flood, inundation, rain, windstorm of any kind, earthquake, subsidence, landslide, rockslide, bad workmanship, lack of skill, negligence, malicious acts or human error, additional cover for third party liability and surrounding properties.

In default of the Contractor insuring as provided above, Punjab National Bank on its behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the Contractor. The Contractor shall as soon as the claim under the policy is settled or the work reinstated by Insurance Company should they elect to do so, proceed with due diligence with the completion of the works in the same manner as though the fire has not occurred and in all respects under the conditions of the contract. The Contractor in case of rebuilding or reinstatement after fire shall be entitled to extension of time for completion, as the Employer may deem fit.

37. ACCOUNTS RECEIPT & VOUCHERS

The Contractor shall, upon the request of the Employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the Contractor shall use materials less than what he is required under the contract, the value of the difference in the quantity of the materials he was required to use and that he actually used shall be deducted from his dues. The decision of the Employer shall be final and binding on the Contractor as to the amount of such materials. The Contractor is required to use for any work under this contract.

38. MEASUREMENTS

Before taking any measurement of any work the Site Engineer/ Architect or a subordinate deputed by him shall give reasonable notice to the Contractor. If the Contractor fails to attend at the measurements after such notice or fails to countersign or

to record the difference within a week from the date of measurement in the manner required by the Site Engineer/ Architect then in any such event the measurements taken by the Site Engineer/ Architect or by the subordinate deputed by him as the case may be is final and binding on the Contractor and the Contractor shall have no right to dispute the same.

39. PAYMENTS

All bills shall be prepared & submitted by the Contractor in the form prescribed by the Employer. Normally one interim bill shall be prepared each month subject to minimum value for interim certificate as stated in these documents. The bills in proper forms must be duly accompanied by detailed measurements in support of the quantities of work done and must show deductions for all previous payments, retention money etc. The bill shall be checked at site by Architect / Site Engineer shall issue a certificate after due scrutiny of the Contractor's bill which may be further verified by the Employer and the Contractor shall be entitled to payment thereof within the period of honouring certificates named in these documents, as per final verified amount by the Employer. In case of delay, an Adhoc advance of 75% of the billed amount /assessed work done may be paid on the request of the Contractor for the smooth progress of work at the sole discretions of the Bank.

The amount as stated in an interim certificate shall be the total value of work properly executed and secured advance on the materials as described under the heading of secured advance less the amount to be retained by the Employer as retention Money vide clause 18 of these conditions and less installments previously paid under these conditions, provided that such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against whether or other casualties.

The Employer will deduct retention money as described in Clause 18 (ii) of these Conditions. The refund of retention money will be made as specified in the said clause.

If the Employer had supplied any materials or goods to the Contractor, the cost of any such materials or goods will be progressively deducted from the amount due to the Contractor in accordance with the quantities consumed in the work.

The material advance shall be admissible only on materials, which in the opinion of the Architect, are imperishable in nature, are genuinely required for use in the work in the near future, are of the required quality and are adequately protected against damage, theft, loss etc.

All the interim payments shall be regarded as payment by way of advance against the final payments only and not as payments for work actually done and completed and shall not preclude the requirement of bad or unsound or imperfect or unskilled work to be removed and taken away and be reconstructed or re-erected or to be considered as an admission of the due performance of the contract or any part thereof in any respect or the accruing of any claim. Any interim payments shall not conclude determine or affect in any way the powers of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way to vary or affect the contract. The final bill shall be submitted by the Contractor within one month of the date fixed for completion of the work or of the date of certificate of virtual completion furnished by Employer and payment shall be made within three months.

40. SECURED ADVANCE FOR MATERIAL AT SITE

The secured advance will be paid up to an amount not exceeding 75% of the invoiced value of the materials, (The amount of secured advance should not exceed 75% of the material element cost in the tendered rate of the finished item of work subject to ceiling of 65% of quoted rates) brought to site for permanent incorporation into the work up to the date of bill on production of supporting bills / vouchers. The secured advance on the non-perishable materials will be paid on execution of the indemnity bond/Bank guarantee.

41. FINAL PAYMENTS

The period of Final Measurements will be one (1) Month from date of Completion. The final bill shall be accompanied by a certificate of completion from the Employer, payments of final bill shall be made after deduction of Retention Money as specified in clause 18 of these condition, which sum shall be refunded after the completion of the Defects liability period and rectification of defects to the entire satisfaction of the Employer. The acceptance of payments of the final bill by the Contractor would indicate that he would have no further claim in respect of the work executed.

42. VARIATION / DEVIATIONS

The Contractor may when authorized and shall, when directed in writing by the Employer add or omit, or vary the works shown in the drawings or described in the specifications or included in the priced schedule of the quantities. The Contractor on his own accord shall make no addition omission or variation without such authorization or direction of the Employer. A verbal authorization of direction by the Employer shall when confirmed correctly by the Contractor in writing within 3 days shall be deemed to have been given in writing.

The Contractor shall send to the Employer once in every month a statement giving particulars, as full and as much detailed as possible, of all claims for any additional payment to which the Contractor may consider himself entitled and of all extra or additional works ordered by the Employer which he has executed during the preceding month.

No interim claim for payment for any such work or expense, will be considered which has not been included in such a statement provided always that the Contractor shall be entitled after taking Employer's sanction to authorize payment to be made for any such work or expense, notwithstanding the Contractor's failure to comply with this condition.

The rates for additional, altered substituted work shall be arrived at in accordance with the following rules:-

- i. The net rates or prices in the contract schedule shall determine the valuation of (the rates for) the extra work (items) where such extra work is of similar character and is executed under similar conditions as the work prices mentioned therein.
- ii. If the rates for the extra altered or substituted or (deviated) work are not provided for (available) in the schedule of quantities, they shall, to the extent possible be derived out of rate given in that schedule for similar or near similar items. For the purpose of such deviation, where necessary and when so directed, the Contractor shall furnish detailed analysis for the said similar or near similar items in the contract schedule. For such portions of the analysis, for the extra, altered or substituted (deviated) work for which prices cannot be abstracted from the corresponding analysis of rates for the said similar or near similar items in the contract schedule, market rates sustained by

purchase bill / vouchers dependable printed price schedule of materials of different type shall be adopted, using factors and constant for quantum of materials, labour, T&P and sundries, from standard analysis of rates adopted by the CPWD, and adding 15% towards profit & overheads and taxes. When called upon to do so, the Contractor shall submit the required purchase bills / vouchers.

iii. In respect of contract which incorporates more than one schedule, the rate applicable in case (i) above if not provided for in the Schedule pertaining to the work in which the addition, alteration or substitution (deviation) occurs shall be taken as the lowest applicable rate in other schedules. Similarly in case (ii) above if similar or near similar items cannot be found in the schedule pertaining to the work in which the addition, alteration or substitution (deviation) occurs, similar or near similar items from the other schedule shall be adopted.

iv. In the case of additional, altered substituted (deviated) for which rates cannot be reasonably be derived as at (ii) and (iii) above, the rates shall be worked out adopting market prices, substantiated by purchase bills / vouchers using factors and constants for quantum of materials, labour, T&P and sundries from standard analysis of rates adopted by the CPWD and adding 15% towards profit & overheads and taxes. When called upon to do so the Contractors shall submit his purchase bills / vouchers to the Employer.

| v. The question as to what particular items, being similar or near similar to the additional, altered or substituted (deviated) work in the contract schedule are to be adopted for deviation of rates for the additional, altered for substituted deviated work and whether the said rates cannot be derived from similar or near similar items in the contract schedule shall be decided by the Employer and the same shall be binding on the Contractor.

~~vi.~~ vi. In case (ii) to (iv) the Contractor is required to submit his analysis of rates adopting the principles enunciated, after scrutinizing the analysis any other papers furnished will allow such rates as he considers reasonable after obtaining Employer's sanctions.

~~vi.~~ vii. Where extra work is of such a nature that it cannot be properly measured or valued, the Contractor shall be allowed day work priced at the net rates stated in the tender or the priced schedule of quantities or if not so stated then in accordance with the minimum local day work rates and wage for the district notified by the concerned authority provided that in either case if required by the Employer, vouchers, muster rolls and other documents, required for proper verification of the labour employed and the materials deployed on the said work and the costs thereof be delivered to the site Engineer or his representative on or before the end of the week following that in which work has been executed.

~~vii.~~ viii. The question as to whether extra work is of such nature that it cannot be properly measured or valued will be decided by the Employer. The margin to be allowed on actual costs to the Contractor towards profit and overhead shall be 15% and taxes.

43. DEVIATION FOR TENDER QUANTITIES UPTO 25% & ABOVE 25%

The tender rates shall hold good for any increase in the tendered quantities up to variation of 25%. In case tender quantities of an individual item exceeds the deviation limit of 25% the rates for the excess quantities over and above the deviation limit shall be payable as per market rates analysis, sustained by purchase vouchers / bill using constant only of materials, Labour, T&P etc. from all Indian Standard analysis of rates

published by Delhi Analysis of Rates with 15% towards Contractors profit. & Overheads and taxes. For non-schedule items, constant of material, labour, T&P etc. shall be decided by the Engineer in charge of Employer, based on the actual observation at site.

44. SUBSTITUTION

Should the Contractor desire to substitute any materials and workmanship, he/they must obtain the approval of the Employer in writing for any such substitution well in advance. Materials designated in this specification indefinitely by such terms as "Equal" or "other approved" etc., specific approval of the Employer has to be obtained in writing.

45. PREPARATION OF BUILDING WORKS FOR OCCUPATION AND USE ON COMPLETION

The whole of the work will be thoroughly inspected by the Contractor and deficiencies and defects put right. On completion of such inspection and Contractor shall inform the Employer that he has completed the work and it is ready for inspection.

On completion, the Contractor shall clean all equipment's and does the painting work etc. He will leave the entire installation neat and clean and ready for immediate use and to the satisfaction of the Bank.

46. CLEARING SITE ON COMPLETION

On completion of the works, the Contractor shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workman like condition to the satisfaction of the Employer.

47. DEFECTS AFTER COMPLETION

The defects liability period (D.L.P.) shall commence from the certified date of Virtual Completion issued by the Employer. The Contractor shall make good at his own cost and to the satisfaction of the Employer all defects, other faults which may appear within twelve (12) Months after completion of the work. In default, the Employer may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damages, losses and expenses shall be recoverable from him by the employer or may be deducted by the Employer, in lieu of such amending and making good by the Contractor, deduct from any money due to the Contractor a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient, recover that balance from the Contractor from the amount retained under clause no. 18 together with any expense the Employer may have incurred in connection therewith.

For water proofing works and anti-termite works, the defects liability period will be respective guarantee/ warranty period. In case of these works contractor has to submit a Bank guarantee, valid for the guarantee/ warranty period, for an amount equivalent to 10% of the cost of such works. Alternately, Circle Office Kozhikode of Bank shall deduct 10% of the cost of such works and keep in fixed deposit for guarantee/ warranty period and return the amount including accrued interest after completion of guarantee/ warranty period subject to satisfactory performance of the work during the defect liability period.

48. CONCEALED WORK

The Contractor shall give due notice to the Employer whenever any work is to be buried in the earth, concrete or in the bodies of walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions taken before such

burial, in default whereof the same shall, at the option of the employer be either open up for measurement at the Contractor's expense or no payment may be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc., or other matters which cannot be conveniently tested or checked, the notes of the Employer shall be accepted as correct and binding on the Contractor.

49. WATCH AND LIGHTING

The Contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by Employer for the protection of the works or for the safety and convenience of those employed on the works or the public.

50. RECORDS OF CONSUMPTION OF CEMENT & STEEL AND CONSUMPTION NORMS

For the purpose of keeping a record of cement and steel received at site and consumed in works, the contractor shall maintain a properly bound register in the form approved by the Bank showing columns like quantity received and used in work and balance in hand etc. this register shall be signed daily by the contractor's representative and Bank's/Architect's representative.

The register of cement and steel shall be kept at site in the safe custody of Architect's/ Bank's Engineer during progress of the work. This provision will not, however, absolve the contractor from the quality of the final product.

In case cement quantity consumed is lesser as compared to the theoretical requirement such as mix design report obtained by contractor from reputed laboratory, at every change of source for cement, sand and aggregate, the cost of the quantity of cement not so used shall be recovered from the contractor as per CPWD specification/ work manual.

51. TESTS/RESULTS/ SITE REGISTERS ETC.

The Contractor will be required to maintain the following registers at site of work and should produce the same for inspection of the Employer/Architects wherever desired by them.

Type of Register to be maintained:

- | | | |
|------------------------|---|--|
| a. Register No. – I | : | Cement |
| b. Register No. – II | : | Steel |
| c. Register No. – III | : | Materials at Site Account |
| d. Register No. – IV | : | Slump Test |
| e. Register No. – V | : | Concrete Cube Test |
| f. Register No. – VII | : | Running Account Bill |
| g. Register No. – IX | : | Labour register |
| h. Register No. – X | : | Work site order book. |
| i. Register No. – XI | : | Instruction by Bank's officers / Architect. |
| j. Register No. – XII | : | Test registers of other materials / fittings fixtures equipment as stipulated in the tender. |
| k. Register No. – XIII | : | Register of drawings and working details. |
| l. Register No. – XIV | : | Log book of defects. |

- m. Register No. – XV : Hindrances register giving details of commencement and removal of each hindrance.
- n. Register No. – XVI : Dismantled materials account register.
- o. Register No. – XVII : Specifications of C.P.W.D. & I.S.I. as applicable to the contract.

These registers are required to be signed by the Site Engineer/ Architect.

52. ESCALATION

The rate quoted in the tender shall be firm throughout the tenure of the contract (including extension of time, if any , granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, taxes, etc.

53. PREPARATION OF BUILDING WORKS FOR OCCUPATION AND USE ON COMPLETION

On completion, the contractor will clean all windows and doors, including the cleaning with oil, if necessary hardware inside and outside, all floors, staircases, and every part of the building. He will leave the entire building neat and clean and ready for immediate occupation and to the satisfaction of the Architect.

54. WEEKLY PROGRESS REPORTS

The contractor shall furnish all particulars, for compiling the progress report in the form provided by the Bank/ Architect, to the Owner of works. Pre-inspection reports, formats asked by Bank/ architect shall be duly filled by contractor and submitted to Bank/ architect's office for approval prior to their inspection/ site visit.

55. SECURITY ARRANGEMENT

The following arrangement shall be ensured by the Contractor:

- i. Proper arrangements to keep all records under lock and key.
 - ii. Watch and ward and security of materials; and
 - iii. Movement of material and stores, shall be through Bank gate pass only.
- When the work is completed to the satisfaction of the Employer and handed over to the Bank, the responsibility of proper security arrangement then shall rest with the Bank.

56. LABOUR RECORD

The Contractor shall maintain relevant records and fulfill all conditions and requirements in accordance but not limited to the following applicable Act, Rules and Regulations made there under from time to time:

- i. The payment of Wages Act. b) Employer's Liability Act.
- ii. Workmen's Compensation Act.
- iii. Contract Labour (Regulation & Abolition) Act, 1970 and Central Rules 1971.
- iv. Apprentices Act 1961.
- v. Minimum Wages Act 1948.
- vi. Industrial Disputed Act. 1947.
- vii. Maternity Benefit Act 1961.
- viii. ESI Act.
- ix. Payment of Bonus Act.
- x. Payment of Gratuity Act.

- xi. Any other Act or enactment relating thereto and rules framed there under from time to time.

Bank shall not be responsible for any violation by the Contractor on the above mentioned acts/ rules. The Contractor shall be wholly/ solely responsible for any claim in the above referred subjects.

57. HANDING OVER BUILDING / PROJECT WORK TO THE EMPLOYER

All the handing and taking over report and inventories / statement shall be prepared in quadruplicate. Such reports and inventories shall be signed by:

- i. The Contractor (only the relevant papers).
- ii. The Site Engineer, and
- iii. Competent Authority in the Bank.

The following inventories / statements shall be prepared:

- i. Inventory of all equipments; and
- ii. Information folders & test reports for installations and as built drawings.

The Engineer on behalf of the Employer associated with this operation, shall be apprised of the importance to carry out periodic inspections (at two months interval) for defects not rectified or fresh ones that crop up and issuing notice for their rectification to the concerned Contractors and the final inspection just before the expiry of the defects liability period.

58. SAFETY CODES

58.1 SCAFFOLDING

- a. Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done "safely from ladders" when a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand hold of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).
- b. Scaffolding or staging more than 4M, above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 1M, 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.
- c. Working platforms, gangways and stairway shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4m, above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above.
- d. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1M.
- e. Where ever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.

- f. Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9M, in length while the width between side rails in rung ladder shall in no case, be less than 290 mm, for ladder up to and including 3M, in length for longer ladders this width shall be increased at least 20 mm for each additional meter of length.
- g. A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer/ Architect obtained prior to construction.

58.2 OTHER SAFETY MEASURES

- a. All personnel of the Contractor working within the site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
- b. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
- c. The Contractor shall at all times be liable to comply with the applicable labour laws relating to the safety of the workers engaged by it. The Employer shall not be liable for

58.3 DEMOLITION/DISMANTLING

Before any demolition/dismantling work is commenced and also during the process of the work:

- a. No electric 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.
- b. All practical steps shall be taken to prevent danger to persons employed from the risk of 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.
- c. The Contractor shall be solely responsible at all the times for the compliance of the applicable Labour laws in this regard.

59. PERSONAL SAFETY EQUIPMENTS

All necessary personal safety equipment as considered adequate by the Engineer/ Architect including but not limited to the following should be kept available by the Contractor for the use of person/ workers employed/engaged 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.

- i. Those engaged in white washing and mixing or stacking or cement bags or any materials, which are injurious to the eyes, shall be provided with protective goggles.
- ii. Those engaged in welding works shall be provided with welder's protective eyesight lids.
- iii. Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- iv. The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precaution should be taken:

- a) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.
- b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
- c) Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided, to enable the working painters during the execution of work.

When the work is done near any public place where there is risk of drowning all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

The Contractor shall be solely responsible at all the times for the compliance of the applicable Labour laws in this regard.

60. RIGHTS OF TECHNICAL SCRUTINY BY CHIEF TECHNICAL EXAMINER

The work is liable to be technically audited by the Chief Technical Examiner of the Central Vigilance Commission, Government of India from time to time. Any defects, improvements or testing etc. pointed out by the Chief Technical Examiner should be carried out by the Contractor at his own cost and any deduction suggested by the CTE will be affected.

The Employer shall have a right to cause a technical examination and audit of works and the final bills of the Contractor including all supporting vouchers, abstract etc. to be made at the time of payment of the final bill. If as a result of this examination or otherwise any sum is found to have been over paid in respect of any work done by the Contractor under the contract the Contractor shall be liable to return the amount of over payment and it shall be lawful for the Employer to recover the same from him from any sum or sums due to him and in any other manner legally permissible and if it is found that the Contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by the Employer.

Any sum of money due and payable to the Contractor (including Security Deposit returnable to him) under this contract may be appropriated by the Employer and set off against any claim of the Employer of the payment of a sum of money arising out of or under any other contract made by the Contractor with Employer.

61. IDLE LABOUR

Whatever the reasons may be, no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances by the Employer and the decision of the Employer shall be binding on the Contractor.

62. FORCE MAJEURE

Any failure or delay by bidder or Bank in performance of its obligations, to the extent due to any failure or delay caused by fire, flood, earthquake or similar elements of nature, or acts of God, war, terrorism, riots, civil disorders, rebellions or revolutions, acts of governmental authorities or other events beyond the reasonable control of non-performing Party, is not a default or a ground for termination.

Such events may include, but are not restricted to, war or revolution and epidemics. If a force majeure situation arises, the Contractor shall notify within ---days the Bank in

writing of such condition and the cause thereof. Unless otherwise directed by the Bank in writing, the Contractor shall continue to perform its obligation under the contract to the extent possible mitigate the consequences of the force majeure event and make all necessary alternative arrangements to perform their obligations and accordingly, and shall seek all alternative means of performance not prevented by the force majeure event.

Provided further that in case of delay of Services, which shall be solely decided by the Bank, the Bank shall not be held liable for non-performance of its obligations under the Agreement and the Bank shall have the right to terminate this Agreement without giving any further notice to the Vendor. Further, Bank also reserves the right to assign the work to other Vendor without any consequences and claims.

63. SUSPENSIONS

If the Contractor, except on account of any legal restraint upon the Employer preventing the continuance of the work, abandons, suspends work or in the opinion of the Employer, the Contractor neglects or fails to proceed with due diligence in the performance of his part of the contract, the Employer shall have the power to give notice in writing to the Contractor requiring the work be proceeded within a reasonable manner and with reasonable dispatch, such notices purport to be a notice under this clause.

After such a notice is served upon the Contractor, the Contractor shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials and such an obligation shall subsist from the date of such a notice being served until the notice be complied with by the Contractor. If the Contractor fails to comply with such a notice for a period of 7 (seven) days to proceed with the works as therein prescribed, the Employer may proceed as provided in clause 65 (Termination of contract by Employer).

64. DELINQUENCIES OF CONTRACTORS

The under noted delinquencies/ defaults/ misconduct/ misdemeanors on the part of bidder or enlisted contract will attract disciplinary action in accordance with the clause 64 mentioned hereinbelow.

- i. Incorrect information about credentials, about his performance, equipment, resources, technical staff etc.
- ii. Non-submission of the fresh/ latest Income Tax Clearance certificate.
- iii. Irregular tendering practice.
- iv. Submission of tender containing for too many arithmetical errors and freak rates.
- ~~iv-v.~~ Revocation of a tender without any valid reasons.
- ~~v-vi.~~ Tardiness in commencing work.
- ~~vi-vii.~~ Poor organization at site & lack of his personal supervision.
- ~~vii-viii.~~ Ignoring Employer's Notices for replacement/ rectification of rejected materials, workmanship etc.
- ~~viii-ix.~~ Violation of any of the important conditions of contract, i.e. site facilities, insurance, labour laws, ban on subletting etc.
- ~~ix-x.~~ Lack of promptitude and co-operation in measurement of work and settlement of final account.
- ~~x-xi.~~ Non-submission of vouchers and proofs of purchase etc.
- ~~xi-xii.~~ Tendency towards putting up - false and untenable claims.
- ~~xii-xiii.~~ Tendency towards suspension of work for frivolous reasons.
- ~~xiii-xiv.~~ Bad treatment of labour.

- ~~xiv~~-xv. Bad treatment of Sub-Contractors (piece workers) and un-business like dealing with suppliers of materials.
- ~~xv~~-xvi. Lack of co-operation with nominated Contractors or Employer's Labour.
- ~~xvi~~-xvii. Contractor becoming Bankrupt or insolvent.
- ~~xvii~~-xviii. Contractor's conviction by any court of law.
- ~~xviii~~-xix. Failure to satisfactorily rectify defects during Defects Liability period (DLP) and discovery of latent defects in Contractors work after the expiry of DLP of his contract.

65. DISCIPLINARY ACTION AGAINST (DELINQUENCIES OF) CONTRACTOR.

The award of the under noted disciplinary action shall be considered:

- i. Placing of an embargo on the issue of tenders or temporary suspension from the Employer's approved list.
- ii. Permanent ban on issue of tenders & removal from the Employer's approved list.
- iii. Circulation of the Contractor name to other public Undertaking or Government Department or concerned regulatory authorities of Contractor, if any, for non-entertainment of this publication for contract work.

66. TERMINATION OF CONTRACT BY EMPLOYER

In the following circumstances/ events, the contract shall be terminated by the Employer:-

- i. If the Contractor being a company goes into liquidation whether voluntary or compulsory; or
- ii. Being a firm, stand dissolved; or
- iii. If the official assignee in insolvency or receiver of the contractor in insolvency, repudiates the contract; or.
- iv. If receiver of the contractor's firm appointed by the court shall be unable to, within 14 days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carrying out and fulfill the contract and if so required by the employer to give reasonable security therefore.
- v. If the contractor:
 - a) Suffers execution to be issued;
 - b) Suffers any payment under this contract to be attached by or on behalf of and of the creditors of the Contractor;
 - c) Assigns, charges or encumbers this contract or any payment due or which become due to the contractor hereunder
 - d) Neglects or fails to observe and perform all or any of the acts, matters of things by this contract, to be observed and performed by the Contractor within three clear days after the notice shall have been given to the Contractor in manner hereinafter mentioned requiring the Contractor to observe or perform the same
 - e) Uses improper materials or workmanship in carrying on the works
 - f) In the opinion of the Employer does not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and fails to proceed to the satisfaction of the Employer after three clear days' notice requiring the Contractor so to do shall have been given to the Contractor as hereinafter mentioned,
 - g) Breaches any of the conditions of the contract in any of the abovesaid cases or otherwise;
 - h) Any threat is perceived or observed on the security of Bank's data / property out of any action by the staff deployed for monitoring / configuration etc., by service provider.

The Bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the Employer & the obligations & liabilities of the contractor the whole of which shall continue in force as fully as if the contract, had not been so determined and as if the works subsequently executed had been executed by or on behalf of the contract (without thereby creating any trust in favour of the contractor).

Further the Employer or his agent, or servant:

- i. may enter upon and take possession of the work and all plants, tools, scaffoldings, sheds, machinery, steam and other power utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property;
- ii. may employ the same by means of his own servants and workmen in carrying on and completing the works;
- iii. by employing any other Contractors or other persons or person to complete the works and the Contractor shall not in any way interrupt or do any act, matter of thing to prevent or hinder such other Contractors or other persons or persons employed for completing and finishing or using the materials and plants for the works.

When the works stands completed, or as soon thereafter as conveniently may be, the Employer shall give notice in writing to the Contractor to remove his surplus materials and plants, and should the Contractor fail to do so within a period of fourteen (14) days after receipt of the notice by him, the Employer may sell the same by public auction and shall give credit to the Contractor for the amount so released.

Any expenses or losses incurred by the Employer in getting the works carried out by other Contractors shall be adjusted against the amount payable to the Contractor by way of selling his tools and plants, or due on account of work carried out by the Contractor prior to engaging other Contractors or against the Security Deposit.

67. DISPUTES AND ARBITRATION:

All disputes or differences, whatsoever, arising between the parties out of or in relation to the terms and conditions, meaning and operation or effect of this Agreement or breach thereof shall be settled amicably.

In case they are not able to settle the disputes or differences between them amicably, the matter may be referred to a sole arbitrator mutually agreed upon after issue of at least thirty (30) days' notice in writing to the other party clearly setting out there in the specific disputes and the same shall be settled by arbitration in accordance with the Indian Laws relating to arbitration, i.e. in accordance with the provision of the Indian Arbitration and Conciliation Act, 1996 and Rules and Regulations framed thereunder including all amendments up to date and the award made in pursuance thereof shall be binding on the parties. The matter may be referred to a sole arbitrator nominated by the Bank, who shall give a reasoned award and the award made in pursuance thereof shall be binding on the parties.

The venue of arbitration shall be Kozhikode. All arbitration proceeding shall be conducted in English and a daily English record of such proceeding shall be maintained.

Any appeal against the arbitration award will be subject to the jurisdiction of courts at Kozhikode only.

The Contractor shall continue to work under the work Contract during the arbitration proceedings unless otherwise directed in writing by the bank, unless the matter is such

that the works/services cannot possibly be continued until the decision of the arbitrator or of the presiding arbitrator, as the case may be, is obtained.

However during such a contingency, the Bank shall be entitled to make alternative arrangements to tackle the situation in any manner it deems fit, at the cost of the Vendor which may also be adjusted by the Bank from the Performance Bank Guarantee, being treated as default so that the business of the Bank is not disrupted.

68. EXCEPTED MATTERS FROM ARBITRATION

If the dispute or difference pertains to the under noted matters (called excepted matters) the decision in writing of the Employer shall be final, conclusive and binding on the parties.

- a. Instructions given by the Employer;
- b. Transactions with local authorities.
- c. Proof of quality of materials.
- d. Assigning or under letting of the contract
- e. Certificate as to the causes of delay on the part of the Contractor and justifying extension of time.
- f. Rectifying of defects pointed out during the defects liability period.
- g. Notice to the Contractor to the effect that he is not proceeding with due diligence.
- h. Certificate that the Contractor has abandoned the contract.
- i. Notice of the determination of the contract by the Employer.

69. OTHER TERMS & CONDITIONS:

Bank shall not entertain any claim arising on account of damages, compensation or expenses payable as a result of any accident or injury sustained by any workman/staff of the bidder or any claim under the Workman's Compensation Act. The bidder may obtain necessary insurance cover to meet any of the above contingencies.

The Contractor and his staff shall abide by the regulations/requirements of Security Department and strictly follow the rules. Bank's security staff will have the right to check, search or interrogate any of the Contractor's staff while entering/ remain present/ leaving the Bank premises for security purposes.

The bidder shall be responsible for any loss/damage to the materials and other assets of the Bank by his staff deployed for duty.

The bidder shall also be wholly responsible for theft, burglary, fire or any other mischievous act and conduct done by their staff.

70. NOTICES

Notices as required by the agreement that shall be entered with the successful bidder shall be sent to the addresses as would be mentioned first therein or such other addresses as the Parties may designate from time to time, and shall be sent by certified or registered mail with acknowledgement due on receipt.

71. OWNERSHIP OF DRAWINGS:

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

I. Bidders' Financial Information

Name:
 Constitution:
 Address:

Names & Addresses of the Proprietor / Partners / Directors if applicable:

Contact Person(s) _____

Telephone, Fax, e-mail _____

Number of years of experience _____

Please give brief financial particulars of your firm for the last three accounting years along with the volume of business handled.

(The information will be kept confidential)

Year (Last 3nos. of FY)	2019-20	2020-21	2021-22
Total Turnover (Value in in ₹)			
ITR (Y/ N)			

Signature:

Seal of company

II. REFERENCE LISTPROFORMA FOR PERFORMANCE STATEMENTNAME OF BID

Sr. No	Name of Organization	No of Sites Constructed	Duration of Contract	Contract Amount	Date of Order	Contact Person and Telephone no.	Whether services satisfactory? (Attach certificate from client)*

Signature and Seal of Bidder

NOTE:

- Bidder to provide relevant certificates from the above mentioned organizations.
- * Satisfactory completion and performance certificate from the principal employer / client for satisfactory execution of similar work as defined in eligibility criteria.

III. COMPLIANCE STATEMENT**DECLARATION:**

Please note that any deviations mentioned elsewhere in the bid will not be considered and evaluated by the Bank. Bank reserve the right to reject the bid, if bid not submitted in proper format as per Tender Document.

Compliance	Description	Compliance (Yes/No)
Terms and Conditions	We hereby undertake and agree to abide by all the terms and conditions including all annexure, corrigendum(s) etc. stipulated by the Bank in this Tender Document. (Any deviation may result in disqualification of bids).	

Signature:

Seal of company

IV. KEY PERSONNEL OF THE ORGANISATION

SL.NO.	NAME	DESIGNATION	QUALIFICATION	PROFESSIONAL EXPERIENCE*	No. of years Working with the organization

- The name and address of the organization along with key persons, their designation, telephone no. and email address should be provided.

V. PLANT & EQUIPMENT OWNED BY THE ORGANISATION AND AVAILABLE FOR THIS WORK

SL.NO	EQUIPMENT	YEAR OF MANUFACTURE	CAPACITY	NUMBER/QUANTITY

Note:

1. Give details of all the key equipment's for construction, such as concrete mixers, weigh batchers, vibrators, Trucks, Tippers, Hoists, Rammers, Steel shuttering plates, Steel Scaffolding materials, polishing machines, that the firm proposes to use for the proposed works at the site.
2. The applicant should clearly demonstrate that he has access to all key equipment which will be required for the successful completion of the works.

SPECIAL CONDITIONS OF CONTRACT

1. The bidder shall acquaint himself with the proposed site of work before quoting his rates. The contractor should note and bear in mind that the Bank shall bear no responsibility for the lack of acquaintance of site and other conditions or any information relating thereto or on their part.
2. If for any reasons, any part of the site is not available temporarily for some time for part of the work under the contract, the agreed construction schedule shall be suitably modified and contractor shall diligently divert his men and materials to utilize them appropriately, profitably and no claim of damages whatsoever shall be entertained on this account. However, the contractor shall be allowed extension of time for completing the work as deemed fit by the competent authority. The contractor shall also not be entitled to any compensation for any loss suffered by him and revision in the rates quoted by him.
 - a) On account of delay in commencing the work by the contractor.
 - b) On account of reduction in the scope of work.
 - c) On account of suspension of work or abandoned after award of work.
3. The contractor shall provide, at his own cost instruments for weighing and measuring purpose at the site of work as may be necessary for execution of the work.
4. The contractor shall construct a sample unit of different activities complete in all respect as per the directions of the Bank/ Architect. This sample unit shall be got approved from the Bank/ Architect before commencing the mass work.
5. The contractor shall take care of all safety precautions pertaining to construction of work, such as scaffolding, ladder, working platforms, gangways, electric arc/ gas welding, use of hoist and construction machinery. Nothing extra shall be paid for scaffolding for any of the items of work unless specifically mentioned in the nomenclature. Contractor should quote rates accordingly.
6. On account of security consideration, some restrictions may be imposed by the security staff on the working and/ movement of men and materials etc. The contractor shall be bound to follow all such restrictions/ instructions and he shall organize his work accordingly. No claim on this account, whatsoever, shall be payable.
7. No hindrance / inconvenience shall be caused in the operation / working / movement of Bank personnel / customers / visitors and their vehicles due to the execution of the project / storage or placement of materials / debris / construction waste / excavated materials by the contractor. Contractor shall at all times ensure safe and convenient access to building entry for Bank staff working in the building & take all precautions to ensure that Bank's official work going on in the building is not hampered. The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. No hindrance shall be caused to traffic during the execution of the work.
8. The contractor shall be responsible for the watch and ward of all materials brought by the contractor to site against pilferage and breakage during the period of installation and thereafter till the works are physically handed over to the Bank.

9. The contractor shall take all preventive measures against any such damage caused by rain, snowfall, floods or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the owner's property and to the work for which the payment has been advanced to him under the contract.
10. The work will be carried out in the manner complying, in all respects, with the requirements of relevant bye-laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Bank/ Architect and nothing extra shall be paid on this account.
11. The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rules and regulations and pay all fees and charges which may be liable.
12. The contractor shall give due notices to Municipal, Police and/or other authorities that may be required under the law/rules under force in the area and obtain all requisite licenses for temporary obstructions / enclosures and pay all charges which may be leviable on account of his execution of work under the agreement. Nothing extra shall be payable on this account in any case whatsoever.
13. All materials to be incorporated in the work shall be arranged by the contractor and shall be in accordance with the specifications laid down. Samples of all items are to be fabricated by the Contractor prior to taking up the mass production. The Contractor shall take prior written approval of the Bank before proceeding for mass production.
14. The Contractor shall use materials bearing ISI/BIS Certification Mark unless otherwise specified or allowed in writing by the Bank/ Architect. Any material banned by the Bank shall not be used in the work.
15. The contractor shall submit to the Bank/ Architect samples of all materials for approval. Such samples of materials which affect aesthetics of the work shall also be got approved from the Engineer-in-charge of the project before procuring bulk supplies. These approved samples shall be preserved and retained in the custody of the Engineer-in-charge as standards of materials till the completion of the work. The cost of such samples shall be borne by the Contractor and nothing shall be payable on this account over the Agreement rates.
16. The contractor shall be required to get all the necessary mandatory and other tests as per the specifications/ IS codes, carried out on materials/ work from an approved laboratory as per the direction of the Bank/ Architect. The testing charges and conveyance from the site shall be borne by the contractor.
17. In case any material / work is found sub-standard the same shall be rejected by the Bank/ Architect and the same shall be removed from the site of work within 48 hours, failing which the same shall be got removed by the Bank/ Architect at the risk and cost of the contractor without giving any further notice and time. In order to ensure quality of work during its execution, the Bank/ Architect may require samples for mandatory or routine testing of materials. All costs of these samples, their packaging, conveyance from the site to the testing laboratory and return, shall be borne by the contractor.
18. Even ISI marked materials may be subjected to quality test at the discretion of the Bank/ Architect. Whenever ISI marked materials are brought to the site of work the

contractor shall, if required by the Bank/ Architect laboratory to establish that the materials procured by the contractor, satisfy the provisions of relevant ISI codes. The testing charges shall be borne by the contractor.

19. The material required for testing shall be supplied free of charge by the contractor. The cost of tests shall be borne by the contractor.
20. The work shall be executed and measured in metric system. The metric dimensions given in the schedule of quantities and drawing etc. shall be followed. (The dimension in FPS units wherever indicated are for guidance only) The figures in the drawings shall be followed.
21. The contractor shall be responsible for completing the work and for satisfying all terms and conditions of the Contract without any extra payment over his quoted rates unless otherwise specified. The contractor shall quote his rate for various items of work accordingly and no claim whatsoever shall be entertained for any incidental or extra work involved in the execution of the work as per nomenclature of the item and the specifications indicated in the tender documents.
22. Subject to the nomenclature of the item as per schedule of quantities, the specification indicated in the tender documents, the rates quoted shall include cost of all materials including royalty and taxes if any, labour, sundry inputs, execution of work at all heights, levels, pattern and design for all leads, lifts and depths including overhead charges and contractor's profit. Nothing extra shall be paid on this account.
23. The rate shall be inclusive of making design, pattern and execution of work as per Architectural drawings, at all levels and heights.
24. Other agencies doing works related with this project will also simultaneously execute the works and the contractor shall afford necessary co-ordination for un-hindered completion of these sub-works.
25. The contractor shall give a satisfactory performance test of installations individually and as a whole to ensure their proper functioning before the work is finally declared and completed and accepted.
26. The contractor shall continue to maintain watch and ward to safeguard the Owner's property in his possession until the same is formally handed over as per directions of the Bank/ Architect. Nothing extra over agreement rates shall be paid on this account.
27. All tools, plants and measuring or weighing equipment shall be arranged by the contractor himself and nothing extra shall be paid to the contractor on this account.
28. The quantities of various items incorporated in the tender are approximate. However, the payments shall be made to the contractors on the basis of actual measurements taken at site.
29. The contractor shall protect the adjoining buildings or works and the work under execution from fire and shall make adequate arrangements for fire protection and firefighting and if any property is damaged, by fire due to the negligence of the contractor, the same shall be made good by the contractor at his own cost, to the entire satisfaction of Bank/ Architect.

30. The contractor shall provide adequate lighting arrangements as approved by the Bank/ Architect for carrying out the work during night time, if so required and also provide all other facilities for the labour employed to carry out the work as per direction of Bank/ Architect.
31. In order to achieve the targeted date of completion the contractor May have to work in multiple shifts, round the clock including public and gazetted holidays and nothing extra shall be paid on this account. However, the Contractor shall be liable for the compliance of all applicable labour laws at all the times.
32. All materials, articles and workmanship shall be of respective best quality and kind for the class described in the schedule of quantities and specifications. All materials, so used in different items of work shall be subject to the approval of the Bank/ Architect.
33. The contractor shall be responsible for all statutory provisions and deductions towards ESI, PF or any other applicable Labour Laws, as the case May be or any other levies and taxes shall be borne by the contractors. The TDS or any other statutory levels/taxes incorporated from time to time shall be deducted progressively from the running account bills, as applicable at the time of payment. No claim in this regard shall be entertained.
34. The contractor shall be responsible for payments of all statutory dues with respect to each of his personnel/employees engaged by him to render service under this Agreement with respect to each applicable/extant labour law, including, the Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Employees' State Insurance Act, 1948, The Payment of Gratuity Act, 1972, The Maternity Benefit Act, 1961, The Employees' Provident Funds and Miscellaneous Provisions Act, 1952, etc. No dues/contributions under any labour legislations as applicable, remain payable by the Employer with respect to his personnel/employees, and the contractor shall produce all records to the Bank/ Architect or any other statutory authority as and when called for. The Bank/ Architect does not hold any responsibility on account of any lapses in this regard. The contractor shall submit an undertaking in this regard with each bill confirming payment of all dues of sub-contractors and all statutory wages to labour working under him/her/sub-contractor.
35. No extension of time shall be granted to the contractor on account of rains or inclement weather conditions.
36. For any clarification/ doubt, the Bank may organize regular meetings with Contractor. The contractor shall attend such meetings invariably as and when required.
37. In respect of the work of other agencies, where the commencement or progress of such work of any other agency is dependent upon the completion of particular portions of the contractor's work or generally upon the contractor maintaining progress in accordance with the approved coordinated construction program, it shall be the responsibility of the Contractor to complete such portions and maintain such progress.
38. The contractor shall have to do all drilling of holes and cutting of walls, chases or other elements of the building for the complete and proper installation of the pipe lines/ ducts and other equipments by using electrically operated tools such as drills/ chases cutting machine etc. Manual drilling or chiseling or cutting shall be permitted on special request only. Prior permission for the same is to be obtained from the Bank.

39. No chiseling or cutting or drilling of RCC columns, beams, girders and other principal structural members shall be done unless prior permission has been granted by the Bank/ Architect in writing.
40. All chases and openings made by the contractor for his pipe lines shall be filled/ covered over with cement plaster in reasonable manner. Before rough plastering on the pipe surfaces the concealed pipes shall be secured to the wall by using proper supports/ clamps.
41. The contractor will neither be allowed to construct labour hutments nor his workforce be allowed to stay.
42. All spaces allotted to the contractor as described above shall be vacated and all structures removed from site at any time as and when required and directed by the Bank/ Architect, unconditionally and without any reservation. The Bank/ Architect will not be obliged to give any reason for such removal. Upon receiving instructions to vacate the space, the contractor shall immediately remove all his structures, materials, etc. from the sources and clear and clean-up the site to the satisfaction of the Bank/ Architect.
43. It shall be the responsibility of the Contractor to safeguard the site and ensure that no illegal encroachments are made by outside elements within the area allotted to the contractor. Upon completion of the work or earlier as required by Bank/ Architect, the contractor shall vacate the land totally without any reservation.
44. The security of workmen, materials, equipment stores etc. within the area allotted to the contractor shall be the responsibility of the contractor.
45. The site of work shall have required equipments for various tests at site by the contractor at his own cost and nothing extra shall be payable on this account.
46. The contractor shall arrange the required minimum plant and equipments at site for the execution of work. These may have to be increased depending on the requirement of the site.
47. The quantities indicated are for guidance only. However, it may vary to any extent and the contractor should not have any financial or other implications for such variations. The Bank reserves to reduce the scope of work of any item if the contractor fails to deliver the works in time and the contractor shall not ask for any financial consideration for such deletion of scope of the work.
48. Any extra item shall be worked out as actual cost of the materials and actual cost of the labour plus 15% as overhead and profit. The decision of Bank/ Architect will be conclusive and final binding on the contractor.
49. The contractor shall take photographs of site prior to commencement of work, during construction and after completion of work as suggested and shall submit the photographs in soft and hard copies to Bank for which no extra payment will be made.
50. Layout of works shall be got checked by Bank/ Architect & only then further work shall be taken by after approval.

51. All electrical works shall be got carried out through licensed Electrical Contractor having experience of similar work. Successful bidder to submit the details of licensed Electrical Contractor and get approval from the Bank before start of Internal Electrification Work. The work shall be executed as per specifications and strictly in keeping with relevant IS code and rules and regulations of authorities.
52. The work should be carried out as per latest CPWD specification and as per the standard engineering practice. All measurements shall be made as per CPWD norms.
53. Site should be cleaned every day and all the unusable material/malba shall be removed from the site and unusable materials shall be stacked properly so that there is no hindrance for staff and public failing which bank will remove the same at their level and suitable amount shall be recovered from the contractor's bill.
54. The contractor shall be required to maintain the coordination with the Building Maintenance Contractor, if required.
55. No old / dismantled material shall be used by the contractor in the work under any circumstances unless otherwise specified or under instructions of the bank.
56. The bidder shall visit the site and examine the rebate items and site conditions before quoting the rates.
57. Dismantling & taking away includes the disposal of unserviceable material / malba to approved municipal yard.
58. The Rebate items shall be the property of the contractor. Rates of rebate item shall be considered as negative while calculating the value of tender and the same are to be quoted in negative only.
59. The Contractor shall comply with the provisions of Contract, Labour (Regulation & Abolition) Act, 1970, Minimum Wages Act and all other Labour Laws and other Statutory Regulations (both Central and State) that may be enforced from time to time by the appropriate authorities. Bank shall not be held responsible for any penalty on failure of the any Labour Regulations. Bank shall have the power to inspect the Wage Register and for physical verification of salary paid to the staff with reference to any records of the Contractor and to insist the Contractor to comply with Laws.
60. Contractor should obtain necessary permission that may be required for the purpose of this Contract from such authorities as may be prescribed by Law from time to time.
61. Contractor or his authorized representative should visit the site frequently as required by the Bank and meet Bank's Engineer/ Architect with prior appointment for any clarifications and to receive instructions, take measurements, etc. at the site.
62. The Contractor should arrange to issue photo identity card to his workers.
63. Any act of indiscipline / misconduct / theft / pilferage on the part of any employee engaged by the Contractor resulting in any loss to Bank in kind or cash will be viewed seriously and Bank will have the right to claim damages or levy fine and / or terminate the Contract forthwith, if necessary.

64. In case of any default or failure on Contractor's part to comply with all / any one of the Terms/ Conditions, Bank reserves to itself the right to take necessary steps to remedy the situation including, inter-alia, the deduction of appropriate amount(s) from dues otherwise payable to Contractor and / or by taking recourse to appropriate recovery proceedings.
65. Keeping the area clean and removal of debris: Contractor shall arrange to dispose off debris, any other waste product created while carrying out the work, outside Bank's premises. The Contractor shall take due care while disposing of such waste materials and ensure that any rules / regulations laid down by Municipal Corporation or any other statutory body are not violated. The Contractor shall be responsible and answerable to any complaint arising out of improper disposal of waste material. Quoted rates shall involve the cost of same and no extra payment shall be made towards this account.
66. It is mandatory to provide purchase voucher of the material where basic rates are given in Bill of Quantities (BOQ). However, Bank may instruct the contractor to submit purchase voucher/test certificate of any material.
67. BOQ nomenclature shall prevail over any drawing/detail.
68. The specification for the entire work shall be in accordance with latest CPWD specifications and latest IS codes. Whenever these codes are silent, the same shall be governed by sound engineering practice and the decision of the Bank in matter of interpretation shall be final and binding on the contractor.
69. Water shall not be provided by Bank to Contractor. Necessary arrangement/ sourcing/ extension, if required, shall be done by the contractor at his own cost with the approval of Bank. No extra payment will be made to the contractor for the same. Contractor shall have to arrange for D. G. set / temporary power supply at his/ her own cost, risk and responsibility to carry out the works at site whenever required for and asked by the Bank. The contractor shall at his own cost arrange for necessary power for the work and lighting for the entire period of contract. However, Bank may provide power from their existing source at site upon being provided a suitable, correctly calibrated and properly sealed electric sub-meter with calibration certificate issued by BIS/ BEEE/ Govt. recognized & registered / NABL accredited certifying agency and approved by Bank. Bank will recover from the contractor the power consumed on actuals as per prevailing rate from time to time from their running bills / final bill. But in no way Bank will be held responsible for continuous supply of electricity.
70. Contractor shall associate a specialized agency for specialized works such as water proofing work, anti-termite treatment work, etc. having suitable experience in the field and same shall be got approved from the Bank prior to execution of the specialized work within 3 days' time with credentials of the agency. Contractor should get approval from Bank before commencement of the specialized work. Contractor to give 10 (ten) year performance guarantee on a non-judicial stamp paper of Rs. 100 as per Performa attached (Guarantee Bond for specialized works) at Annexure 'A' & 'B'. 10% of specialized works amount shall be withheld during the period of this performance guarantee.

71. **WATER**

The rates quoted by the contractors shall include for providing all the water required for the work including that required by special tradesmen and sub-contractors and pay all charges required by local authority or other authorities to get connection. Water must be clean, fresh, pure and free from earth, vegetable or organic matter acid or alkaline substance in solution or suspension. The contractors must execute any temporary plumbing work and pay all fees and charges. The contractors will be allowed use of any water surplus to requirements of the Employer from any existing well if any on the site, but no guarantee is given that the quantity available would be sufficient. The contractor will make his own arrangements for pumping and storing water. If supply from the Municipality or other bodies be inadequate, the contractor should provide tube well, tanker water duly tested or wells or open well at his own cost. All Health regulations in force shall be strictly observed by the contractor and pay all necessary charges.

72. ELECTRICITY

The contractor shall arrange with the concerned Electric Supply Authorities for a temporary meter for electric supply to the site and shall provide all temporary wiring, power and lighting points for the whole of the works and clear away when no longer required. He shall pay all charges for same and for current consumed, including the consumed by sub-contractors. Bank shall only sign any application form as owner of the property.

But considering the scanty nature of Electrical supply in Rural areas, the contractor is advised to keep a D.G. set of adequate capacity so as to facilitate uninterrupted construction activity despite the expenditure for diesel & maintenance of the D.G. set as well as the Electrical consumption shall be the responsibility of the contractor at his cost.

73. USEFUL EXCAVATED MATERIALS:

Should suitable sand or gravel or murum or rock be found in the excavation and the contractor be allowed to use the same in the work, he will be required to pay the Employer the full market value of the same. Any sand, gravel, murum or rock taken from the Excavation will remain the property of the Employer and in the event of it not being allowed to be used in the work, the Bank/ Architect reserves the right to dispose it off in any away as ordinary excavated materials.

74. TOOLS FOR MASONS

Every bricklayer or plasterer on the work shall be provided with suitable level battens, trowels, wooden floats and breaking hammers for cutting brink and templates, to enable him to carry out the work in a neat and workmanlike manner, and each gang of brink layers or plasterer not exceeding six in numbers shall be provided with a suitable measuring rule, a plumb bob, a spirit level and a square in addition to the above mentioned, all to be to the approval of the Bank/ Architect.

75. CONTRACTOR TO ASSIST SITE ENGINEER FOR TAKING MEASUREMENTS

The contractor or his representative shall accompany the Site Engineer when required to do so and assist in taking the measurements and shall agree to the measurements recorded on the spot.

If the Contractor fails to accompany the Site Engineer or any other person that has been duly authorized by the Architect to take measurements then in such a case the

measurements recorded by the Site Engineer or Architect's representative shall be binding on the Contractor.

All measuring tapes shall be steel and scaffolding and ladders that may be required for taking measurements shall be supplied by the Contractor, at his expense.

76. THEORETICAL CHECK

After the completion of the work the theoretical quantity of cement to be used on the work shall be calculated on the basis of standard coefficients. Over the theoretical quantity so calculated shall be allowed a variation upto 2% minus.

In the event of it being discovered that the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variations on the minus side as stipulated above), the cost of the quantity of cement not so used shall be recovered from the contractor. CPWD Specification/ work manual shall be used to determine this recovery.

77. NO OVER LOADING OF SLABS:

Floors of buildings under construction shall not be loaded by stacks or materials during construction without the prior approval of the Architect. It is important that no load comes on the reinforced concrete floors until they are at least three weeks old and at no time must be load placed upon them exceed the load for which they are designed.

78. RATES TO COVER FOR WORK AT ALL HEIGHTS AND LEVELS:

The rates quoted by the contractor should cover for work at all heights and levels for all items or work under this contract. Lift of materials will not form any criterion for claiming extra payment.

79. ALTERNATIVE ITEMS:

In regard to alternative and 'rate only' items if any specified in the Schedule of Quantities, Contractor should note that Circle Office Kozhikode of Bank reserves the right to order the principal item or its alternatives to any extent entirely at Circle Office Kozhikode of Bank's discretion.

80. PROVISIONAL ITEMS:

If ordered by the Architect, Contractor shall be required to carry out provisional sum items at the same conditions and rates as applicable for this contract.

81. ATTENDANCE OF SUB – CONTRACTORS:

CO-ORDINATION: There may be separate tenders for any other specialized works/Items if required. The contractor is required to Co-ordinate & co-operate with all other agencies that are awarded with such other works during the entire project execution. Coordination / incidental charges, if any shall be included while quoting the rates for the different items of works as given in BOQ. Few such Special works/ Items are interior works, Lift installation, Fire Fighting System, Generator, & Transformer installation works, Air Conditioning etc. The contractor shall be responsible for the Co-ordination of all the work including that of sub-contractors and nominated sub-contractors, for arranging runs of all services and working to the requirements and layouts of the specialist trades, in all matters necessary for the complete execution of the work.

82. MINIMUM REQUIREMENTS OF THE TECHNICAL STAFF:

Unless otherwise stated, contractor should note that irrespective of the fact whether the proprietor himself is a qualified Engineer or not he shall appoint a qualified resident Engineer having a recognized Degree in Civil Engineering or a Diploma holder with 2 years experience on similar works. Failing which Circle Office Kozhikode of Bank shall engage a Civil Engineer on behalf of the contractor and shall deduct a salary amount of minimum ₹20,000/- per month from his running bills, from the date of his non-employment of qualified Civil Engineer.

83. GUARANTEE FOR SPECIAL WORKS:

For special works like Anti-termite treatment and water proofing works, guarantee issued by the special agencies who are engaged for such works by the contractor, shall be submitted to Circle Office Kozhikode of Bank. For Termite treatment minimum 10 years guarantee and for water proofing of terrace, sump tank, toilets sunken portion, basement floor & wall areas minimum 10 years is insisted. Such guarantees shall be submitted in the approved format of Circle Office Kozhikode of Bank and the main contractor shall be responsible for any breach in such guarantee terms.

84. Plan of Operations:

Before commencing the works the Contractor shall supply to the architect for his approval.

- Shop Drawings showing the general arrangement of his temporary buildings, access and other temporary works.
- General information of all construction, pumping, washing of sand and aggregate, excavation, piling, haulage, erection and other plant and equipment
- Provisions for dealing with water encountered on the works.
- Order in which the Contractor proposed to executed the temporary and permanent works to be indicated by diagrams and descriptions. This will be subject to adjustment and approval by the Architect
- A bar chart indicating the work planning & programming by the contractor.

85. Blasting:

- Where blasting has to be resorted to for rock cutting, it shall be the responsibility of the contractor to arrange for the following at his entire risk, cost and responsibility
- Permission from all the connected public authorities such as Municipal Corporation Inspector of Explosives, Police, and Highway Authorities etc. shall be obtained
- Fees, Royalties and any other levies attendant on such blasting work shall be entirely borne by the contractor.
- All precautionary measures such as notices to adjoining property and other agencies working in and around the plot, signalling and watch etc. Shall strictly adhere to according to the various regulations in force

All Risk-Insurance in respect of the blasting hazards to men and materials within and in the vicinity of the plot. This insurance shall be apart from the Contractors All-Risk Insurance Policy stipulated under General Conditions unless the Contractor incorporates blasting hazards and its coverage in the said general policy.

Signature of the Contractor

SAFETY CODE

- i) Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work, which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
- ii) Scaffolding or staging more than 4 m. above the ground floor, swung or suspended from an overhead support or erected with sanitary support shall have a guard rail properly bolted, braced or otherwise secured, at least 1 m. above the floor or platform of such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- iii) Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4 m. above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above
- iv) Every opening in the floor of a building or in a working platform with suitable means to prevent the fall of persons or materials or railing whose minimum height shall be 1.00m. Whenever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
- v) Safe means of access shall be provided to all working places every ladder shall be securely fixed. No portable single ladder shall be over 9 m. in length while the width between side rails in rung ladder shall in no case, be less than 290 mm, for ladder up to and including 3 m. in length. For longer ladders this width shall be increased at least 20 mm for each additional meter of length.
- vi) A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer / Architect obtained prior to construction.

Other Safety Measures

- vii) All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
- viii) Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

Excavation & Trenching

- ix) All trenches, 1.25 m. or more in depth shall at all times be supplied with at least one ladder for each 30 m. in length or fraction thereof. The ladder shall be extended from bottoms of the trench to at least 1 m. above the surface of the ground. Sides of trenches which are 1.5 m. 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.

x) The excavated materials shall not be placed within 1.5 m. of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

xi) The contractor shall take all measures on site of the work to protect the public from accidents and shall be bound to bear the expenses of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the precautions and to pay any such persons or which may with the consent of contractor, be paid to compromise any claim by any such person.

Demolition

xii) Before any demolition work is commenced & also during the process of the work.

All roads open areas adjacent to the work site shall either be closed or protected.

No electric 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.

All practical steps shall be taken to prevent danger to persons employed from the risk so over loaded with debris or materials as to render it unsafe.

Personal Safety Equipments

xiii) All necessary personal safety equipment like helmets, safety belts etc as considered adequate by the Architect should be kept available for the use of the person 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.

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles. Those engaged in white washing and mixing or stacking of cement bags or any materials, which are injurious to the eyes, shall be provided with protective goggles. Those engaged in welding works shall be provided with welder's protective eyesight lids. Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals. 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 manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public

The contractor shall not employ men below the age of 18 years. Women of any age shall not be engaged for the work of painting with products containing lead in any form. Whenever men above the age of 18 years are employed on the work of lead painting the following precautions should be taken. No paint containing lead or lead products shall be used except in the form of paste or ready-made paint. Suitable facemasks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped. Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work. When the work is done near any public place where there is risk of accidents all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

Hoisting Machines

xiv) Use of hoisting machines and tackle including their attachments anchorage and supports shall conform to the following standards or conditions.

1. (a) These shall be of good mechanical constructions, sound materials and adequate strength and free from patent defect and shall be kept in good working condition with necessary preventive maintenance

(b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.

2. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be anchorage of any hoisting machine including any scaffolding without signals to operator

3. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

4. In case of department machines, the safe working load shall be notified by the Engineer. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Engineer whenever he brings any machinery to site of work and get it verified by the Engineer concerned.

a) Motors, 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 reduced to minimum of risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, 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.

b) 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 should be provided near the place of work.

xv) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

xvi) To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineers of the Department or their representatives.

xvii) Notwithstanding the above clause from (i) to (xv), there is nothing in these to attempt the contractor from the operation of any other Act or Rule in force in the Republic of India

Witness

Signature of Contractor

Address

**GUARANTEE BOND FOR WATER PROOFING WORKS for the work of
CONSTRUCTION OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT
VATAKARA VILLAGE & MUNICIPALITY**

The Agreement made thisday of two thousand and betweenson of of (hereinafter called the Guarantor of the one part) and the Punjab National Bank (Asst. General Manager, General Administration Department at Circle Office: Kozhikode, Shatabdhi bhavan, P.O. Govindapuram, Kozhikode – 673 016) (hereinafter called the Bank of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract) dated and made between the GUARANTOR of the one part and the Bank of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely water and leak-proof.

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **ten years** from the date of giving of water proofing treatment.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak-proof and the minimum life of such water proofing treatment shall be **ten years** to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- (a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof;
- (b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;
- (c) The decision of the Bank's Officer-in-Charge with regard to cause of leakage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found, render the building water-proof to the satisfaction of the Officer-in-Charge at his cost, and shall commence the work for such rectification within seven days from the date of issue of the notice from the Officer-in-Charge calling upon him to rectify the defects, failing which the work shall be got done by the Bank by some other contractor at the GUARANTOR'S cost and risk. The decision of the Officer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if GUARANTOR fails to execute the water proofing or commits breach thereunder then the GUARANTOR will indemnify the Bank or its successors or assigns against all losses, damages, costs, expenses or otherwise which may be incurred by reason of any default on the part of the GUARANTOR in performance and observance of this

supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Bank the decision of the Officer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Guarantorand by for and on behalf of the Punjab National Bank on the day, month and year first above written.

Signed, sealed and delivered by Guarantor in the presence of —

1.

2.

Signed for and on behalf of Punjab National Bank by in the presence of—

1.

2

Remarks :

- i) This form is included in the tender document only for the information of bidders. Only the successful bidder will in due course be required to complete this form.
- ii) Stamp Duty of this Agreement will be borne by the successful bidder.
- iii) The Bond is to be submitted separately by the successful tenderer on a non-judicial stamp paper of Rs. 100/- (Rupees One Hundred) only.

**GUARANTEE BOND FOR ANTI-TERMITE WORKS for the work of CONSTRUCTION
OF BRANCH BUILDING IN R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE &
MUNICIPALITY)**

The Agreement made thisday of two thousand and betweenson of of (hereinafter called the Guarantor of the one part) and the Punjab National Bank (Asst. General Manager, General Administration Department at Circle Office: Kozhikode, Shatabdhi bhavan, P.O. Govindapuram,Kozhikode – 673 016) (hereinafter called the Bank of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract) dated and made between the GUARANTOR of the one part and the Bank of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely termite-proof.

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain termite-proof for **ten years** from the date of giving of anti-termite treatment.

During this period of guarantee the guarantor shall make good all defects and for that matter shall replace at his risk and cost such wooden member as may be damaged by termite and in case of any other defect being found, he shall render the building termite proof at his cost to the satisfaction of the Officer-In-Charge and shall commence the works of such rectification within seven days from date of issuing notice from the Officer-In-Charge calling upon him to rectify the defects falling which the work shall be got done by the Bank by some other Contractor at the guarantor's cost and risk and in the later case the decision of the Officer-In-Charge as to the cost recoverable from the guarantor shall be final and binding.

That if the Guarantor fails to execute the Anti-Termite treatment or commits breaches hereunder then the Guarantor will indemnify the Bank or its successors against all losses damages, cost expenses or otherwise which may be incurred by reasons of any default on the part of the guarantor in performance and observance of this supplementary Agreement. As to the amount of loss and or damage and/or cost incurred by the Bank, the decision of the Officer-In-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Guarantorand by for and on behalf of the Punjab National Bank on the day, month and year first above written.

Signed, sealed and delivered by Guarantor in the presence of —
3.

4.

Signed for and on behalf of Punjab National Bank by in the presence of —
1.

2.

Remarks :

- i) This form is included in the tender document only for the information of bidders. Only the successful bidder will in due course be required to complete this form.
- ii) Stamp Duty of this Agreement will be borne by the successful bidder.
- iii) The Bond is to be submitted separately by the successful tenderer on a non-judicial stamp paper of Rs. 100/- (Rupees One Hundred) only.

INDEMNITY BOND FORMAT

(CONSTRUCTION OF BUILDING FOR BRANCH OFFICE OF PUNJAB NATIONAL BANK IN
R.S. NO: 63/23, WARD NO: 9 AT VATAKARA VILLAGE & MUNICIPALITY)

THIS DEED OF INDEMNITY BOND is made on this _____ day of _____ month of year two thousand nine (_____) By M/s _____ duly represented by proprietor / one of its partners Sri _____, aged _____ years, son of Sri _____, residing at _____.

Where as I am the authorised partner of M/s _____, and had applied for prequalification of contractors for Construction of Building for Vatakara Branch office Punjab National Bank situated at Vatakara.

Whereas My Company was short listed for issue of tenders and my company became successful in securing the subject work through competitive tendering and the work of Construction of Building for Branch Office of PUNJAB NATIONAL BANK situated in Vatakara have been entrusted to M/s _____.

And whereas for undertaking the construction work, my company has entered into contract agreement on _____.

Now this Deed Witnessed that in pursuance of the aforesaid contract agreement dt. _____ and in consideration of Circle Office Kozhikode of Bank having agreed to make payments on the running bills claimed by my company based on the works completed by my company in respect of Construction of Building for Vatakara Branch Office situated at, and referred to above,

I hereby undertake to indemnify and keep harmless the Circle Office Kozhikode of Bank & its project Architect from any damages, prosecution, other legal suits and claims arising out of any mishaps occurring at the site due to faulty work, faulty construction and for violating rules and regulations for which I shall be solely responsible.

Signature of Contractor

Witness:-

With seal

1.

2.

CERTIFICATE OF BILL

RA Bill No.

Reg: Construction of Branch Building in R.S. No. 63/23, Ward No: 9 at Vatakara Village & Municipality.

Undersigned, Manager/ Architect from Bank's side for the project of **Construction of Branch Building in R.S. No. 63/23, Ward No: 9 at Vatakara Village & Municipality** hereby certify and recommend the RA bill of contractor i.e. M/s dated for a gross value of ₹ (Contractor's bill) as under:

- | | |
|--|----------|
| 1. (a) Gross value of work done (Tender items)
as certified in Abstract Measurement book
No. Page No. and in page no. of
Contractor's bill | ₹ ----- |
| (b) Less/ Add/ Rebate/ enhancements as per
Agreement (may be taken into 'a' if item-wise
Adjustment is required) | ₹ --- |
| (c) Price Variation Agreement: | |
| i) On cement of ₹ certified in p. --- of contractor's bill | ₹ ---- |
| ii) On steel as certified in p. ---- of contractor bill | ₹ ---- |
| iii) On other material as certified in p. ---- of contractor's bill | ₹ --- |
| iv) On other labour certified in p. ----- of contractor's bill | ₹ ----- |
| (d) Secured advance against material lying
at site (Market value of the material is
₹ ---as certified in Measurement book
No. ---- Page no --- and in contractor's bill
Page no ---) | ₹ |
| (e) Extra items of work done
(Certified in contractor's bill page no. --- and
Measurement Book No. ---- page no ---) | ₹ |
| (f) Deviation items within 25% of work done
(Certified in contractor's bill page no. --- and
Measurement Book No. ---- page no ---) | ₹ |
| Gross Amount Certified | ₹ |

2. This bill is certified for the above work done during the period from to

3. 100% measurements have been checked (jointly with the representative of the contractor). Contractor's signature has been obtained in Measurement Books as token of acceptance of measurement and amount.
4. Rates allowed are as per the tender tender agreement. Part-rate has been allowed in some of the items and the justification has been provided in AMB.
5. Total (+) deviation upto this bill over tender quantity is amounting to ₹ item wise deviated amount for all +ve deviated item are provided in Abstract MB.
6. Quality of work done at site is satisfactory and specification adopted is strictly as per tender and all the brand of material used areas per approved list (for any deviation in this justification and detail to be given)
7. Materials for which secured advance has been allowed are physically verified to be lying at site in good condition and properly safeguarded against any damages and on account of E-way bill receipt of transporter. Rates allowed for the materials are as per bill value and/or within justified limit of item rate.
8. Theoretical content consumption for the work done upto this bill is ---- bags as per annexure ____ i.e. cement consumption statement and against this actual consumption at site till date ---- is ---- bags as per cement stock register.
9. Dia wise steel consumption as against the stock statement is given in Annexure__
10. PVA of cement, steel other material and labour has been allowed upto ---RA bills respectively and supporting documents are enclosed with the bill (---- no. of pages)
11. Extra/ Substitutes itemno's has been allowed/ executed at site. The details of the same are given in Annexure ____ i.e. extra item statement/ substituted item statement.
12. The claim made by the contractor (except in Qty) but not allowed in this bill are listed in Annexure ____ alongwith reasons for not allowing such items etc.
13. Progress of work at site against CPM/ BAR chart or completion schedule is as under:
Work is behind the schedule by approx. ____ days.
14. Any other information:-

15. A lumpsum deduction of ₹ ---- is proposed from amount certified above for the following head :

Place :

Date
Architect

APPENDIX-VII**RUNNING A/C BILL****BILL FORMAT**

1. Name of work :
2. Name of owner :
3. Name of Contractor :
4. Accepted contract amount :
5. Date of commencement :
6. Stipulated date of completion :
7. Actual date of completion :
8. Extension, if any :
9. Insurance valid upto :
- a) Workmen Compensation Act :
- b) Contractor's all risk Comprehensive :
10. Labour license no. and date & valid upto :
11. Serial no. of this bill :
12. No. & date of this bill :
13. Ref. to agreement no. :
14. Earnest money deposit :
15. Total retention money excluding E.M. as per contract :
16. Total retention money excluding which this bill has been prepared (Date to be mentioned) :

Sr. No	Item Description	Unit	Rate (₹)	As per tender		Upto previous R/A Bill		Upto date (Gross)		Present bill	Remarks
				Qty	Amount (₹)	Qty	Amount (₹)	Qty	Amount		

Note:

i) If part rate is allowed for any items,

It should be indicated with reasons
For following such rate.

_____ New value (A) since previous bill

ii) If adhoc payment is made, it should be mentioned specially.

Signature of the Contractor

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

No.	Item	Quantity	Unit (in ₹)	Amount	Remarks
1	2	3	4	5	6

----- Total value of
 materials at site -----Secured Advance @ ----- % of above
 value.

B. -----

Certified:

That the materials mentioned above have been actually been brought by the Contractor to the site of the work and no advance on any quantity of any of this item is outstanding on their security. The materials are of imperishable nature and are all required by the Contractor for use in the work in connection with the items of which rates of finished work have been agreed upon/

Date : _____

 Signature of Site Engineer

Date : _____

 Signature of Contractor

Date : _____

 Signature of Architect

CERTIFICATE

The measurements on the basis of which the above entries in the Running Bill no. _____ were made have been jointly measured on _____ and are recorded at pages _____ to _____ of measurements book no. _____. The work recorded in the above mentioned measurements have been done at the site satisfactorily as per tender drawn conditions and specifications

Signature of Contractor Signature of Site engineer Signature of Architect

Date: _____ Date: _____ Date: _____
Place _____ Place _____ Place _____
We hereby certify that an amount of ₹ _____

_____ (Rupees only) may be paid to M/s _____ against bill No. dated as per details shown vide our letter no. Dated subject to deduction towards previous payments, retention money and taxes.

Signature of Architect

Date: _____
Place _____

STATUTARY DEDUCTIONS:

1. Total amount due ₹ _____
 2. Less: I.T. payable _____
- Net payable ₹ _____

The figures given in the memorandum for payment has been certified and the bill passed for payment _____ towards and figures.

Signature of the Employer

Date: _____

APPENDIX-X**DETAILS OF INSURANCE POLICIES**

Type of policies	Name of Insurance Amount Rs.	Policy No.	Validity	Type of policies
CAR Policy including 3rd Party liability				
Workmen's Compensation				

SCHEDULE A

TECHNICAL SPECIFICATIONS FOR CIVIL WORKS

1. GENERAL

a) Work to be executed as per CPWD specification. The Technical Specifications in respect of all materials to be used, method of execution, workmanship and quality for each item of the work shall confirm to the latest Indian Standard.

b) In case where the specifications in the drawings or those given in schedule of quantities are found wanting, the latest CPWD specifications shall hold good.

c) Whenever reference has been made to Indian Standard or any other specifications, same shall mean to refer to latest specifications irrespective of any particular edition in the specifications below or in schedule of quantities.

2. WORKMANSHIP

The workmanship shall be the best of its kind and shall conform to Specifications as per relevant Indian Standard/ CPWD Specifications in every respect or the latest trade practice and shall be subject to the approval of the Architect. All materials and / or workmanship which in the opinion of the Bank/Architect is defective or unsuitable shall be removed immediately from the site and shall be substituted with proper materials and / or workmanship forthwith

3. MATERIALS

- a) All materials shall be best of their kind and shall conform to the latest Indian Standards.
- b) All materials shall be of approved quality as per samples and approved by the Bank.
- c) A set of specimen samples of all approved materials shall be kept at site as well as in the office of the engineer, the cost of which to be borne by the contractor.

i) Cement: Shall comply with the latest specifications confirming to IS: 8112 for 43 grade OPC and IS 12269 for 53 grade cement as per preferred makes listed in page 120 of this document

ii) Reinforcement: High Yield Strength deformed bars conforming to IS 1786 – 1990 Fe 500(thermo mechanically treated bars) and Mild Steel confirming to IS432 (part-1).

iii) Coarse Aggregate: Shall be of the best quality, hard machine crushed stone free from earth or any organic matter etc. Suitably graded and shall conform to IS: 383-1990

iv) Sand: Shall be river sand clean, sharp, strong, angular and composed of hard silicious materials. It shall be free from any harmful materials such as iron pyrites, coal mica, shale, clay alkali, soft fragments, sea shale, organic impurities, etc. It shall be obtained from approved quarries and shall conform to IS:383-1990

v) Bricks: It shall be first class table moulded bricks approved by the Architect well burnt, sound, hard square and with sharp edges and shall conform to Indian Standards 1077 – 1992 having strength of 35 kg/sq.cm (3.5N/mm²) as specified in the item.

vi) Timber: Shall be of best quality as specified in the schedule of quantities perfectly dry, well seasoned and free from sap wood, sound straight, free from loose knots, cracks shakes and any appearance of rot and any other defect and conforming to IS: 12896 – 1990 and shall be approved by the Architect. No wood work shall be placed in position covered in the wall unless it is approved by the Architect

vii) Flush Shutters: Flush shutter if required shall be factory made of solid core construction with frame lock rail and well balanced backings and faced with high quality commercial or teak veneering as specified. The shutters shall be chemically treated proofing against termites as per IS: 2202 – 1991

viii) Ceramic Tiles: Will be of approved make, colour, design and size conforming to IS: 777 – 1988

ix) Granite: Polished granite slab and tiles shall be of the kind specified in the schedule of quantities conforming to samples approved by the Architect for colour & texture. The slab shall be machine cut to required dimensions and shall conform to IS Standards

x) Plastic (Acrylic) Emulsion Paint and Enamel Paint: Plastic emulsion painting will be of approved brand of paint and colour conforming to IS: 5411 – 1991 & will be applied over a coat of primer & putty (including preparation of wall surface). Painting for the doors, windows, grills will be carried out with synthetic enamel paint of approved brand and colour over one coat of primer, metal putty all of relevant IS specifications 4511-1993.

xi) Hardware Fittings for Doors: All the doors shall be provided with MS powder coated hinges, tower bolts, locks etc or as specified in schedule of quantities. The external doors shall be provided with Godrej make locks. All the fittings shall be approved by the Architect.

xii) Water: Water used for mixing concrete and mortar and for curing shall be clean and free from injurious amounts of oil, acid, alkali, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel. The pH value of water shall be not less than “6”. Water has to meet the requirements mentioned in clause 5.4 of IS: 456–2000. Water for construction purpose shall be stored in well protected and proper tanks.

xiii) Admixtures: Admixtures if used shall comply with IS 9103. Admixtures to concrete shall not be used without the written consent of the Architect. When permitted, the contractor shall furnish full details from the manufacturer and shall carry such test as the Architect may require before any admixture is used in the work to check particularly for Chlorides.

xiv) Admixture may be used to modify one or more of the following properties of FRESH CONCRETE.

- a) To increase workability without increasing water content or to decrease the water content at the same workability.
- b) To retard or accelerate both initial and final setting times.
- c) To reduce or prevent settlement.
- d) To increase slight expansion in concrete and mortar.
- e) To modify the rate or capacity for bleeding or both.

- f) To reduce segregation of concrete, mortars and grouts.
- g) To improve penetration & or pump ability of concrete, mortars & grouts.
- h) To reduce rate of slump loss

xv) Admixtures may also be used to modify one or more of the following properties of:

HARDENED CONCRETE:

- (1) To retard or reduce heat generation during early hardening.
- (2) To accelerate the rate of strength development.
- (3) To increase the strength of concrete or mortar (Compressive, tensile or flexural).
- (4) To increase the durability or resistance to severe conditions of exposure including the application of deicing salts.
- (5) To decrease the capillary flow of water.
- (6) To decrease the permeability to liquids.
- (7) To control the expansion caused by the reaction of alkaline with certain aggregate constituents.
- (8) To produce cellular concrete.
- (9) To increase the bond of concrete to steel reinforcement
- (10) To increase the bond between old and new concrete.
- (11) To improve impact resistance and abrasion resistance.
- (12) To inhibit the corrosion of embedded metal.
- (13) To produce coloured concrete or mortar.

xvi) Integral waterproofed: Admixture used as integral waterproofed shall be free of chlorides sulphates and shall conform to IS: 2645, the application and doses shall be as per manufacturer's specification

xvii) If there is any discrepancies in specification of items of work in schedule of quantities and in specification schedule and also items not covered in technical specifications, latest. IS specification shall apply.

xviii) Whenever items of materials not covered in IS specification, the approval of Architect/employer will apply.

4. EARTHWORK:

4.01 Site Clearance: The site shall be free from rubbish of all kinds, rocks, trees, dirt and superfluous earth, all shrubs, brush wood, stumps of trees and saplings, grass and other rant vegetation etc. The serviceable material to be stacked at site in a manner as directed by the Architect. All cavities or holes formed shall be filled with good earth well rammed and leveled neatly. Site clearance shall be done all-round the proposed construction. The contractor shall provide all labour and material for site clearance at his own cost.

4.02 Profiles: Shall be with pegs, bamboos, strings or burgees to show the correct formation before the start of work and maintained till the completion of the work.

4.03 Bench mark and levels: The contractor shall layout one or more permanent bench marks in some central place before start of the work, from which all important levels exact bed levels for the excavation will be set

The contractor shall provide all labour and material for setting, levels and profiles at his own cost. All useful materials such as gravel, stone relics of antiquity, coins, fossils etc, met with during excavation shall remain the property of the employer and shall be handed over to the employer

All cutting shall be done from top to bottom. No undermining shall be permitted. Cutting shall be done to precise levels and any cutting taken deeper shall be made good with PCC 1:4:8 to the required levels without any extra cost. The final surface shall be neatly dressed.

Excavation in trenches: The foundation trenches shall be excavated to the exact width of the lowest step of foundation or footing as shown on drawings. The sides of the trenches shall be kept vertical and bottom horizontal both transversely and longitudinally as shown on the drawings. Steps shall squarely bench out as shown on the drawings or as directed by the Architect. The excavated earth shall be deposited at least three meter or 1/3 of depth away from the edge of excavation whichever is more. Working space on the outer periphery, if required, shall be provided by the contractor at his Cost.

The bed of the trenches shall be made level and compact by watering and ramming, any soft and defective spots detected shall be filled with concrete of the mix as specified for foundations or as directed by the engineer. Cost of such concrete shall be paid to the contractor. In case excavation is taken deeper than required, the extra depth shall be good with concrete as specified foundation or as directed by the engineer at no cost to the Owner.

The contractor shall at his own expense shall make provision for all sorting, strutting, close or open timbering, pumping, dredging or bailing out water and the trenches shall be kept free from water until the work in foundation is completed and trenches refilled. The trenches shall be kept free from water until the work in foundation is completed and trenches refilled. The trenches shall be inspected and passed before concrete is placed.

4.04 The measurements shall be exact length and width of the lowest step of the trench of footings as shown on the drawings. The extra earthwork done by the contractor, providing steps etc and earth making ramps/steps as approach to work place shall not be paid for.

4.05 Earth filling: Filling can be in the sides of foundation trenches, under floors or for site formation.

4.06 The earth to be used for filling shall be free from salt, organic or other foreign matter. The space around the foundation in trenches and under floor shall be cleared of all debris, brick pieces or any other rubbish, surplus mortar falls etc. Filling shall be done in layers not exceeding 150 mm thickness. Each layer shall be well watered and rammed to the satisfaction of the Architect. Final surface shall be neatly dressed. **Black cotton soil shall not be used for filling in foundations and under floors.**

4.07 Where payment is to be made separately, the quantity of earth filling shall be computed from levels recorded before start of filling and after completion of filling. The quantity so computed shall be paid with standard deduction upon the type of compaction.

4.08 Sand filling: The sand shall be clean and free from any foreign matter. Sand filling shall be done measured and paid in the same manner as earth filling.

4.09 Hard core: Shall either be of stone ballast; gravel or stone rubble of size mentioned in the schedule of quantities and shall be free from dust and impurities.

4.10 Hard core of stone ballast not exceeding 40 mm gauge and shall be laid in required thickness dry rolled and consolidated with a power roller to satisfaction of the Architect unless otherwise specified in the schedule of quantities.

4.11 Hardcore or rubble stone shall be laid with stones of required height vertically, closely and hand packed with smaller pieces and/or ballast 40mm gauge as directed by the engineer and consolidated dry with a 10 ton power roller unless otherwise specified in the schedule or quantities to the satisfaction of the Architect/employer.

4.12 Disposal of excavated soil: Where in the schedule of quantities the disposal of excavated soil is specified to be measured and paid for separately, in such case the quantity of disposal earth, rock etc shall not exceed the quantity paid as excavation i.e. the element of bulk age is not to be reflected in the measurements for disposal but is to be accounted for in the rates quoted for disposal. All the materials such as earth murum, soft/hard rock etc are to be kept separately for classification and payment for disposal contractor shall maintain detailed charts, showing the origin and place of disposal of soil for calculation of load for disposal.

4.13 No separate payment shall be made for re-excavation or loosening of excavated soil for disposal and transportation due to its having become hard consolidated due to passage of time, rains or other cause whatsoever.

The lead shall be measured by the shortest route possible.

5. CONCRETE:

Cement Concrete: For foundation concrete shall be mixed in proportion and with ingredients as specified in the schedule of quantities. The concrete shall be mixed in a mechanical mixer. No more concrete shall be mixed than can be consumed within half an hour. It shall be deposited gently in the trenches in horizontal layers not more than 10 cm thick and rammed and consolidated with steel rammers of 5 to 6 kg weight. After laying and consolidation is completed water for a week from the next day shall be done. The measurements shall be to exact length, breadth and depth ordered by the Architect or as shown or figured on the drawing and after the concrete is consolidated.

5.01 Reinforced cement concrete work:

a) General: It is the intent of these specifications to ensure that all concrete placed at various location in the job, should be durable, strong enough to carry the design loads, it should wear well and be practically impervious to water, it should be free from such defects as shrinkage, cracking, honey combing and spalling of the surface. Unless otherwise called for in this specification, all plain and reinforced concrete shall conform in all respect to IS: 456 – 2000.

b) Mix design: Mix design shall be as per guidelines in IS: 10262 – 1982 reaffirmed in 2009 subject to minimum cement content as per IS 456-2000. The contractor at his cost should get the concrete mix designed from reputed laboratories in consultation with Bank for further implementation in the site. Necessary weigh batchers, equipments should be used in the site to achieve required properties as per design mix and to

enable the concrete to attain enquired compressive strength. The concrete should be tested for strength at 7 days & 28 days period. Any failure to achieve the strength needs removing such concrete and re-concreting. The mix design shall be subject to approval of the Architect/Bank.

c) Mixing: All concrete whether plain or reinforced, ordinary or controlled shall be mixed in a full bag mechanical mixer, having a minimum drum speed of 60 revolutions per minute. The cement and aggregates shall be first mixed dry until all particles of aggregate are coated with cement. Water shall be added and mixing continued for at least two minutes to result in a concrete of a uniform colour and consistency. The proportion of aggregate sand etc for various types of concrete shall be weighed in weigh batcher. The quantity of water used shall be minimum with practical workability and shall be varied as required to suit the moisture content of the aggregate and to produce having specified slump. Moisture correction for fine and coarse aggregates shall be made regularly.

d) Compaction of Concrete: External, Internal (needle) and surface (screed board) vibrators of approved make shall be used for compaction of concrete a) External/internal vibrators shall be used for compaction of concrete in foundations, columns etc. For sections such as slabs, the concrete shall be compacted by external, internal and surface type vibrators, depending on the thickness of layer to be compacted. 25mm, 40mm and 60mm dia internal vibrators may be used. The concrete shall be compacted by use of appropriate diameter vibrator by holding the vibrator in position until

- i. Air bubbles cease to come to surface
- ii. Resumption of steady frequency of vibrator after short period of dropping the frequency, when the vibrator is first inserted
- iii. The tone of the vibrator becomes uniform
- iv. Flattened, glistening surface, with coarse aggregates particles blended into it, appears on the surface. After the compaction is completed, the vibrator should be withdrawn slowly from concrete so that concrete can flow in to the space previously occupied by the vibrator. To avoid segregation during vibration, the vibrator shall not be dragged through the concrete nor used to spread the concrete. The vibrator shall be made to penetrate into layer of fresh concrete below if any, for a depth about 150mm. The vibrator shall be made to operate at regular pattern of spacing. The effective radii of action will overlap, approximately half a radius to ensure complete compaction
- v. To secure even and dense surfaces free from aggregate pockets, vibration shall be supplemented by tamping or rodding by hand in the corners of forms and along the form surfaces while the concrete is plastic.
- vi. A sufficient number of spare vibrators shall be kept readily accessible to the place of deposition of concrete to assure adequate vibration in case of breakdown of those in use. 25mm diameter immersion vibrators shall be used in thin sections upto 125mm, 40mm diameter immersion vibrators in fairly wide sections like beams, slabs, columns etc. and 60mm diameter. Vibrators in foundations, pile caps or such large section members, screed vibrators shall also be used for slab concreting.
- vii. Plain concrete also shall be vibrated whenever and wherever directed by EIC to achieve full compaction, using needle and screed vibrators as necessary

Curing: Curing shall be started at the earliest by spreading wet jute cloth (hessian) and cover top with impervious sheet and subsequently cured with spraying water. In inaccessible area to start with, curing be started by spraying curing compound before starting membrane curing.

Cubes of 15 cm x 15 cm x 15 cm size shall be cast on the first day and tested for compression at 7 and 28 days. Later on, if the Engineer so directs, 6 cubes shall be tested for every 50 cubic meters or part thereof of the concrete casted. The amount of water required for proper concrete consistency shall take into account the rate of mixing, length of haul, time of unloading and ambient temperature conditions. Additions of water to compensate for slump loss should not be resorted to nor should the design maximum water-cement ratio be exceeded. Additional dose of retarder/plasticizer/super plasticizer shall be used with prior approval of Engineer to compensate the loss of setting time and slump at contractor's cost. Retempering water shall not be allowed to be added to mixed batches to obtain desired slump

5.02 Water Cement Ratio: Water cement ratio shall be carefully controlled throughout the work. This calls for a regular check on the equipment used for measuring water. Only graduated litre cans shall be used for the purpose. The water cement ratio as determined of approved mix design shall be strictly adhered to

5.03 Concrete placing: Concrete should not be dropped from a height greater than 2 meters. A properly constructed chute shall be used in such cases where it is necessary to exceed this height. Concrete must be thoroughly worked into the forms so that they are entirely filled, reinforcing bars adequately and tightly surrounded and entrapped air released from the mass of concrete. Placing shall be carried out by hand poking as well as vibrators. Concrete should not be moved through any considerable distance in the moulds, being consolidated as nearly as possible in the place where it is dumped. In casting beams or other deep sections concrete shall be laid in layers about 30cm, each layer being properly compacted.

5.04 Consolidation: All plain and reinforced concrete shall be consolidated by means of mechanical vibration. Adequate number of vibrators shall be used to ensure full compaction of concrete in about 10 minutes of placing. If needle vibrators are used, these shall be inserted at places not exceeding 0.5M apart until it is immersed to the full depth of concrete. Wherever possible shutter vibrators shall be used and the contractor shall design the shuttering so that this can withstand vibration. Care shall be taken to ensure that concrete is not over vibrated so as to cause segregation. In addition to mechanical vibration sufficient hand tools must be used to ensure full consolidation around reinforcement and at edge; and corners. All exposed faces of concrete shall be covered with Hessian, sand or similar materials which shall be kept continuously wet for a period of at least 7 days after casting.

5.05 Construction joints: Construction joints shall be made only where shown on the drawings or approved by the Architect. Such joints shall be kept to the minimum and shall not be located in valleys. The joints shall be at places where the shear force is the minimum and shall be at right angles to the direction of main reinforcement. In case of columns and walls the joint shall be horizontal and 8 to 15 cm below the bottom of the beam or slab running into the column or wall head or below the anchor reinforcement of beam and slab coming into the column and wall and the portion of the column or wall between the stopping of level and the top of the slab shall be concreted with the beam or slab.

a) **Vertical joints:** At the end of any day's work or run of concrete the concrete shall be finished off against temporary shutter stopper which should be vertical and securely fixed. This stopper should be removed as early as the weather permits.

b) **Horizontal joints:** Horizontal joints should be washed down two hours after casting in the manner described above for vertical joints. If the concrete has been

allowed to harden excessively, the surface shall be chipped over its whole surface to a depth of at least 10mm and thereafter thoroughly washed. Before fresh concrete is added on the other side of a construction joint, the surface of the old concrete will be thoroughly wetted and covered with a thin layer of cement mortar 1: 2 or epoxy bond coat as directed by the engineer

c) **Expansion joint:** Expansion joint shall be provided where required as shown in drawing or as directed by the engineer. The filler to be used shall be of approved material.

5.06 Testing: The following tests shall be carried out on the materials and concrete used in RCC work.

Material	Test	Field / Lab test	Test Procedure	Frequency	
				Quantity of concrete Samples	No
Reinforced Cement Concrete	a) Slump test	Field	Standard	Regular intervals during concreting as per mix design.	Regular intervals during concreting as per mix design
	b) Cube test	Lab	Standard	As per IS 456:2000 clause 15.2.2	As per IS 456:2000 clause 15.2.2

(i) **Slump tests:** The slump tests shall be carried out from time to time as directed by the engineer on concrete actually being placed in the works at the commencement of each period of concrete placing in accordance with the procedure laid down in the latest Indian Standards Specifications.

(ii) **Cube tests:** Whenever required by the Architect but subject to the minimum Requirement given in the table above, cubes shall be made in a manner as laid down in the latest Indian Standards Code of Practice (IS:456) and sent to an approved laboratory for testing and the results submitted to the Architect immediately on receipt. The cost of all such tests made shall be borne by the contractor. At least 6 cubes will be taken on each day of concreting when a minimum of 5cum of concrete is laid or as instructed by the. The contractor shall keep a record at site of all such tests identifying them with the portion of the work to which they relate. This record will be checked by the engineer from time to time.

Acceptance criteria As specified in IS 456:2000

5.07 Inserts and pipes: Inserts of any kind like fan hooks, sleeves, pipes, bolts and nuts, anchor, bolts etc., are to be accurately placed in the concrete (and/or brick work) and concreted over, as and when required and directed. The word "insert" will mean article like anchors beams, sleeves, pipes, bolts, nuts etc.

Pipes: All electric conduits and junction boxes and all sanitary pipes, water supply pipes and down pipes that lie within concrete slabs, beams or columns shall be laid in place and the Architects approval shall be obtained before the casting of concrete. No cutting of structural concrete will be permitted. All care shall be taken to ensure that conduit pipes are not damaged.

5.08 Formwork: Formwork shall be erected true to line the and to the shapes required in the work with tolerances as per IS 456 -2000 and shall carry without deformation, the full weight of wet concrete and other live loads. It should also withstand the effect of

vibration without deflection, building, distortion or loosening of its component parts. The contractor shall be responsible for the sufficiency of all formwork, centering and moulds; formwork shall be applied with releasing agent/oil for easy de-moulding wetted thoroughly before concreting. All form work, centering and shuttering used for concreting shall be rigid and straight, so as to produce all concrete members true to line.

- a. Wire or similar items shall not be left in concrete having face exposed to weather. Bolts shall be permitted if they are greased/provided in sleeve pipe to allow for easy withdrawal and the holes subsequently made good.
- b. The formwork shall be designed so that the soffits of slabs and the sides of beams may be removed first leaving the formworks to the soffit of beams and their supports in position. Wedges shall be provided to allow accurate adjustment of formwork and its easy removal.
- c. Camber fillets shall be provided at all corners whenever called for on the drawings.
- d. The boards shall be planned and straightened in order that the surface against the corner shall not be broken at joints between boards. All formwork shall be coated with approval oil before it is fixed in position.
- e. Cleanout holes shall be provided at the bottom of all columns and care shall be taken to remove any rubbish, wood shaving or any other foreign material before concreting. Temporary supports shall be provided as required and/or ordered by engineer. The contractor shall provide steel/plywood formwork in place of timber boarding wherever called for by the engineer.
- f. Design & Tolerance in construction: Form work shall be designed and constructed to the shapes, lines and dimensions shown on the drawings with the tolerance given as per IS 456:2000.
- g) Removal of formwork: All formwork shall be kept in position until the expiry of minimum period after concreting as specified in IS: 456-2000

6. REINFORCEMENT: (Only TMT Steel shall be used)

All reinforcement bars to be used in construction shall be deformed high strength TMT (thermo mechanically treated bars) reinforcement bars of FE 500-grade of high yield strength and percentage elongation, minimum 14.5% as per IS:1786 and obtained from approved manufacturer. Plain MS bars shall be used only for 6mm dia bars.

Fabrication of reinforcement

Reinforcement shall be fabricated as per the drawing. Bending shall be done mechanically or with hand nut to the correct radius with proper tools and platform and shall conform to IS. Bending of material shall be cold bending only. Material shall be inspected for visible defect such as cracks brittle excessive rust, loose mill scale, etc. Cracked ends of bars shall not be used in works. Also the bars should be free from any deleterious material and hence the best practice shall be o hose down reinforcement just prior to concreting.

It is important that bending straightening, cutting etc. shall be carried out in a manner not injurious to the material and the safety of the persons working.

Anchoring of bars and stirrup shall be provided exactly as detailed in the structural drawing or as directed by the Banks Engineer / Architect.

Cover to reinforcement

Reinforcement shall have concrete cover and the thickness of such cover (excluding of plaster or other decorative finish) shall be as specified in drawing or as directed by the Banks Engineer / Architect.

Fixing in position

Correctly cut and bent bars shall be accurately placed in position as detailed in the drawing unless otherwise specified by the Bank's Engineer / Architect reinforcement shall be positioned within the tolerance as under.

For effective depth 200mm or less $\pm 10\text{mm}$

For effective depth more than 200mm $\pm 15\text{mm}$

But in no case shall the cover be reduced by more than 5mm of that specified. There shall be no compromise on cover for foundation work.

Reinforcing bars shall be held in position during placing of concrete by use of concrete cover blocks (made of equal strength of well cured concrete in use) steel chair spacers steel hangers, supporting wires, etc. and secured by tying with an annealed binding wire or 16 to 18 gauge as approved by the Bank's Engineer / Architect.

Measurements

Reinforcement shall be measured as follows:

Lengths of different diameters of bars actually used shall be measured nearest to a centimetre and weight calculated.

If steel is procured by the contractor; respective unit weight per meter shall be used for different diameter. If material is supplied by the owner on tonnage basis per meter weight for each diameter of the bar shall be fixed by the Architect from actual stock available at site.

The description of items of steel reinforcement has been completely elaborated with complete requirements, specifications & scope of work involved in main item of BOQ.

7. BRICK MASONRY:

BRICKS

The bricks shall be table moulded first quality of regular and uniform size, shape and colour, uniformly well burnt throughout but not over burnt. They shall have plane rectangular faces with parallel sides and sharp straight and right angled edges. They shall be free from cracks or other flaws. They shall have a frog of 10mm depth on one of their flat faces.

They shall give a clear metallic ringing sound when struck.

They shall show a fine grained, uniform homogeneous and dense texture on fracture and be free from lumps of lime, lamination, cracks, air holes, soluble salts causing efflorescence or other defects which may in any way impair their strength, durability, appearance or usefulness for the purpose intended. They shall not have any part under-burnt. They shall not break when thrown on the ground on their flat face in a saturated condition from a height of 60 cm.

The size of brick shall be 23 x 11.5 x 7.5 cm. Only bricks of one standard size shall be used on one work unless specially permitted. The following tolerances are permitted in the standard conventional size adopted on a particular work:

Length	---	plus or minus	3 mm (about 1/8")
Breadth	---	plus or minus	1.5 mm (about 1/15")
Depth	---	plus or minus	1.5 mm (about 1/16")

After immersion in water, absorption by weight shall not exceed 20 per cent of the dry weight of the brick when tested according to I.S. S.No.1077-1957.

Unless otherwise specified the load to crush the brick when tested according to I.S.S. No. 1077- 1957 shall not be less than 35 kg/sq. cm

SAMPLING & TESTS

- a. **Dimensional Tolerance**
- b. **Water Absorption}**
- c. **Efflorescence} – PHYSICAL CHARACTERISTICS**
- d. **Compressive Strength**

8. CONCRETE BLOCK MASONRY

Hollow and solid concrete blocks – Shall conform to the requirements of IS: 2185-1979. The blocks shall be sound, free from cracks, broken edges, honeycombing and other defects that would interfere with the proper placing of block or impair the strength or performance of construction.

Dimensions and Tolerances: The nominal size of the blocks shall be as specified. The maximum variation in the length of the units shall be not more than + 5 mm and maximum variation in height and width of unit, not more than + 3 mm.

Compressive Strength: The Minimum compressive strength for solid concrete blocks should be 40kg/sqcm.

Drying Shrinkage: The drying shrinkage of the blocks (average of three blocks), when unrestrained, shall be determined in accordance with IS: 2185-1979 and shall not be exceed 0.1 per cent.

Moisture Movement: The moisture movement (average of three blocks), when determined in the manner described in IS: 2185-1979, shall not exceed 0.09 per cent.

Water Absorption: The water absorption (average of three blocks), when determined in the manner described in IS: 2185-1979 shall be not more than 10 per cent by mass

HALF BRICK WORK

Half brick thick and brick on edge walls shall be provided with hoop iron or reinforcements as stated in BOQ for half brick thick wall and brick on edge wall wire netting shall be provided every third course and in alternate course respectively according to standard practice with galvanized staples.

9. FLOORING:

9.01 Cement Concrete Flooring: Shall be laid in thickness and with cement concrete as specified in the schedule of quantities laid in panels either by fixing AC or glass strips or any other class of strips as specified in the schedule of quantities or with wooden removable forms.

9.02 Before laying floor concrete the sub-grade shall be properly cleaned, trimmed to give required thickness of floor and neat cement slurry to give proper bond of floor with the sub-grade. No extra payment will be made for providing the cement slurry.

9.03 The cement concrete shall be laid and finished with towels and finished with a coat of neat cement on top to give a smooth and homogeneous surface. No extra mortar shall be laid over the concrete to make the floor in level or for drying the floor surface.

9.04 The joints shall be straight both ways i.e. along the length and width. No surplus mortar on the adjoining panel shall be allowed to spill from the other panel. The measurement shall be exact length and breadth from wall face to wall face.

9.05 Cement Skirting and Dados: Shall consist of 20 mm or as specified in the schedule of floating coat or neat cement including rounding of junctions with floors as directed. The measurement shall be from inside of skirting to inside skirting and height above floor vertically measured.

9.06 Granite/Jaisalmer Stone Slab Flooring: Specifications shall be the same as per marble stone slab flooring except for Granite slab and Jaisalmer stone slab of approved design, quality. Except granite shall be pre-polished.

9.07 Marble stone flooring and steps of stairs:

a) Marble stone slabs: The Marble shall be of approved shade and sources as mentioned in the Schedule of Quantities and their size and the thickness shall be as shows on the drawings and as approved by the Architect. They shall be of selected quality, dense, uniform and homogenous in texture and free from cracks or other structural defects. It shall have even and cry stalling grains. The surface shall be machine polished to an even and perfectly plain surface and edges machine cut, true and square. The rear face shall be rough enough to provide a key for the mortar. No slab shall be rough enough to provide a key for the mortar. No slab shall be thinner than the specified thickness at its thinnest part. The dimensions of the slabs shall be as specified. A few approved samples of finished slabs to be used shall be deposited by the contractor in the office of the Architect. Unless otherwise mentioned the thickness of the marble shall be minimum 20mm.

b) Laying: Sub-grade concrete or R.C.C. slab on which marble is to be laid shall be cleaned, wetted and mopped. The bedding for the marble slab shall be cement mortar 1:4 (1 cement: 4 coarse sand) or as mentioned in the schedule of quantities

c) The bedding mortar shall be spread to required thickness. The slab shall be washed clean and then laid on top of the mortar layer, pressed, tapped with a wooden mallet and brought to level with adjacent slabs. It shall then be carefully lifted and laid aside. The top surface of the mortar shall then be corrected by adding fresh mortar at hollows. The mortar should be allowed to harden a bit. Cement slurry of 4.4 kg of cement per square meter shall then be spread. Edges of slabs already laid shall be

buffered with white cement mixed with pigment. The marble slabs shall then be placed in position and tapped with a wooden mallet till the slab is properly embedded in line and level. The joints between slabs be as fine as possible. The surplus cement slurry oozing from joints shall be cleaned. The slabs shall be matched as shown in drawing. The flooring shall be cured for seven days.

d) **Polishing and finishing:** Finishing shall be of mirror polish conforming to CPWD specifications and as directed in the item of BOQ.

e) **Measurements:** Shall be in square meter correct to two decimal places. Length and breadth shall be measured correct to a cm from wall to wall as actually laid.

9.08 Marble stone in Risers of steps and skirting if required:

a) **Marble stone slabs:** Shall be the same as per marble flooring or thickness as specified in the schedule.

b) **Preparation of surface:** Where required the wall surface shall be cut uniformly to requisite depth so that the skirting face shall have uniform projection from the finished face of wall as per drawings or as directed by the engineer. The concrete walls shall be hacked and roughened with wire brushes. Masonry walls shall have joints raked at least 15 mm deep. The surface shall be thoroughly cleaned, washed and kept wet

c) **Laying:** The risers of steps and skirting shall, be set in grey or white cement with an admixture to match the shade of stone, with the line of slab at an average distance of 12 mm from the wall but not less than 10 mm. If necessary the slabs shall be held in position by temporary M.S. hooks at suitable intervals. The joints shall be left to harden then the rear of the skirting or riser slab shall be packed with cement mortar 1:3 (1 cement: 3 coarse sand). The fixing hooks shall be removed after the backing mortar is set. The joint shall be as fine as possible.

d) **Polishing & finishing:** The finishing shall be of mirror polish as specified in the description of item.

e) **Measurements:** Shall be in square meter correct to two decimal places: Length and height shall be measured correct to a cm actually laid at site above floor.

9.09 Granite Cladding on walls:

(a) In case of reinforced cement concrete or brick work backing the lining shall be secure to the backing after it has set. The cramps shall be fixed in backing while laying at the required positions as specified in the description of items in the BOQ

(b) The groutings for veneering work shall be full of mortar, hollows noticed shall be made good by taking out the marble slab and refixing.

(c) **Measurements:** Shall be as laid in square meter correct to two decimal places. Length and breadth shall be measured correct to a cm as actually laid

9.10 Ceramic tile flooring

(a) **Ceramic** tiles shall be of approved Indian make unless otherwise specified in the description of item. The tiles shall be flat, true to shape, free from cracks, crazing spots, chipped edges and corners. The tiles shall be of thickness as specified by manufacturer

and of size as specified in the items of work or as directed by the Architect and the tiles shall conform to relevant Indian Standards

(b) Preparation of surface and laying:

The sub-grade concrete or RCC slab shall be cleaned, wetted mopped. The bedding for the tile shall be 12 mm average thickness not less than 10 mm at any place, consisting of cement mortar 1: 4 (cement: 4 coarse sand) or as specified. Mortar shall be spread, and corrected to proper levels and allowed to harden. Over the bedding mortar neat grey cement slurry of honey thick consistency shall be spread @ 3.3 kg of cement for square meter. Tiles shall then be laid and gently tapped with a wooden mallet till it is properly bedded in line and level with adjacent tiles. The joints shall be as thin as possible and in straight line as to suit the required pattern. Where full size tile cannot be laid, it shall be cut (sawn) to required size edges rubbed smooth to ensure a true and straight joint. The floor shall be checked with a straight edge to obtain a true surface. The floor tile near the wall shall enter 10 mm under the striking or dado finish

(c) Pointing & finishing

The joints shall be cleaned of the grey cement grout with wire brushes to a depth of 5 mm and all dusts and loose mortar removed. The joint then be flush pointed with non shrink grout tile joint fillers mixed with pigment to match the colour of tiles and floor kept wet for 7 days. The floor shall not sound hollow when tapped with a wooden mallet.

(d) Measurement:

Shall be in square meter correct to two decimal places. Length & Breadth of the actual tile area laid shall be measured correct a cm. No extra shall be paid for the use of cut (sawn) tiles in the work.

9.11 Ceramic tiles in skirting and dados:

(a) Ceramic tiles shall be as specified in the schedule for wall cladding

(b) Preparation of surface

The joints of masonry walls shall be raked out to a depth of at least 15 mm. In case of RCC walls the surface shall be hacked & roughened with wire brushes. The surface shall be cleaned thoroughly washed with water & kept wet.

(c) Laying

The surface shall be plastered with cement mortar 1:3 (1 cement:3 coarse sand) or as specified to an average thickness of 12 mm and allowed to harden. The plastered surface shall be roughened with wire brushes or by scratching diagonal lines 1.5mm deep at 7.5 cm centers both ways. The back of tiles shall be buttered with grey cement slurry and edges with white cement slurry and set in bedding mortar. The tiles shall be lightly tampered and corrected to proper plane and lines. Tiles shall be set in required pattern with as fine as possible butt joints. Top of dados, skirting etc. shall be truly horizontal and joints truly vertical. Where full tiles cannot be used, cut (sawn) tiles of required size shall be provided as in flooring. At corners, edges of tiles shall be cut at 45° before fixing. The joints shall be cleaned and flush with white cement mixed with pigment to match the colour of tiles. The surface shall be kept wet for seven days. The finished work shall not sound hollow when tapped with a wooden mallet.

(d) Measurement:

Shall be in square meter correct to two decimal places. Length & Breadth of the actual tile area provided shall be measured correct to a cm. No extra shall be paid for the use of cut (swan) tiles in the work.

9.12 Vitrified Tiles Flooring – Skirting / Rectified Tiles flooring - Skirting

The specifications in respect of material and execution process for vitrified tiles and rectified tiles flooring and skirting shall be strictly in accordance with the description of items in the BOQ as under

Vitrified Tiles: Providing and fixing in position Premium quality mirror polished vitrified tiles in approved colour and shade conforming to IS 15622 of approved make in floors, skirting, dados at all heights depths and levels laid over 20mm thick cement mortar bed 1:4 (1 cement: 4 coarse sand) including grouting the joints with white cement mixed with matching pigment including cost of all material, labour as per directions / approval of the Architect / Bank's Engineer

Rectified Antiskid Tiles: Providing and laying rectified antiskid tiles of size 600x600x8mm of approved quality shade and brand in floors laid over 20mm thick cement mortar bed 1:4 (1 cement: 4 coarse sand) including grouting the joints with white cement mixed with matching pigment including cost of all material, labour as per directions / approval of the Architect / Bank's Engineer

10.0 FINISHING (WHITE WASHING, COLOUR WASHING & DISTEMPERING)

i) WHITE WASHING:-

a) Material:

White wash shall be prepared from 5 part of stone white lime and 1 part of shell lime. The lime shall be dissolved in a tub with sufficient quantity of water (about 4/5 liters/kg of lime) and the whole thoroughly mixed and stirred until it attains the consistency of thin cream. The wash shall be taken out of small quantities and strained thorough a clean coarse cloth suitable proportion of 2 kg of gum per cum of lime to prevent, the white wash coming, off easily when rubbed, Indigo as necessary shall be mixed as per standard practice. If not directed otherwise, indigo (Neel) upto 3gm per kg of lime, dissolved in water shall be added and stirred wall.

b) Scaffolding

1.1 This shall be double or single according to requirements and as directed. If ladders are used pieces of old gunny bags or cloth rags shall be tied on their tops to avoid damage or scratches to the plastered surfaces, etc. Proper stage scaffolding shall be erected when white washing the ceilings.

c) Preparation of Surface:

The surface shall be prepared by removing all mortar droppings and foreign matter and thoroughly cleaned with wire or fiber brush or other means as may be ordered by the Employer/Architect to produce an approved clean and even surface. All loose pieces and scales shall be scrapped off and holes, cracks etc. filled with mortar to match with the surrounding finish.

The mortar should be cured sufficiently. In case where the surface have been previously white washed or colour washed, the old white or colour wash shall be entirely removed and surface broomed down before the new white wash applied, in case the old white wash cannot be removed by brooming, the surfaces shall be cleaned by scrapping. Where efflorescence is observed the deposit may be brushed clean and washed. The surface shall then be allowed to dry for at least 48 hours before white washing is done.

d) Application of white wash:

On the surface so prepared the white wash shall applied with a brush. The first stroke of

the brush shall be from top downwards, another from bottom upwards over the first stroke, and similarly one stroke from the right and another from one the left over the first brush before it dries. This will form one coat, each coat must be allowed to dry and shall be subject to inspection and approval before the next coat is applied, when dry, the surface shall show no signs of cracking. It shall present a smooth and uniform finish free from brush marks and it should not come off easily when rubbed with a finger. Minimum 3 coats of white wash shall be applied.

No portions in the surfaces shall be left out initially to be patched up later on.

For new work, the white washed surface shall present a smooth and uniform finish

For old work, patches, and repairs shall be white wash first. Therefore, the whole surface shall be white washed with the required number of coats. Doors, Windows floors and other article of furniture etc. shall be protected from being splashed upon. Splashing and dropping, if any shall be removed and the surface cleaned.

e) Rates to include:

Apart from other factor mentioned elsewhere in this contract, the rate for white wash shall included for the following:-

- i) All Labour, materials, equipment required for white washing.
- ii) Scaffolding including erection and removal.
- iii) Providing and preparing the white wash.
- iv) Preparing the surface for white wash including the scaffolding, minor repair etc.
- v) Applying the white wash in three coats (minimum). If a proper even surface is not obtained to the satisfaction of the Employer/Architect in 3 coats contractor shall carry out additional coat of white wash to approval, at contractors expense

f) Mode of Measurement:

The measurement shall be square meter. The mode of measurement shall be as applicable to that for plaster.

ii) OIL BOUND DISTEMPER:

The specifications and conditions for this shall be the same as that applicable for dry distemper above except that oil bound distemper of approved make, shade and colour shall be used after applying priming coats with primer of the manufacturers of distemper or as directed.

iii) INTERIOR EMULSION PAINT:

a) **MATERIALS:**

The emulsion paint & primers in general shall be of approved quality colour & shade.

b) **SCAFFOLDING:**

This shall be double as required and directed. If ladders are used, pieces of gunny bags of loth bags shall be tied on their tops to avoid damage or scratches to the plastered surfaces etc. Proper stage scaffolding shall be erected when painting the ceilings.

c) **PREPARATION OF THE SURFACE:**

New Surface

The surface to be painted shall be cleaned and all cracks, holes and surface defects shall be leveled with Plaster of Paris or the surface shall be prepared as specified in bill of quantities and with filler prepared.

d) PRIMING COAT

The priming coat of the approved shade shall be applied over the completely dry surface in the manner as recommended by the paint manufactures. The emulsion paint, in the priming coat, may be thinned down with 20% water or as recommended by the paint manufacture. Turpentine or any other solvent shall not be used for thinning the paint.

e) APPLICATION OF EMULSION PAINT:

The recommendation of approved paint manufacturer, whose product is used, shall be followed regarding the preparation of the surface and the application of the priming and finishing coat. The contractor shall arrange for technical assistance and supervision from the paint Manufacturer, during the execution of the painting work. After the priming coat has been applied and perfectly dried, all holes, scratches, if any shall be repaired as mentioned in preparation of surface and then the second coat of approved shade and manufacture shall be evenly applied and allowed to dry. The third coat shall be carefully supplied to achieve smooth and even surface after the previous coat has dried up. Minimum 3 coats of paint shall be applied inclusive of primer coat. If a proper and even surface is not obtained to the satisfaction of the Employer/Architect in 3 coats, contractor shall carry out additional coats of painting to approval, at contractors expenses. Care shall be taken that dust or other foreign materials do not settle or disfigure the various coats.

f) RATES TO INCLUDE:

Apart from other factors mentioned elsewhere in this contract, the rates for the item of plastic emulsion point shall include for the following

- i. All labour, materials and equipment necessary to carry out the work.
- ii. Supplying the approved emulsion paint for priming and finishing coats.
- iii. Repairing the surface and applying one or more coats of approved quality filler for receiving the primer and finishing coats.
- iv. Scaffolding including its erection, dismantling
- v. Application of one primer coat and minimum two coats of finishing. If a proper and even surface is not obtained to the satisfaction of Employer/Architect, the contractor shall carry out additional coats of painting to approval at contractor's expense.
- vi. Protection to painted surface till dried and handed over
- vii. Expense, if any for supervision and technical assistance supplied by the approved paint manufacturers.

g) MODE OF MEASUREMENT

The measurement shall be in sq.m. The mode of measurement shall as applicable to that for white washing.

iv) EXTERNAL ACRYLIC PAINT IF REQUIRED

a) Material:

External acrylic paint shall be of approved colour & manufacture as per makes / brands

shown in the list of material.

b) Preparation of surface:

Before painting is commenced on surface, all dirt, oil, grease, efflorescence and organic material shall be completely removed by sand papering and rubbing and there after all cracks, holes and surface defects shall be repaired with Birla White putty and allowed to set hard. All irregularities shall be sand papered smooth and wiped clean. The surface so prepared must be completely dry and free from dust before painting is commenced. In the case of the walls newly plastered special care shall be taken see that it is completely dry before any treatment is attempted.

c) Application:

The instruction of the makers shall be followed regarding the preparation of the surface and application of priming and finishing coats. Paint shall not be mixed in a larger quantity than is actually required for a days work. Normal water should be used to prepare the mixture. Paint shall be applied in dry weather with broad stiff brush in long parallel strokes. The treated surfaces shall be allowed dry and harden, Second or succeeding coats shall not be applied until the preceding coat has been passed by the Employer/Architect. Two more coats of paint shall be given in exactly the same manner as the first one but only after the earlier coat laid has thoroughly dried.

d) Rates of include

Apart from other factors mentioned elsewhere in this contract, the rate of providing paint shall include for the following.

i. All labour, materials and equipment to provide paint.

ii. Scaffolding, including erecting and removing.

iii. Preparing the surface as stated above.

iv. Applying 2 finishing coat of approved paint. If a proper and even surface is not obtained to the satisfaction of the Employer/Architect in the coats in the applied, the contractor shall provide additional coats of painting to approval, at contractor's expenses.

v. Curing as stated above.

f. Mode of Measurement shall be in square metre and as applicable to white wash. Nothing extra shall be allowed for painting on rough surface, for example, external sand faced plaster/rough cast plaster etc.

11.0 WOOD WORK AND JOINERY:

11.01 Timber:

(a) **Unless** otherwise specified, all timber for frames and shutters for Doors, windows, ventilators, cupboards etc. Shall be first class, sound, well seasoned, approved/ without any flews, sun cracks and other defects. The planed surface shall be smooth and free from blemishes and dis-colourations.

b) All timber for carpentry and joinery in touch with masonry or concrete shall be coal tarred or creosoted before fixing. All rough frame work in partitions, suspended ceiling and veneering to walls, etc shall be treated with approved wood preservative/anti-termite

treated as per manufacturer's instructions and specifications. The rate quoted shall provide for such treatments.

c) The timber members shall be fabricated out of well seasoned timber. The preparation of timber for joinery is to commence simultaneously with the beginning of the project work generally and should proceed continuously until all the work is prepared and fixed/stacked on or the site as the case may be

d) **Carpentry work:** The timber shall be properly planed and wrought in a workman like manner. Joints shall be true and fit properly, assembled, accurately and clamped together so as to be square, flat and close jointed. The combed joints shall have two tongues on each member to be joined and shall be glued and joined together with wooden pegs. Pegs shall engage all tongues and no tongue shall be less than 6 mm thick.

e) In mortise and tenon joints all tenons shall not be less than 12 mm thick and shall be the full width of the members. Tenons shall be glued into the mortises. Through tenons shall in addition be pinned with wood dowels of not less than 6 mm dia, or with non-ferrous metal dowels of not less than 6 mm dia. Alternatively through tenons may be wedged if the mortises are tapered. All the joints shall be coated with fevicol or equivalent jointing compound as per supplier's instructions.

f) All exposed faced of timber shall receive a primer coat of wood primer wherever required.

11.02 Holdfasts:

Six holdfasts shall be fixed to each post of the door frame. The M.S hold fasts shall be of the size 300 mm x 40 mm x 5mm and shall be fixed to the frames by means of screws and/or bolts and nuts and not nails. The other end of the holdfast shall be fixed into jambs with cement concrete blocks of dimensions 22cm x10cmx15cm or as directed. Horns in frames shall be cut and shall not be used as holdfasts. Whenever asked for. Rawl plugs or bolts as directed shall be used for Rough grounds framing, hangers etc.

11.03 Workmanship:

a) The workmanship shall be first class and to the approval of the Engineer. Scantlings and boarding's shall be accurately sawn and shall be of required width and thickness. All carpenter's work shall be wrought except where otherwise described. The workmanship and joinery shall be accurately set out in strict accordance with the drawings and shall be framed together and accurately fixed in approved manner and with properly glued with approved glue/fevicol to the satisfaction of the engineers.

b) **Screws:** All screws to be used in woodwork and joinery shall be of brass or as specified or as directed by the engineer.

c) **Tolerances:** 1.5mm will be allowed for each wrought face of the sizes specifications except where described as 'finished' in which case they shall be hold to be full dimensions.

d) **Protection:** All wood work and joinery edges of timber frames etc shall be protected from being damaged during construction by providing rough timber casings securely fixed and with other adequate protective measures

e) If decided by the owner to provide anti termite treatment, the contractor shall

Co ordinate his work suitably as directed by the engineer

f) Door Window frames shall have cut rebates. Slanted rebates shall not be permitted

g) Where door frames are fixed flush with plaster to wall, teak wood cover mould 40 x 12 mm as per drawing shall be provided all round where the plaster is flush with the frame, painted or finished as in doors and rates quoted shall include for the same, unless otherwise specified.

h) **Mortise lock:** Mortise lock latch and a pair or lever handles shall have die-casting, brass body and brass bolts and shall be right or left handed as required. It shall be of approved make and quality. The lock for single leaf door shall have plain face and for double leaf door a rebated face. The lever handles with spring shall be mounted on plates and shall be bright brass finished or chromium plated or anodized as approved.

12. WATER-PROOFING

INDIAN STANDARDS:

All relevant Standards as specified elsewhere in this Volume are applicable. Indian Standards to be followed are:

IS 1322

IS 384

IS 5871

IS 6494

MATERIAL:

Stone aggregate, lime, sand, cement, Brick, Brick Aggregate and shall conform to previous chapters discussed in this Volume.

China Mosaic shall be prepared from broken pieces of white glazed tiles. No pieces shall be larger than 40 MM and smaller than 10 MM in any dimension.

Plain cement tiles, Kota or Shahabad type stone slabs shall conform to previous chapters as discussed in this Volume.

PROPRIETARY TREATMENTS:

Various experienced water proofing specialists shall carry out the following or similar types of water proofing treatments. Final finished surfaces may be laid with paving tiles, stones or finished smooth in Cement and marked with false chequered marking. Points given below are just for guide lines. The actual steps and details shall be submitted by the Contractor for approval of the Employer.

The surface to be treated shall be cleaned and well-defined cracks grouted by making 'V' Notches with cement slurry.

Average 75-115 MM thick brick bat concrete with 25 MM nominal size brick aggregate, 50% cement mortar mix in a ratio of 1:4 (1 cement:4 sand) shall be laid to slopes about 1 in 120 and rammed. The minimum thickness shall be 30 MM. This shall be treated with a 12 Kg bar soap and 4 Kg alum dissolved solution per Cum. Consolidation shall be carried out by beating the surface with wooden beaters till the beaters rebound readily and do not make any impression on the surface. During beating operation, the surface shall be kept wet by sprinkling liberally by mixing cement with a solution prepared by mixing with 3 kg of jaggery and 1.5 kg of

Beat fruit to 100 litres of water. The solution shall be made in hot boiling water at least 10 days before it is used. On completion of beating operation, the mortar coming out at the top shall be trowel led with the addition of sugar solution (if necessary), finished and cured for 7 days.

The treatment shall also be carried out over parapet walls which are minimum 300 MM in height.

The surface shall be finished neatly with cement mortar in a ratio of 1:3 and marked with false marking. It may be covered with paving precast cement, tiles or stones in specified sizes. These shall be bedded in 12 MM thick cement sand mortar. Joints shall be pointed with CM in a ratio of 1:3 mixed with 5% crude oil by weight.

MEASUREMENTS:

Measurements shall be in Square meter for finished surface area. Rates shall include all items right from cleaning of surface to completion and required guarantee.

Following points to be noted.

The treatment shall be guaranteed against any seepage/leakage dampness etc. for a period of 5 years from the date of handing over the buildings to the Employer. The guarantee shall have to be given by the proprietary specialist firms or Contractor carrying out the treatment directly to the Employer on judicial stamp paper in approved proforma.

The treatment to be undertaken in co-ordination with sanitary and plumbing works.

All the treated areas shall be tested by ponding with water. The water shall be made to stand for 72 hours in 50 MM depth throughout the period of testing. In case of any leakage/dampness/seepage the same shall be rectified completely and testing shall be redone until all treated surfaces are found to be free from any leakage/dampness/seepage.

FOR FLAT ROOFS:

The minimum thickness of treatment shall not be less than 75 MM. The slope of the finished treatment on terrace shall not be flatter than 1 in 80

FOR SLOPING SLABS:

The sloping slab surface to be thoroughly cleaned and applied with a slurry coat of cement and proprietary water proofing compound 3% by weight of cement. The brick bat coba 1:3:6 with proprietary water proofing compound 3% by weight of cement to be laid over the slurry to a thickness of 50 to 70 MM over which 20 MM thick cement mortar 1:4 proportion mixed with proprietary water proofing compound 3% by weight of cement is laid and finished smooth in required colour and in steps of 450 MM size and 20 MM height. Final curing shall be done by covering the surface by gunny bags or grass. The total minimum thickness of treatment to be 70 MM minimum and 90 MM maximum. The water proof finish to be turned over the eaves board.

FOR SUNKEN FLOOR

Providing water proofing treatment to sunken floors, kitchen sink bath/W.C. toilets etc. The surface to be applied with a slurry coat of cement and water added with proprietary water proofing compound 3% by weight of cement. The floor and side wall shall be provided with 20 MM thick 1:4 cement mortar added with 3% proprietary water proofing

compound by weight of cement. Plastering to be done in two coats. The plastered surface shall be applied with a coat of proprietary polymer coating on floor made ready to receive final floor level. The sunken portion to be filled in with brick bat coba of 1:3:6 cement concrete with 3% of proprietary water proofing compound by weight of cement.

TERRACE WATER PROOFING:

The surface is cleaned and roughened and a slurry coat made out of cement water and proprietary water proofing compound 3% by weight of cement is applied on terrace and brick bat coba of 1:3:6 cement concrete added with 3% of proprietary water proofing compound by weight of cement shall be laid with a slop of not flatter than 1 in 80 and a minimum thickness of 75 MM this layer is allowed to take initial setting with proper curing for 3 days. On the brick bat coba a layer of 25 MM thick I.P.S. in C.C. 1:2:4 added with 3% proprietary water proofing compound will be laid. The joints of brick bat coba will be properly filled with cement mortar and finished smooth with false markings of 300 MM*300 MM. The treatment shall be continued to a height of 300 MM on parapet walls. Inverted beams and columns. The finished surface to be applied with a coat of proprietary polymer coating.

WATER TANKS, SUMP, SEPTIC TANK:

Minimum 20 MM thick water proof cement plaster 1:3 with proprietary water proof compound as per specialist firm's specifications including injections/grouting of the walls/slabs as may be required for any honey combed surface, hollows in RCC works as per specialist firm's specifications and finishing the surface smooth as directed.

CANOPY CHAJJA ETC.:

It shall be given with 1:2:4 IPS finish a average 25-40 MM thick including 3% proprietary water proofing compound laid in approved bays to be carried over to the adjoining walls/bunds etc. upto a height of 300 MM with all junctions well rounded off.

RAIN WATER FROM TERRACES, BALCONY AND VERANDAH:

Surface water disposal vertical stacks in PVC or CI (as specified in the drawings and Bills of Quantities) pipes of required diameters laid upto 150 MM above GL. Surface water disposal from Verandahs / Balconies will be through G.I. pipes spouts as provided in the Bills of Quantities. The opening made in the terrace parapet and balcony walls to be closed with special care and tested for water tightness before making payments.

FLOWER BEDS:

With average 20 MM thick cement plaster 1:3 inclusive of 3% proprietary water proofing compound laid to required slope to be carried over to adjoining walls and sides upto 150 MM height or to full depth of the flower bed and junctions well rounded off.

BOX TYPE WATER PROOFING TREATMENT:

This shall also be carried out under a proprietary treatment. The Contractor shall submit the complete proposal for approval of the Employer

Basic steps are:

Plain cement concrete raft, minimum 100 MM thick or as specified shall be laid . The mix of PCC shall be cement concrete in the ratio of 1:4:8. The raft shall project about 300 MM than the finished size of RCC structure.

20 MM thick cement sand mortar mixed with water proofing powder 4% by weight of

cement shall be laid on PCC and 20 MM graded aggregate free from impurities shall be spread on the floor. It shall be cured for 3 days.

Then 25 MM thick rough kota or Shahabad or similar stones 600*600 MM in size shall be laid flat and joined with cement-sand-mortar. This shall project 300 MM all around RCC raft.

Then the surface shall be screeded with cement-sand-mortar and finished smooth. RCC raft, walls, or masonry shall be constructed as designed.

Well –cured walls shall then be treated in the vertical direction by fixing a layer of Kota or Shahabad or similar stones. Treatment shall be carried out 300 MM above the finished Ground Level.

Treatment to floor and wall shall be scaled such that it is continuous. It shall be the responsibility of the Contractor to achieve correct slopes, chamfers, etc. by providing PCC in the ratio of 1:4:8 in required locations as part of items.

MEASUREMENT:

The measurements shall be in Square Meters for the area treated. Rates shall included all items right from cleaning of surface to completion and the required guarantee.

The following type of failure will be judged as defective work:

Dampness

Leakage

Failure to stay in place

Splitting

Pulling loose

Tearing

Undue expansion and contraction

Alligatoring etc

GUARANTEE:

All water-proofing systems described above are to be referred as guide-lines only. The Contractor shall propose the system giving full descriptions. The system shall be guarantee for 5 years against all defects and liabilities thereof from the date of completion of the project. The guarantee shall be on Stamp paper of required value in proforma to be approved by the Employer. The cost of the Stamp Paper shall be to the Contractor's Account. Work shall be carried through approved specialist agency as per method of working approved in writing by the Employer.

ANTI TERMITE TREATMENT

a. Codes :- Anti-termite treatment shall be carried out in accordance with the following standards unless specified otherwise

IS 6313 Code of practice for Anti-Termite Treatment

(Part-1) Constructional measures

(Part II) Code of practice for anti-termite measures in Building (pre constructional chemical

Treatment.

b. Materials - Anti-termite chemicals in water emulsion shall be used as specified Below:

Chemical	Concentration by weight, percent
Chloropyriphos	As per manufacturer's instructions
Indosulfon	As per manufacturer's instructions

c. Workmanship

C1. Conditions of formation - The Anti-termite barrier shall be complete and continuous under the whole of the structure to be protected. All foundations shall be fully surrounded by and in close contact with the barrier of treated soil. Each part of the area treated shall receive the prescribed dosage of chemical Time of application.

C2. Soil treatment should be done immediately prior to placing concrete or sub-grade in foundations, ground beams, floor slabs, etc. Concrete works should start when the chemical emulsion has been absorbed by the soil. Treatment must not be done when the soil is wet or saturated

C3. Disturbance -Once formed, treated soil barriers shall not be disturbed. If treated soil barriers are disturbed, immediate steps shall be taken to restore the continuity and completeness of the barriers - system.

C4. Termite mound treatment - If termite mounds are found within the plinth area, these shall be destroyed by breaking open the earthen structure and pouring into the mounds at several places, after, emulsion at the rate of 4 litres per cubic meter of mound

13.1 TREATMENT OF COLUMN PITS WALLS TRENCHES AND BASEMENT EXCAVATIONS:

The bottom surface and slides (upto a height of 30 cm, from the bottom) of the excavations made for column pits, trenches and basements shall be treated with to chemical emulsion mentioned above at 5 litres per. Sq. metre of surface area.

13.2 TREATMENT TO BACKFILL EARTH:

After the column foundations, wall foundations and retaining walls of the basement come up, the backfill in immediate contact with the foundation structure shall be treated with the chemical emulsion at the rate of 15 litres/m² of the vertical face of the sub-structure of each side. The earth is usually returned in layers and treatment shall be carried out in similar stages. The chemical emulsion shall be directed towards the concrete or masonry surface of the columns and walls so that the earth in contract with these surfaces is well treated with chemicals.

13.3 TREATMENT TO R.C.C. FRAMED STRUCTURES:

The treatment described above applied essentially to masonry foundations where there are voids in the joints through which termites can seek entry into the superstructure. Hence the foundations require to be completely enveloped by a chemical barrier. In the case of R.C.C. framed structures with columns and plinth beams and R.C.C. basements the concrete mix is rich and dense (being 1:2:4 or M 150 or richer), it is unnecessary to start the treatment from the bottom of excavation for start at a depth of 50 cm. Below ground level from this depth, the backfill around the columns beams and R.C.C. basement walls shall be treated at the rate of 15 litres/m² of the vertical surface. The other details of the treatment shall be as laid down in 3 above.

13.4 TREATMENT OF TOP SURFACES OF PLINTH FILLING:

After the earth filling is completed within the plinth area and before the dry rubble packing or sub-grade is laid, the entire surface of the filled earth shall be treated with chemical emulsion at 5 litres per sq. metre. Light rodding of the surface may be carried out to facilitate proper absorption of the emulsion.

13.5 TREATMENT AT JUNCTION OF WALLS AND FLOOR:

Special care shall be taken to establish continuity of the vertical chemical barrier on inner wall to surfaces from the ground level (where it had stopped with the treatment described in 3 above) upto the level of the filled earth surface. To achieve this, a small channel 3 x 3 cm., shall be made at all junctions of wall and columns with the floor (before laying the sub grade) and rod holes made in the channel upto the ground level 15cm. Apart and the rod moved backward and forward to break up the earth and chemical emulsion poured along the channel at the 5 litres per linear meter so as soak the soil right to the bottom. The soil should be tamped back into place after this operation.

13.6 TREATMENT TO SOIL ALONG EXTERNAL PERIMETER OF BUILDING:

Finally the earth round the external perimeter of the building upto a depth of 30cm shall be treated at the rate of 4.5 litres per running metre of plinth wall. To facilitate this treatment, solid M.S. rods should be driven into the soil as close as possible to the plinth wall at intervals of 15 cm. and upto a depth of 30 cm. And the rods moved backwards and forwards in a direction parallel to the wall to break up the earth so that the chemical emulsion mixed intimately with the soil.

13.7 TREATMENT OF SOIL SURROUNDINGS PIPES, WASTES AND CONDITS:

When pipes, wastes and conduits enter the soil inside the area of the foundations, the soil surroundings the point of entry must be loosened around each such pipe, waste or conduit for a distance of 15 cm. and upto a depth of 7.5 cm. Before treatment is commenced. When they enter the soil external to the foundation, they shall be similarly treated unless they stand clear of the walls of the building by about 7.5 cm for a distance of over 30 cm.

13.8 SPRAYING EQUIPMENT: A pressure pump shall be used to carry out spraying operations to facilitate proper penetration of chemical into the earth.

13.9 The above specifications are in the line with the I.S. code of Proactive for Anti-termite Measures in Buildings, I.S.: 6313 (Part-ii) 1971.

14. DESIGNER CONCRETE INTERLOCKING CONCRETE PAVER BLOCKS: Medium duty interlock pavers of approved size, thickness and make and laying to be as per the following instruction.

(a) SUBSTRATE PREPARATION – FLOOR

1. The ground is to be watered and rammed thoroughly to create a firm base.
2. Over this 3" of river sand is to be laid and rammed thoroughly.
3. On top of the sand cushion, for pedestrian traffic, 4" of 1:5:10 brick jelly concreting has to be done and for heavy traffic, 4" of 1:4:8 PCC concreting to be done.

(b) PAVER BLOCKS:

1. Prepare base mortar with cement and sand in the ratio 1:4.

2. The total mortar thickness should not be more than 1" in case where tiling is to be done on RCC slabs, finished floor levels would have to be marked using tube levels. In this process, if it is observed in some area mortar thickness is likely to be in excess of 1" in those areas PCC work will have to be done to raise levels, so that thickness is not more than 1".
3. Set the levels for the finished floor (i.e., dead level or slope as specified by the Architect /Contractor.
4. Prepare cement slurry (i.e., mixture of cement and water to form a thick paste) and spread it on the leveled base mortar.
5. Wet the reverse of the tile with water. Complete immersion of tile in water is not required.
6. If tiles are square or rectangle in shape, set the right angles for the rooms and place the first tile along the right angle lines and place it in a base mortar. Tap gently and uniformly only with a rubber or wooden mallet covered with cloth to obtain perfect levels.
7. Clean the surface of the tile with a wet sponge immediately after laying. Ensure that the base mortar cement, which squeezes through joints does not settle on the tile. Also ensure that the water used is clean and not salty, hard or brackish.
8. It is suggested to leave a fine gap of 1mm all around for external tiles like Regolia, Aquarius etc., for fast and proper laying.
9. For the tiles like Macedonia, Basel and Magnifique, offset laying shall be followed:
 - a) While placing Macedonia, a groove of 6-8 mm must be left all around the tile.
 - b) In the case of Basel, the second tile should be placed exactly at the bottom of the first diamond and ensure the grooves match perfectly.
 - c) Likewise, when following offset laying for Magnifique, the second tile should be placed exactly at the midpoint of the other tile.
10. For external tiling completely open to sky, the tiles should be laid in such a way that for every 10' x 10' area laid, there should be an expansion gap of 2 mm on all sides. This should be followed throughout the area of laying to provide for the expansion for all tiles. Absence of expansion gaps may result in lifting / chipping / cracking of tiles.
11. In site where multiple levels are encountered, the tiles on the ridge will have to be adequately protected with mortar cushion.
12. When large span tiles are laid on curved substrate, it is suggested that the tiles be cut to take the contour of the slope ensuring proper bedding.
13. Fill in the joints with pointing material, which is a mixture cement and desired colour of pigment. To arrive at the desired colour / shade, mix the same with water to form a smooth paste which should be applied to the joints preferably with the use of rubber squeeze or rubber sheet. For higher quality of finishes you could use if required a polymer based cementations tiling joint filler. Do not apply the pointing material all over the tile surface.
14. Allow pointing material to set, for 15 minutes and then clean the surface of the tile with wet sponge, removing the excess pigment on the tile surface.
15. Wash the surface with soap water or mild detergent to obtain a clean surface

Do not use the area laid for 3days for pedestrian traffic areas, 7 days for light traffic

areas and 10 days for heavy traffic.

15. ALUMINUM DOORS, WINDOWS AND VENTILATORS

MATERIAL

Aluminium alloy used in the manufacture of extruded doors and window sections shall correspond to IS designation HE 9 WP of IS 733. Hollow aluminium alloy sections used shall conform to IS designation HV9-WP of IS 1285. Machine screws used shall conform to the requirements of IS 1362. Also cadmium plated screw, nuts, washers, bolts lugs of steel shall be used on direction of the Employer/ Architect.

Specially designed and extruded sections may be permitted if supporting design calculations for wind load are submitted to the Employer/ Architect for approval.

All aluminium material used shall be anodized for protection against corrosion in marine atmospheres. A thick coating of 15 microns from a sulphuric acid bath shall improve its corrosion resistance. Further, anodized sections should be double sealed or alternatively sealed by exposure to steam. Anodized material received at site shall be with a certificate confirming anodic coating of 15 micron. Employer/ Architect may get the same tested from outside at the cost of the Contractor as per IS 1868.

FABRICATION:

Frames shall be square and flat, with the corners fabricated to a true right angle.

The fixed as well as open able frames shall be constructed by cutting sections to exact length, with corners mitered and welded. Mitered shutter frame joints must be clitted mechanically with aluminium clits if approved by the Employer/ Architect.

Where hollow sections are used with welded joints, argon-arc welding or flash butt welding shall be employed or if approved mechanical connection assembly.

Subdividing bars of units shall be tenoned and riveted into the frame. Sections used shall conform to IS 1948 for respective location or as approved by the Employer. Similarly, the specifications of 12mm thick pre-laminated particle board flat pressed three layers or graded wood particle board confirming to IS:12823 Grade I Type II, in panels and glazing (glass panes) including all other allied material required to be provided in the aluminium doors and windows shall be as per latest Indian Standard and as described in the respective item of the BOQ.

MEASUREMENTS:

Measurements shall be in square meter. Glass shall be measured as part of aluminium window and doors.

16. ROLLING SHUTTERS

MATERIAL

Steel used in the fabrication of lath, M.S. sections, guide channels, suspension shaft, pulley wheels, locking ships, U clamps gears, counter balancing roller spring, helical spring and flat spring shall conform to various grades as detailed in Indian Standard specifications for metal rolling shutters and rolling grills.

FABRICATION

Interlocking lath shall be of minimum 1.25mm thickness. They shall be securely riveted

at ends. Lock plat must be of 3.15mm thickness with M.S. angle section of not less than 35X35X5 mm at bottom. Lock plate shall be provided with sliding bolts at both ends and with pull handles both inside and outside of shutter. Guide channels shall be pressed out of a 3.15 mm and become proportionately higher upto at least 7mm for large size shutters. Suspension shaft shall be of sufficient dia and defection shall not be more than 5mm per meter width. Required C.I. pulleys, helical wire springs flat spiral springs and self-aligning double row ball bearings shall be provided. Hood cover stiffened with angles and flats and of minimum 0.9mm thick M.S. sheet shall be provided. Required gears worms etc. used shall be machine cut and of the specified material.

The rolling shutters supplied shall meet the requirements of IS 6248 in every respect and shall be to the approval of the Employer/ Architect.

Intermediate post or mullions may be of the fixed or removable or sliding types and shall be provided if asked for or required for rigidity and safety. Wicket gate also shall be provided if specified. Rolling shutters shall be pull and push types, upto 8 sqm. they shall be mechanically or electrically operated as specified.

MEASUREMENTS:

Measurements shall be in square meters for actual clear opening

17. M.S. GRILLS, RAILING & GATES:

M.S.Grills, railings and gates shall be fabricated and fixed in position strictly as per design and drawings. All intersection or meetings of all members shall be welded and the workmanship shall be high grade quality to the entire satisfaction of the Architect/Bank's Engineer. After fixing in position, these shall be cleaned off dust, rust or scales and rubbed with emery and unless otherwise specified an steel priming coat with enamel paints shall be applied. The rate for M.S.Grills to window where required shall also include the cost of screws to be used for fixing, for M.S. railing the cost of 1:2:4 cement concrete for jamming the hold fasts of the railing. The rate is for the completed work in all respects.

18. COLLAPSIBLE GATES

Collapsible steel gates shall be provided and fabricated with vertical channels 20x10x2mm and traced with flat iron diagonals 20x5mm size with top and bottom rail of T-iron 40x40x6mm with 40mm dia, steel pulleys complete with bolts, nuts, locking arrangement, stoppers, handles including applying a priming coat of approved steel primer inclusive of all materials and labour as per directions and approval of the Architect / Bank's Engineer.

19. GLAZING

PLATE GLASS:

Plate glass shall be flat, transparent and clear when judged by the unaided eye. It may however possess a tint when viewed edge-wise. It shall be free from cracks, blisters, stones, scratches; bubbles sheet glass shall not show any distortion of light when tested to Indian Standard. Plate glass shall not have defects greater than those given in Indian Standard. Test shall be conducted as specified in Indian Standard. Classification of glass shall be as per Indian Standard.

20. FALSE CEILING

False ceiling shall be of 12mm thick tapered edge gypsum board conforming to IS 2095 part I with frame work made of special sections power pressed from M.S sheet and galvanized in accordance with zinc coating of grade 350 as per IS:277 and consisting of angle cleats of size 25mm widex1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length

and other end of angle hanger being fixed with nuts and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes finisher and two coats of primer suitable for board as per manufacturers specification and also including the cost of making openings for light fittings, grills, diffusers, cut-outs, made with frame of perimeter channels suitably fixed including cost of all materials, labour, machinery, T & P, sampling and testing with all leads, lifts, and delifts, for all materials complete in all respects as per drawings, requirements, specification and as directed by the Architects/ Bank's Engineer.
(Frame work shall be supplied by the same manufacturer/ brand as of Gypsum Board)

21. OTHER ITEMS

All materials to be used and workmanship for all the other items (not covered above) but taken and described in the BOQ including items beyond BOQ shall also be the best of its kind and shall be conforming to the CPWD specifications and latest Indian Standard Specifications in every respect and to the approval of the Bank's Engineer / Architect.

All materials / or workmanship which in the opinion of the Bank's Engineer / Architect are / is defective / under specifications or un-suitable, shall be remove immediately from the site and shall be substituted with proper material and / or workmanship forth with as per drawings, requirements and as per approval / directions of the Bank's Engineer / Architect.

All material shall be of approved quality, brands / makes as per list preferred makes and as per sample got approved from the Bank's Engineer / Architect. A set of specimen samples of all approved materials shall be kept at site as well as in the office of the Bank's Engineer / Architect.

The cost of which shall be borne by the Contractor.

SCHEDULE B

TECHNICAL SPECIFICATIONS FOR WATER SUPPLY, SANITARY & DRAINAGE WORKS

PLUMBING & SANITARY WORKS

The general character and the scope of works to be carried out under this contract is illustrated in the drawings and specifications attached herewith. The contractor shall carryout and completes the said work under this contract in every respect in conformity with the rules and regulations of the local authority. The contractor shall furnish all labour, supply and install all materials appliances, tools, equipment necessary for the complete provision and testing of the whole plumbing and services installation as specified herein and as per the relevant ISI codes and shown on the drawings. This also includes any material, appliances, equipment not specifically mentioned herein or noted on the drawings as being furnished or installed but which necessary and customary to make complete installation as shown on the drawings or described herein properly connected and in working order.

In general the work to be performed under this contract shall comprise of the following.

All incidental jobs connected with plumbing services installation, such as excavation in trenches and back filling, cutting chases in concrete and brick and making good, cutting/drilling holes through walls, floors and grouting and for fixing of fixtures equipment etc.,

Furnish and install a complete workable, plumbing services installation as shown on the drawings and described in this specification and as per the latest ISI specifications including all that which is reasonably inferred.

Complete installation of internal & external water supply system. Complete installation of sewerage and sewerage appurtences internally as well as around the building.

Complete installation of all sanitary and plumbing fixtures. Cooperation with other crafts in putting the installation in place. Any work done without regard or consultation with other trades, shall be removed by the contractor without additional cost to the owner to permit proper installation of all other work, as desired by the Architects.

Repair all damages done to the premises as a result of this installation and remove all debris left by those engaged for this installation to the satisfaction of Employer. Cleaning of plumbing fixtures, showing the satisfactory performance of all the fixtures at the time, the building is handed over to the owners.

It is the responsibility of the contractor to take care of all the fixtures fitted until the time of handing over to the owners. Painting of all concealed & exposed pipes as specified.

Assume full responsibility of all required applications and cost, to connect to corporation water mains, sewers and storm water drains to the extent these are applicable to this installation.

REGULATION AND STANDARDS

The installation shall conform in all respects to the following broad list of standards in general.

- IS 1726 - 1960 -Code for cast iron manhole and cover
- IS 1742 - 1960 -Code for practice building drainage
- IS 2064 - 1962 - Code of practice for selection, installation & Maintenance of sanitary appliances.
- IS 1172 - 1971 -Code of basic requirements for water supply drainage & sanitation (revised)
- IS 2065 - 1963 - Code of practice for water supply in buildings.
- IS 4985 - 2000 -Code of practice for laying PVC pipes.
- IS 4111 - 1967 -Code of practice for ancillary structures sewerage systems.
- IS 4127 - 1967 -Code of practice for laying glazed stoneware pipe.
- IS 7834 - 1998 - Code of practice for fitting of PVC specials
- IS 3989 - 1970 -Centrifugally cast spun iron & socket soil & ventilating pipe, fittings & accessories.
- IS 1239 - 1968 -Specification of mild steel tube, tubular & part- I other steel pipe fittings.
- IS 1239 - 1969 -Specification for mild steel tube, tubular & Part II & other steel pipe fittings.
- IS 651 -1965 -Specification for salt glazed stoneware pipe & fittings (first revision)

The installation shall also be in conformity with the byelaws and requirements of the local authority in so far as these become applicable to the installation. Wherever these specification calls for higher standard of materials and / or workmanship than those required by any of the above regulations and standards, then the specification shall take precedence over the said regulations and standards. Wherever drawings and specifications require something which will violate the regulations, the regulations shall govern.

FEES- PERMITS AND TESTS:

The contractor shall obtain and pay for all fees and permits required for installation of this work. On completion of the work, the contractor shall obtain and deliver to the owner, certificates of the final inspection and approval by the local authority. The owner shall have full power to require the materials or work to be tested by an independent agency at the contractor's expenses in order to prove their soundness and adequacy.

DRAWINGS AND SPECIFICATIONS

The drawings and specifications shall be considered as part of this contract and any work or materials shown on the drawings and not called for in the specifications or vice versa shall be executed as if specifically call for in both. The contract drawings indicate the extent and general arrangement for the fixture drainage systems and are diagrammatic. The drawings indicate the points of supply and termination of pipe runs and broadly suggest the routes to be followed. The work shall be installed as indicated on the drawings, however any changes found essential to coordinate this work with other trades shall be made without any additional cost. The date given herein on the drawings is as exact as could be secure, but its complete accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance for the contractor, and exact location, distance and levels will be governed by the individual building and site condition. Therefore approval of the Architects shall be obtained before commencement of work. After completion of the work, the contractor shall furnish necessary information like- invert levels and layout of pipe line etc., and prepare final completion drawings and hand over to the owner on tracing cloth.

MANUFACTURER'S INSTRUCTIONS

Where manufacturers have furnished specific instructions, relating to the materials issued in this job, covering points not specifically mentioned in this documents, instructions shall be followed in all cases.

CHANGE IN DIMENSIONS

If the size of fixtures mentioned is not available then nearest available size shall be fixed with due considerations of the employer/ Architect.

MATERIALS

Materials shall be of the best approved quality obtainable and unless otherwise specified, they shall conform to the respective Indian Standards specifications.

Samples of all materials shall be as per the list of approved brand manufacture which shall be got approved before placing order and the approved samples shall be deposited with the owner. For purchases coming under the contractor shall furnish a blank copy of order placed with the supplier.

In case non-availability of materials in metric sizes, the nearest size of FPS units shall be provided with prior approval of the Architects, for which no extra amount will be paid

DRAINAGE

STONEWARE PIPE AND FITTINGS

Stoneware pipe and fittings shall comply with IS 651-1965 in every respect and all stoneware pipes, bends, etc., shall be of the best salt glazed variety, glazed inside as well as outside, hard smooth, even textured, free from fire cracks, air blows and blisters. The pipe shall be truly circular in cross section perfectly straight and of standard nominal diameter, length and depth of socket.

LAYING AND JOINTING S.W. PIPES:

LAYING: The pipes shall be carefully laid to the levels and gradient shown on the plans and sections by making use of sight rails and boning rods, with socket up the gradient.

JOINTING: Hemp rope soaked in neat cement was shall be passed round the joint and inserted in it by means of caulking tool. More skins of yarn shall be added and well rammed home. Cement mortar with one part of cement and one part of sand and with minimum water content but on no account soft or sloppy, shall be carefully inserted by hand into the joint and more cement mortar added until the space of the joint has been filled completely with tightly caulked mortar.

The joint shall be then finished off neatly outside the socket at an angle of 45° .

CURING: The joint shall be cured at least for seven days.

TESTING: All lengths of the sewer and drain shall be fully treated for water tightness by means of water pressure maintained for not less than 30 minutes. Testing shall be subjected to a test pressure with at least 1.5 m head of water, at the highest point of the section, under test. The pipes shall be plugged preferably with standard drain plugs (with rubber rings) on both ends. The upper end shall, however be connected to a pipe for filling with water and getting the required head. The contractor shall give a smoke test to the drains and sewers at his own expenses and charges as directed by the Architects

PAINTING

Pipes laid under floor/ground, concrete etc shall be given two coats bitumastic paint.

SEWER APPURTENANCES, INSPECTION CHAMBERS AND MANHOLES:

SIZE OF CHAMBERS: MANHOLE: The size given in bill of quantities and drawings shall

be internal size of chamber. The work shall be done strictly as per standard drawing and following specifications.

BED CONCRETE: Shall be in 1:5:10 cement concrete 150 mm thick for inspection chambers, 230mm for depths upto 2.1 m and 300 mm for greater depths in case of manhole.

BRICK WORK: Brick work shall be with best quality table moulded bricks in 1:5 cement mortar as per specifications for brick masonry.

PLASTER: Inside of the wall of chamber / manhole shall be plastered with 12mm thick cement plaster 1:2 and finished smooth with a floating coat of neat cement.

BENCHING: Channels and benching shall be done in cement concrete 1:2:4 rendered smooth with neat cement.

CHAMBER/MANHOLE COVERS

Covers shall be of medium duty concrete with lifting hooks details given in the drawing and fixed on the C I frame embedded in concrete. Cover placed on the frame shall be air tight. Weight of the cover on frame shall be as specified in the schedule of quantities.

GULLY TRAP CHAMBERS

C.I. gully traps of specified size shall be provided. It shall be fixed on 15 cm thick and 70 cm square 1:5:10 cement concrete bedding and the gully outlet shall be jointed similar to the jointing of stoneware pipes. A brick masonry chamber 300x300 mm (internally) shall be constructed in ½ brick masonry with 1:5 cement mortar and the spaces between the trap and the wall shall be filled up with 1:3:6 concrete and upper portion of the chamber shall be finished with neat cement. The corner and the bottom of the chamber shall be rounded off so as to slope towards the grating. The clear space between the top of the grating and the bottom of inspection cover shall not be less than 230 mm. In addition to 15cm x 15cm C.I grating the chamber shall have addition and C.I.FRAME COVER (30 cm X 30 cm). It shall then be placed on the top of brick masonry.

MODE OF MEASUREMENT

The inspection chambers shall be measured per number and the rate quoted also shall be number only. The quoted rate shall include the cost of all the items, specified in the bill of quantities and specifications viz.

Bed concrete

Brick work

Plastering

Concrete benching and channelling

Testing

Curing

Inspection chamber cover and frame including PCC bed for fixing the frame
Keeping holes and embedding pipes for all connections, Excavation, refilling necessary dewatering and disposing of extra stuff to a place as directed by the Architects

SANITARY INSTALLATION AND FIXTURES

All fixtures shall be fixed in neat workmen like manner true to line and as recommended by the manufacturer or shown on the drawings. Care shall be taken to fix all fixtures, brackets and accessories by proper wooden cleats, rawl plugs, bolts and nuts, as such

fixtures will warrant with the correct size of screws nuts and bolts.

Care shall be taken in fixing all chromium plated fixtures and accessories so as not leave any tool marks or damages on the finish. All such fixtures shall be tightened with fixed spanners.

All fixtures shall be thoroughly tested after connecting up the drainage and water supply system. All fixtures shall be thoroughly finished and any leakage in piping, valves and waste fittings corrected to the entire satisfaction of the Architects.

Upon completion of the work all labels, stickers, plasters etc., shall be removed from the fixtures and all fixtures cleaned thoroughly with soap water, so as present a neat and clean toilet.

MODE OF MEASUREMENTS

All the items above shall be measured per number and quoted rate per number only which shall include:

The cost of respective materials

Necessary fixtures

Fixing in position

SANITARY INSTALLATIONS:

EUROPEAN WATER CLOSET:

It shall be of best quality Parryware/Hindware white chinaware water closet suite 'P' or 'S' trap confirming to IS: 2556 with ISI marked, vitreous chinaware 10 l capacity cistern with original fittings and all the CP brass fittings and other items required as specified in the Item No.1 European type water closet shall be fixed with brass screws of suitable length to PVC plugs or rawl plugs embedded in the floor after drilling hole in floor.

URINALS:

The urinals shall be of white or coloured vitreous chinaware conforming to I.S.2556 Part VI. Section-I It shall be flat back half stall urinal as specified. It shall be provided with push cock for flushing, CP brass waste dome grating and other CP brass fitting and other fittings as specified in respective item of urinals.

WASH BASIN:

Best quality Parryware/ Hindware washbasin shall be of white vitreous chinaware (or coloured) with Parryware make CP brass pillar tap (push type) as specified in the Items. It shall be provided with 1st quality vitreous chinaware pedestals where so specified. Pedestals shall accommodate supply and waste pipes fittings. The wash basin shall be placed on pedestal and firmly fixed on wall using nut-bolt & washers. All the waste fittings shall be brass chromium plated as specified.

PARTITION PLATE:

It shall be best quality 18-20mm thick granite partition plate size 600x1200mm as specified in the BOQ. It shall be fixed with cement concrete 1:2:4 supporting with CI/MS special types brackets and cutting / making good the walls.

SINK:

Kitchen sink with drainage board shall be of stainless steel (Salem Stainless Steel IS:304) 1mm thick. The sink and drainage board shall be in one piece as specified size with rectangular compartment/ bowl. Each sink shall be provided with one stainless steel waste and GI 'B' class waste pipe. Sink shall be supported on RCC platform having suitable cut for the bowl of the sink.

MIRROR:

Best quality Saint Gobin / Asahi make mirror of size 600x600mm with bevelled edged over wash basin. The mirror shall have 5.5mm thick hard board 6mm thick sheet backing complete fixed on wall with PVC plug and CP brass concealed screws and washers. The

bevelled edge of the mirror shall be 3mm thick with bevelled width of 25mm.

SOAP DISH:

Best quality Parryware/ Hindware make chinaware coloured recessed type soap dish/ cake holder. The colour should match with the tiles.

STEEL SHELF:

Pre-fabricated best quality 600mm long chromium plated steel frame with 6mm thick glass shelf tray with all edges neatly grinded and polished as specified in the item. The steel shelf / tray shall be fixed with PVC plugs and CP brass screws.

SOAP CONTAINER:

Best quality CP brass liquid soap container. It shall be fixed to PVC plugs with CP brass screws.

PVC SOIL, WASTE AND VENT PIPES AND FITTINGS:

PVC soil, waste and vent pipes Class-3 and fittings (PVC specials) shall be of heavy quality conforming to I.S. 4985-2000 for PVC pipes and PVC fittings conforming to IS 7834-1998. The standards weights and thickness of pipes shall be as per I.S. codes.

All soil waste and vent pipes shall be carried above the roof (90cms Beyond the tops of parapet.) and fitted with PVC terminal guard at top. The pipes shall have with coupler. The pipes and fittings shall be true to shape, smooth and cylindrical. Their inner and outer surface shall be concentric. They shall be sound and be free from cracks, taps, pinholes and other imperfections. The pipes and fittings shall ring clearly when struck over with a light hand hammer.

FIXING:

The pipes and fittings (specials) shall be fixed to walls at least 2.5cm clear of the finished surface of wall by using proper PVC clamps. Pipes shall be fixed vertically in a line as directed. Connection between main pipes and branch pipes shall be made by using proper bends invariably with access doors for cleaning.

All PVC pipe fittings like bends, tees, heel rest bend, single junction with door etc in soil waste & vent pipes shall be ISI marked

JOINING

Joining the pipes and specials with solvent cement complete as per requirement

FLOOR TRAPS:

Floor traps shall be PVC, deep seal with an effective seal of 50mm. These shall be ISI marked. The trap & waste pipe shall be set in cement concrete blocks firmly supported on Ground Floor. The blocks shall be cement concrete 1:2:4 and extended to 40mm below finished floor level and size of the blocks shall 300x300mm and of required depth. The floor trap shall be 100mm dia inlet and 75mm dia outlet. Floor traps shall have extension piece to receive waste lines as indicated in the plan. All floor traps shall be provided with CP brass trap round of approved design and shape.

MONO-BLOCK PUMPING SET:

Mono-block pumping set shall be ISI make, the relating parts of pump shall be dynamically. The pumps shall be designed for automatic air release during priming. The impeller of the pump shall be made of bronze. The shaft of pump shall be made of stainless steel. Suction pipe and delivery pipe size 50mm internal dia, CI non return valve with brass seat CI foot valve, cables etc shall be included in the items. Only suction and delivery pipes will be measured and payable in respected item. Electric motor shall be covered with tin shed if required.

PERFORMANCE GUARANTEE

The motor and pump shall be based on laboratory test corrected for site performance. The test report shall be submitted to Architect. The machinery shall be guaranteed for a period of 12months from the date of installation against any manufacturing defect or bad workmanship.

OVER HEAD TANK

- a. All overhead tanks shall be of PVC water tank made of three layers (outer coloured layer, second sun shielded layer, third antibacterial inner layer) as per details shown in drawings.
- b. These tanks shall be placed and located on the roof terrace as shown in drawing
- c. Each over head tank shall be complete with the following.
 - i. Cover at top with locking arrangement.
 - ii. Inlet & outlet with ball valves, overflow, air vent, scour pipe with all fittings.
 - iii. Mosquito proof coupling shall be provided to overflow and air vent pipes.
 - iv. The inlet pipe inside the tank shall be provided with ISI marked 40mm, 32mm & 25mm dia brass body all valve with polythene ball
 - v. The inlet pipe to the over head tank shall be 50mm dia with ISI marked full way gunmetal valve and all outlet pipes shall be 40mm, 32mm, 25mm dia with ISI marked full way ball valves.
 - vi. 20mm dia GI pipe for over flow of each tank shall be brought down upto the Finished terrace level and laid upto the nearest khurra on terrace.
 - vii. Ball valves at location on terrace as shown in Layout plan drawing.

INTERNAL WATER SUPPLY:

WATER SUPPLY

GI PIPES AND FITTINGS: The pipes shall be of medium quality (Class-B) and shall be galvanized iron, screwed socketed and shall conform to IS 1239. They shall be manufactured by a firm of repute. All fittings shall be malleable iron galvanized fittings of approved best Indian make.

LAYING AND FIXING: Where pipes have to be cut or re-threaded, ends shall be carefully filled out so that no obstruction to bore is offered. For internal work all pipes and fittings shall be fixed truly vertical and horizontal, either by means of standard pattern holder bat clamps keeping the (12 mm) clear of the wall everywhere or concealed as directed. For external work, G.I. Pipes and fittings shall be laid in trenches. The width of the trench shall be the minimum width required for working. The pipes laid underground shall not be less than 60 cm from the finished ground level. The work of excavation and refilling shall be done as specified elsewhere, or concealed as directed

PAINTING: The buried pipes shall be painted with two coats of bitumastic paint.

TESTING: Before any pipes are painted or covered, they shall be tested to a hydrostatic pressure of 7 kg/cm². Pressure shall be maintained for at least eight hours without appreciable drop in pressure. In addition to the sectional testing of water supply pipes, the contractor shall test the entire installation to the entire satisfaction of Architects. He shall rectify and leakages, failure of fittings or valves.

MODE OF MEASUREMENT

G.I. pipes above ground shall be measured along the center line of the pipes and fittings. The quoted rate for respective item shall be per Rmt and shall include the following:

Cost of respective pipes and specials

Laying, fixing and jointing with necessary clamps

Cutting holes and chases in walls, floors etc. and making good the same.

Testing and making good the defects if any

G I pipes below ground shall be measured as stated above.

WATER FITTINGS (TAPS STOPTAPS, ETC...)

All water fittings shall be of approved quality and design and generally comply to latest IS specifications. The fittings and joints shall be tested as specified for pipeline to ensure that the joints are leak proof. Defective fittings and the joints shall be repaired or re-done replaced as directed.

MODE OF MEASUREMENTS

These items shall be measured in number, unless not included in other items viz. Wash basins Inlets to cisterns, etc...

Cost of materials

Cost of fixing accessories like bolts, nuts, washers

ALL TAPS: Ball taps used for storages tanks shall be high pressure brass/GM.

Ball taps with brass lever rods and PVC floats.

Measurements Ball taps shall be measured by the number unless called for, with the item in the schedule of quantities.

BALL VALVE:

It is required to be provided in the over head tank at end G.I. pipe. It will conform to IS 1703. The ball valve shall be of brass (as specified) of required diameter. The float shall

be of polythene. The body of ball valve shall be capable of withstanding a pressure of 14-kg/sq cm. A ball valve when assembled in working condition with float immersed to not more than half of its volume shall remain closed against a test pressure of 10.5 kg/sq cm. The standard weights of ball valves shall be as given in the I.S. standards.

BIB TAP:

All bib taps short body, long body, bottle traps, spray jet and copper pipe connection and other minor fittings shall be brass chromium plated. These shall be ISI marked. For fixing of CP brass fittings wherever required CP brass extension piece shall be provided.

RAIN WATER PIPES & SPOUTS:

The rainwater pipes where shown on the drawings shall be PVC pipes (Class-3) of the diameter as specified in the schedule of quantities/drawings of approved manufacturer confirming to IS-4985 with coupler:

a) For PVC pipes and PVC fittings jointing shall be provided as B.O.Q.

Where required these are to be run in the chase left or cut in wall, columns, slab. For exposed lengths of pipes these are to be neatly secured clear from the finish wall face with clip or bracket, nailed or screwed to hard wood tapering plugs embedded in walls.

The mouth of the rainwater pipe shall be fixed with PVC grating and the pipe jammed in position in 1:2:4 cement concrete.

The rate for the work shall include supplying and fixing of materials cutting, making chases etc. and is for the complete work in all respects. Unless otherwise specified in the schedule of quantities, the rate shall also include supplying, fixing and jointing all the specials like bends tee, junction etc. required for the complete work.

CONNECTIONS FOR WATER SUPPLY, SEWER LINE & STORM WATER

The approval of connections (Water supply, sewer and storm sewer) shall be got by the contractor from the concern authority under the name of the concerned institute of Circle Office Kozhikode of Bank and all the legal fees shall be borne by the Employer. Incidental expenses if any shall be borne by the Contractor.

SCHEDULE C

TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORK

Work to be executed as per CPWD specifications

1. ELECTRICAL INSTALLATIONS:

1.1 The following specification will apply under all circumstances to the equipment to be installed against this contract and it is to be ensured that the contractor shall obtain for himself at his own expenses and no his own responsibility the information which may be necessary for the purposes of entering into a contract keeping in view of the purposes of entering into a contract the specifications detailed here under, drawings and design of the electrical installation and inspection of site etc.

Test certificate from individual manufacturers of all cables, wires, fittings etc. shall be furnished by the contractor and responsibility of getting the approval from electrical authorities and fire department shall lie with the contractor.

1.2 Scope

The contractor is required to complete the work in full and comply with all the relevant specifications and scope of work. All electrical tests to be carried out for the entire electrical works i.e. testing of the existing incomplete work and additional work undertaken to make the entire electrical system functional and operative under the electrical rules and regulations. Tests sheets for the entire work along with drawings shall be submitted to the Architect before the complete certificate.

The contractor shall supply, store, erect test and commission all the equipment required for electrical installation. The contractor shall furnish all the materials, labour, tools and equipment for the electrical work, as shown in the accompanying drawings and in the bill of quantities and specifications hereinafter described.

The electrical installation shall comply with the requirements of Indian Electrical Supply Act and Rules made there under and also with any other regulation, such as those made under Fire Insurance Act that may be applicable. The electrical installation shall be carried out only by authorized and qualified persons competent to undertake such work.

1.3 Contractor

The contractor shall engage electrical contractor, possessing a valid electrical contractor's license in the State, employing licensed supervisors and skilled workers having valid permits as per the Regulation of Indian Electricity Rules and Local Electrical Inspector's requirements. Successful bidder to submit the details of licensed Electrical Contractor and get approval from the Bank before start of Internal Electrification Work.

The following abbreviations used in the bill of quantities specifications and drawings represent.

ISS	Indian Standard Specification
IEE	Indian Electricity Rules, 2003
BS	British Standard
BSCP	British Standard Code of Practice
HRC	High Rupturing Capacity
GI	Galvanized Iron
MS	Mild Steel
CI	Cast Iron
APLSTS	Aluminium conductor, Paper Insulated

	Lead Sheathed, Double Steel Tape Armoured & Serving
PVC	Polyvinyl Chloride
XLPE	Cross Linked Polyethylene
HT	High Tension
LT	Low Tension
A-Amp	Ampere
KV	Kilo Volts
PT	Potential Transformer
CT	Current Transformer
OCB	Oil Circuit Breakers
SFU	Switch Fuse Unit
ACB	Air Circuit Breaker
CFS	Switch Fuse Switch
MCCH	Moulded Case Circuit Breaker
MCB	Miniature Circuit Breaker
IC	Iron Clad
ICPTN	Iron Clad Triple Pole and Neutral
ICDP	Iron Clad Double Pole
DB	Distribution Board
KVA	Kilo Volts Ampere
KVAR	Kilo Volts Ampere Reactive
NC	Normally Closed
NO	Normally Open
	Standard Wire Gauge

1.4 Regulation & Standards

The installation shall conform generally to Indian Standard code of practice for electrical wiring installation IS 732. It shall also be in conformity with the Current Indian Electricity Rules and Regulations and requirements of the local electric supply authority in so far as these become applicable to the installation. Whenever this specification calls for a higher standard of materials and / or workmanship then those required by any of the above regulations, these specifications shall take precedence over the said regulations and standards. In general, the materials, equipment and workmanship not covered by the above shall conform to the following Indian Standards (Latest Edition) unless otherwise called for:

1.	SWITCH GEAR	
a)	Requirements of AC Circuit breaker	IS 2516 (Part-I) Sec 1,2 & 3 Part-III)
b)	Switches and switch isolators above 1000 V but not exceeding 1.1 KVA	IS-4710
c)	Markings & arrangements for switch gear busbars main connection & auxiliary wiring	IS-375
d)	Specifications for normal duty air break switches & composite units for air break switches & fuses for voltage not exceeding 1000 volts	IS-4064
e)	Heavy duty air-break switches and composite units of air break switches and fuses for voltage not exceeding 100 volts	IS-4047
f)	Specifications for miniature circuit breakers	IS-8838
g)	Specifications for enclosed distribution fuse board & cut-outs for voltage not exceeding 1000 volts	IS-2675

h)	Installation & maintenance of switch gear	IS-3072
i)	HRC cartridge fuse links 650 volts	IS-2208
2	CABLES	
a)	Specification for PVC insulated (Heavy Duty) electricity cables (Part-I) for voltage upto 1100 volts	IS-1554
b)	Specification for PVC insulated cables (for voltage upto 1100 V) (Part-II) with aluminium conductors	IS-694
3.	3 pin plugs and socket outlets.	IS-1293
4.	Ceiling roses	IS-371
5.	General and safety requirements for electrical 1913 lighting fittings.	IS-1913
6.	Propeller type AC ventilating fans	IS-2312
7.	Code of practices for earthing	IS-3043
8.	Glossary of term for electrical cable and conductors	IS-1885
9.	Code of practice for building (General) electrical installation	IS-1646
10.	Protection of buildings and allied structures against lighting	IS-2309
11.	Current Transformers	IS-2705(Part I to III)
12	Voltage Transformers	IS-3156(Part I to III)
13	Power Transformer	IS-2926-1977 (Part I - IV)
14	Shunt capacitors for power system	IS-2834
15	Direct acting electrical indicating instruments	IS-1248
16	Crosslinked Polyethylene Insulated PVC Sheathed cable	IS-7098

ISI marking for materials/equipment is not necessary unless otherwise specifically called for.

1.5 Inspection & approval of the work by Local Authority

The Bank/ Architect shall have access to the manufacturers premises for inspection of any items of the tender for which contractor has to make arrangement with different manufacturers 15 days notice to be given to the Architect/Consultant for the same.

1.6 Drawings

The drawings, specifications and bills of quantities shall be considered as part of this contract and any work or materials shown on the drawing and not called for in the specifications or vice versa, shall be executed as if specifically called for in both. The contract drawings indicate the point of termination of conduit runs and broadly suggest the routes to be followed. The work shall be installed as indicated on the drawings, however, any minor changes if found essential to co-ordinate installation of this work with other trades shall be made without any additional cost to the owners/employers. The data given herein and on the drawing is as could be secured but its complete accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the contractor. The exact location, distance and levels, etc. will be governed by the space conditions. The contractor shall examine all architectural, structural plumbing and sanitary and air conditioning drawings before starting the work and report to the Bank/ Architect / consultant any discrepancies which in his opinion appear on them, and get them clarified, he shall not be entitled to any extras for on missions or defects in electrical drawings or when they conflict with other work.

1.7 As Built Drawings

At the completion of the work and before issuance of certificate of virtual completion, the contractor shall submit to the Bank/ Architect/consultant layout drawn on tracing film and at approved scale indicating the complete wiring as installed.

1.8 Foreman/Supervisor

The contractor shall employ a competent, licensed qualified electrical foreman/supervisor to direct the work of electrical installation in accordance with the drawings and specifications. The foreman/supervisor shall be available as per requirement on the site to receive instructions from the Bank/ Architect/Consultant. The supervisor shall correlate the progress of the work in conjunction with all the relevant requirements of the supply authority, the skilled worker employed for the work should have requisite qualification.

1.9 Application for Electric Supply/Liaison

The contractor shall be responsible for filing and follow up of application for electric supply to the project. The contractor shall carry out all the liaison work required for obtaining electric supply commencing from filing of application. This liaison shall be deemed to be a part of this contract and no separate payment will be made on this account.

1.10 Samples

Sample of all materials that the contractor intends to use shall be mounted on wooden frame and submitted to the architects for approval. After the samples are approved the sample based shall be exhibited in the office of the site engineer of the bank at the site of works.

2. SWITCH FUSE UNITS

2.1 General

Switch fuse units shall be incorporated in the switch board panels wherever, specified. Switch board shall conform in all respects to IS: 4064 or BS: 3185. Switch fuse unit shall be suitable for 415 volts, 3-phase, 50 HZ AC supply.

2.2 Construction

The unit housing shall be of robust construction designed to withstand arduous conditions encountered in the electrical system. Sheet steel materials used for switch fuse shall be given a rigorous rust proofing treatment before it is fabricated and painted. Unit shall preferably have double break per phase in order to isolate fuse links when the switch is in 'OFF' position.

2.3 Fuses

The units shall contain fuse based and carriers for accommodating HRC fuse units. HRC fuse units of specified rating and conforming to BS:88 shall be provided.

2.4 Operation Mechanism

The operating mechanism of the unit shall be crisp and positive in action with quick make, silver plated contacts. The operating handle shall be suitable for rotary operation unless otherwise specified. Position of the handle as 'ON' 'OFF' shall be clearly indicated, operating handle shall be of retractable type.

2.5 Shrouding

All the live parts inside the switch fuse unit shall be shrouded to prevent any accidental contact.

2.6 Terminals

All the terminals shall be liberally designed.

2.7 Interlocking

All switch fuse unit shall be provided with suitable interlock such that the donor of switch board panel shall not open unless the switch is in 'OFF' position. Provision for pad locking the switch in 'OFF' position shall also be provided.

3. MEDIUM VOLTAGE DISTRIBUTION BOARDS FOR POWER & LIGHTING DISTRIBUTION

3.1 General

Distribution board shall be suitable for 415 volts, 3 phase AC supply or 230 volts single phase AC supply, as required. Distribution boards shall generally conform to IS-2675. However, the specifications hereinafter described shall take precedence over the above wherever this workmanship.

3.2 Type and Construction

Distribution board shall be of totally enclosed dust/vermin proof factory fabricated. The enclosure shall be made of the best quality sheet steel shall be treated with a rigorous rest inhibited process before fabrication. The distribution boards shall comprise of MCB unit as incoming and required number of miniature circuit breakers as outgoing shall have rating as specified on the drawings and schedule

3.3 Bus bars

Suitable bus bars made of copper strips and mounted on non-hydroscopic insulating supports shall be provided.

3.4 Circuit Breakers

Miniature circuit breakers shall be of approved design and make. Circuit breakers shall be equipped with individually insulated and segregated terminals. The position of handle of the breakers shall clearly indicate the condition of breaker such as ON/OFF.

3.5 Testing

Distribution boards shall be tested at factory as per IS: 2675. The test shall include insulation test high voltage tests, etc. Original test certificate from the manufacturer shall be furnished.

4. MEDIUM VOLTAGE DISTRIBUTION SYSTEM (INTERNAL, LIGHTING & POWER WIRING)

4.1 General

Medium voltage distribution system shall be applicable for wiring 3 phase, 4 wire 415 volts, 50 HZ AC supply and single phase, 2 wire 240 volts, 50 HZ AC supply.

4.2 Regulation & Standards

The system shall be governed by the requirements of IS: 712 and IE Rules, IS standards and codes applicable for medium voltage distribution is also listed in standard specification No.

4.3 PVC Conduit and Accessories

Installation of conduits

(a) Open / surface conduit system: Wherever, specifically called for, surface conduit system shall be adopted. Conduits shall be run in square and symmetrical lines. Before the conduits are in exact route shall be marked at site and approval of the Bank/ Architect shall be obtained. Conduits shall be fixed by heavy gauge saddles, secured to

suitable raw plugs, at an interval are used, the saddles shall be provided on either side at a distance of 30cm from the centre of such screwed couplers and screwed accessories only. In long distance straight rungs of conduit inspection type couplers of running type couplers with jam nut shall be provided.

All the conduits opening shall be properly plugged with PVC stoppers/bushes. Wherever conduits terminate into/point control box, outlet box, distribution boards, etc. conduits shall be rigidly connected to the box/board.

(b) Recessed conduit system: All the conduits including, bends, unions, junction boxes etc. shall be cleaned, before they are fixed in position. Conduits which are to be taken in the ceiling slab shall be laid on the prepared shuttering work of the ceiling slab before concrete is poured. The conduits shall be properly threaded and screwed into sockets, bends, junction boxes, outlet boxes.

The conduits in ceiling slab shall be straight as far as possible to facilitate easy drawing of wires through them. Before conduits are laid in the ceiling the positions of outlet points, point control boxes, junction boxes, shall be set out clearly so as to minimize offsets and bends. Conduits recessed in walls shall be secured rigidly by means of steel hooks/staples at 0.6 m intervals. Before conduit is concealed in the walls, all chases, grooves shall be neatly made to proper dimensions to accommodate the required number of conduits. The outlets boxes, point control boxes, inspection and draw boxes shall be fixed as and when conduit is laid. The recessing of conduits in cover on the same. All grooves, chases etc. shall be refilled with cement mortar and finished upto the unfinished wall surface before plastering of walls is taken up by the general contractor. Where conduits pass through expansion joints in the building, adequate expansion fittings or other approved devices shall be used to take care of any relative movement. Wherever conduits devices shall be used to take care of any relative movement. Wherever conduits terminate into point control boards etc. with check nuts on either side of the entry to ensure electrical continuity.

Running joints in conduits wherever necessary shall be rigidly held in aligned position by a check nut tightened on running side. After conduits, junction boxes, outlet boxes etc. are fixed in position their outlets shall be properly plugged with PVC stoppers or with any other foreign material do not enter into the conduit system.

All conduits ends terminating into an outlet, draw box, junction box, point control boxes, etc. shall be provided with bushes of PVC or rubber. Necessary pull wires shall be inserted into the conduit for drawing wires and proper size earth continuity wire shall be run throughout the length of the conduit with the earth wire being efficiently fastened to the conduit by means of special clamps. Copper clamps shall be used for copper earth wire and GI clamps for GI wires. Earth continuity wires may also be brought inside the conduits.

4.4 Enclosure for Electrical Accessories

i) Enclosure for electrical accessories such as switches, sockets, fan regulators etc. shall be mild steel conforming to IS-14772. The dimensions of the enclosures shall be as per clauses 3.1 of IS-5133. The wall thickness of enclosures shall not be less than 1.6mm. The enclosure boxes shall be provided with a minimum of four fixing lugs located at the corners for fixing the covers. All fixing lugs shall have tapped holes to take machine brass screws.

ii) Sufficient number of knock-outs of 32 mm / 25 mm/ 20 mm dia shall be provided for

conduit entries. Enclosures shall be sufficiently strong to resist mechanical damage under normal service conditions. Provisions shall be made for bonding the enclosures to the earth. The enclosures shall be adequately protected against rust and corrosion both inside and outside with suitable air drying paint. The phenolic laminate cover with bevelled edges for mounting switches, sockets, etc. wherever different phase conductors are brought into the same enclosure, phase barriers shall be provided. Phase barriers shall be of MS

5. WIRING CONDUCTORS

5.1 All wiring conductors shall be PVC insulated, single/stranded copper conductors of 1100 V grade. Wiring conductors shall generally conform to IS:694

The current ratings for wiring conductors shall be based on the following parameters.

- i. Ambient temperature - 40°C
- ii. Conductor temperature - 70°C

Wiring conductors shall be supplied in various colours for easy identification of wires. The wiring conductors shall be supplied in sealed coils. The wiring conductor shall bear manufacturer's trade mark, name, voltage grade etc.

5.2 Installation of Wiring Conductors/Cables

The wiring conductors shall not be drawn into the conduits until the works of any nature that may cause damage to the wires are completed. Before drawing the wires the conduits shall be thoroughly cleaned and drained, proper care shall be taken in pulling the wires. The installation and termination of wires shall be carried out with due regard to the followings:

- a. While drawing the wiring conductors, care shall be taken to avoid scratches and kinks which cause breakage of conductors. There shall be no sharp ends in the conduit system.
- b. Insulation shall be shaved off like sharpening a pencil.
- c. Strands of the wire shall not be cut for connecting to the terminals or lugs. The terminals shall have adequate cross section to take all the strands.
- d. Brass flat washers of large area shall be used for bolted terminated

5.3 Wiring for power and lighting circuit shall be carried out in separate and distinct wiring system. Wiring for emergency system shall also be carried out in a separate and distinct wiring system. Balancing of circuits in a three phase system shall be arranged before the installation is taken up.

5.4 The wiring system envisaged is generally shown on the layout drawings and line diagrams, however, a brief account of the general wiring system is given below

Sub main wiring: Wiring from switch boards to the individual distribution boards.

Circuit wiring: This shall be included in point wiring.

5.5 The sub main wiring shall be either in 3-phase, 4 wire, or single phase, 2 wire system. Each sub main wiring circuit shall also have its own copper earth continuity wire. The number and size of copper earth continuity wire shall be as per BOQ.

The load per circuit shall not exceed 800 watts. The minimum size of conductor for wiring of lighting circuits shall be as per BoQ. Power wiring shall not have more than two sockets connected to one circuit.

The maximum number of various size conductors that could not be drawn into various sizes of conduits shall be as per table of IS-732 (Latest Edition) the wiring shall be colour coded for easy identification of phase and neutral generally the following colour coding may be adopted.

Phase	R	=	Red
	Y	=	Yellow / White
	B	=	Blue
Neutral		=	Black
		=	Green

6. SWITCHES, SOCKETS AND ACCESSORIES

6.1 General Requirements

Light control module switches shall be 6A rating for controlling upto four light points and 16A rating for more than four light points. Light control switches shall be of module type design suitable for flush mounting for general lighting. Wherever specifically called for tumbler type switches shall be used for surface mounting. Light control switch shall 3 mm thick phenol in laminated sheet covers

All sockets 6A and 16A rating shall be flush mounting module type with control switches of module type design of the same rating as that of the sockets. All sockets outlets shall be of 3 pin module type. The base of the socket shall be high quality porcelain with pins made of brass alloy and plated with a noble metal. Socket module shall be provided.

6.2 Lamp Holders, Ceiling Roses, etc.

Accessories for light outlets such as lamp holders, ceiling roses, etc. shall be in conformity with requirements of relevant IS specifications. Only approved make of accessories shall be supplied.

6.3 Installation of Switches module, Sockets module and Accessories

All the switches shall be wired on phase. Connections shall be made only after testing the wire for continuity, cross phase etc with the help of megger switches module sockets module fan regulator etc. shall be housed in proper sheet enclosures. The arrangement of switches and sockets shall be neat and systematic. Covers for enclosures accommodating module switches, sockets, etc (point control boxes) shall be of module type. For termination of wires PVC connections shall be provided wherever essential. For wall plug sockets, the conductors may be terminated directly into the switches module and sockets module. The outlets, point control boxes etc. shall be set out as shown on the drawings. Before fixing these, the contractor shall obtain clearance from the Engineer/Architect with regard to their proper locations. The enclosures of sockets and 3rd pin of the socket shall be connected to the ground through a proper size earth continuity wires as laid out in standard specifications.

7. POINT WIRING

Point wiring shall commence from distribution board to outlet through point control board or switch. Circuit wiring from DB to switch board is included in point wiring and no separate circuit wiring will be paid by the employer

Point wiring for lights, fans, module sockets, call bell etc. shall be carried out with copper conductor PVC insulated wires as per BOQ.

A max of 800 watts or 8 points whichever is lower shall be on one circuit

8. TESTING AND ELECTRICAL INSTALLATION

8.1 Testing and installation shall be as per IS-1732-1963

a. The insulation resistance shall be measured by applying between earth and the whole system of conductors or any section thereof with all fuses in places and all switches closed and except in earthed concentric wiring all lamps in position or both poles of the installations otherwise electrically connected together, where a direct current pressure of not less than twice the working pressure provided that it need not exceed 500 volts for medium voltage circuits. Where the supply is derived from the three wires (AC & DC) or a poly phase system, the neutral pole of which is connected to earth direct or through added resistance, the working pressure shall be deemed to be that which is maintained between the outer or phase conductor and the neutral

b. The insulation resistance measured as above shall not be less than 50 divided by the number of points on the circuits that the whole installation shall be required to have an insulation resistance greater than one meg ohm

c. Control rheostat heating and power appliances and electric signs may, if required, be disconnected from the circuit during the test, but in event the insulation resistance between the case of frame work and all live parts of each rheostats appliance and sign shall not be less than that specified in the relevant Indian Standard Specification or where there is no such specification shall not be less than half a meg ohm

d. The insulation resistance shall also be measured between all conductors connected to one pole or phase conductor of the supply and all the conductors connected to the middle wire or the neutral or to the other pole or phase conductors of the supply and its value shall not be less than specified in sub clause.

e. On completion of all electric installations (or an extension to an installation) a certificate shall be furnished by the contractor counter signed by the qualified supervisor under whose direct supervision the installation was carried out. The certificate shall be in prescribed form as required by the local electric supply authorities. One such recommended form is given in Appendix.

8.2 Testing of Earth Continuity Path

The earth continuity conductor including metal conduits and metallic envelopes of in the cases shall be tested for electric continuity and the electrical resistance of the same along with the earthing lead but excluding any added resistance or leakage circuit breaker measured from the connection with the earth electrodes to any point in the earth continuity conductor in the completed installation shall not exceed one meg ohm.

8.3 Testing of Polarity of non-linked Single Pole Switches

a. In a two wire installation a test shall be made to verify that all non-linked single pole switches have been fitted in the same conductor throughout and such conductor shall be labelled or marked for connection to an outer on phase conductor or to the non earthed conductor of the supply.

b. In a three wire or four wire installation a test shall be made to verify that every non linked single switch is fitted in a conductor which is labelled, marked for connection to one of the outer conductor of the supply.

9. EARTHING FOR ELECTRICAL WORK

All non-current metal parts of the electrical installation shall be earthed as per IS: 3043. The materials to be used are described in the BOQ

LIST OF PREFFERED MAKE OF MATERIAL

The material of standard quality from the following preferred makes is to be used. In case it is established that the brands specified below are not available in the market, contractor shall submit alternative proposal for the approval of Bank.

Steel	SAIL, Tata Steel, JSW, Essar/ RINL
Cement	Ultratech, ACC, JK Cement, Ambuja
Plastic Emulsion Paint/Texture / OBD/Duco Paint/Synthetic enamel.	Asian / Dulux / Berger / ICI/ Nerolac
Exterior Paint / Water Proof Paint/ Bitumastic Paint	Asian / Dulux / Berger / ICI/ Nerolac
Flush Door	Archid/ Green/ Century/Duro
Aluminium	Jindal, Hindalco, Indo Alusys
Galvalume sheets	Lloyd's / Gangaroom / Japan metal or Equivalent approved by Bank/ Architect.
Pumps	Crompton Greaves or Suguna
Ceiling Rose / Battern Holder	Legrand (Mosaic) – Modular
Elcb	Neptune/ English Electric/ Indo Asian
Aluminium conductor cables	Ecko/ Sky Tone/ Havells
Kit kats	Kay / Anchor/Havells
Ammeter / voltmeter	Automatic Electric/Havells/ L&T
Indicators	Concord / Kay Cee / Mathura/ Siemens
Lugs & Glands	1) Lugs - Dowells / Lotus.
Meters	HPL/ Secure /L & T
Power Contactor	Schneider/ TC./Siemens
Fire Extinguisher	Firex.
Rubber Mat	Bhor / Atlas
Capacitors	Shreem /Prabhodhan
APFC Relay	Beluk / Syncon.
Protection Relay	Alstom.
Outdoor & Indoor Termination	Reychem
Putty	Birla / JK / Asian paint
Vitrified tile	Kajaria/ Somany/ Orient Bell/ Johnson
Ceramic Tiles	Kajaria/ Somany/ Orient Bell/ Johnson
Pasting Chemicals for Tiles	Pidilite, Fosroc, Eurokart
PVC Tanks	Sintex / Plasto/ Supreme
C.P. Fittings	Jaquar/ Hindware / Cera / Parryware / Somany
C.P. Accessories	Jaquar/ Hindware / Cera
Bottle Trap	Jaquar/ Hindware / Cera
Health Faucet	Jaquar/ Hindware / Cera
Sanitary Wares	Parryware / Hindware / Jaquar in White Colour
Seat Covers	Parryware / Hindware / Jaquar in White Colour

Kitchen Sink	Cera/ Nirali/ Hindware/ Neelkanth/ Jayna
uPVC Pipe & Fittings	Finolex/ Supreme/ Prince
G.I. Pipe & Fittings	Swastik / TATA / UNIK / KS /Jindal
C.I. Pipes & Fittings	R.I.F./ SRIF/ NECO
Gate/ Ball Valves	Zoloto/ Leader or equivalent
PVC Drain Pipe	Prakash/ Jindal/ Supreme
Glass	Modi Guard/Saint Gobain or equivalent
uPVC doors/ windows	Fenesta/ Rehau/ Prominace
PVC rigid foam sheet/profile	Greenply/ Century/ Alstone
WPC frame	Century/ Greenply/ Alstone
Plywood/Block Board / MDF	Green / Archidply / DURO
Laminate/ high gloss laminate	Green/ Archidlam/ Merino
Adhesive/Glue	Fevicol/ Pidilite/ Vemicol
Locks in cabinets, furniture, Door	Godrej/ Dorset/ Hettich/ Link/ Europa
All hardware and fittings i/c door closer	Ebco/ Godrej/ Hettich/ Ozone/ Dorset/ Kich/ Dunex
Natural wood veneers	Archidply/ Green/ Duro
Water based melamine polish	Asian paints / Pidilite Industries/ ICI/ Dulux
Dash fasteners	Hilti/ Fischer/ Bosch
Anchor fasteners	Hilti/ Fischer/ Bosch
Water Proofing Chemicals	Cico/SIKA/Pidilite/FOSROC/MYK Laticrete/ Kryton
PVC conduit/ fittings	AKG / Precision/ BEC
PVC insulated copper FRLS Cable	Finolex/ Polycab/ Havells/ Anchor/ L&T
Cables (armored)	Finolex/ Polycab/ Havells/ Anchor/ L&T
Modular Switch Sockets & accessories	Crabtree / Northwest /Anchor-Roma/SSK/Legrand/ABB
MCB	Legrand/ Havells/ Hager/L&T/Siemens/ABB
MCCB	L&T (D-Sine)/ Siemens / ABB / Schneider
Motor	Crompton/Kirloskar/Bajaj/ Siemens
Light fitting	PHILIPS/Havells/Wipro/Bajaj/Osram
Ceiling/ Wall fan	Crompton / Usha/ Havells/ Orient
Exhaust fan	Crompton / Usha/ Havells/Orient/ Bajaj
A.C Starter, Plug Socket	Crabtree / Northwest/ Legrand/ ABB
Fuse Switch Unit (FSU)	L&T / Havells/ Simens/Hager
Cable Lug	Dowell's/Jainsons/3-D/Comet
Cable gland	Jainsons/Comet or equivalent
Distribution board	L&T/ Havells/ Siemens/Hager/ Legrand/ ABB
MS conduit & Accessories	BEC/AKG/Precision
Telephone cable	Delton/National/ Finolex/ Polycab/ Havells
Telephone Connector	Krone/ D-link or Equivalent.
Starter & single phasing preventer	SEIMENS/ L&T/ ABB
MV/LT Panel Board	SPC Electrotech/ Advance Power & Control Milestone/KEPL
CT/PT	Automatic Electric/Crompton/Kappa
Digital Meters	Conzerve/Scheider/Secure/Rishab
HRC Fuse & Fitting	Siemens/L&T/ Hager
Cable tray	Slotco/ Rico/ Profab/ Indiana/ Milestone/MEM/Legrand

Chemical Earthing	Universal Altex / Ashlok / JMV/ ERICO
Changeover (On –Load)	L&T/Hager/Simens/ Legrand
PVC Casing & copping Fittings	BEC/AKG/ Precision
Pumps	Kirlosker/ Crompton Greaves/ Wilo/Mather & Platt
Diesel Engine	Kirlosker/ Cummins or equivalent
MS Pipe	Jindal/Tata/Sail
Butterfly valves/ NRV/ ball Valves	Zoloto, Leader, Sant, Kartar
Sprinkler Head	HD/Tyco or equivalent
Flexible Pipe for Sprinkler	HD/Tyco or equivalent
Landing valve	New Age/ Zoloto/ Safex/Onex/new Tech or equivalent
Hose reel, Hose pipe	New Age/ Zoloto/ Safex/Onex/new Tech or equivalent

NOTE:-

1. In case of unavailability of any material of specific make an equivalent make can be used only after a written approval of the Bank. The preference of make/ brand of the material listed above will be decided by the Bank. The make/ brand of any item will be as mentioned in the drawings issued by the Bank.

2. The contractor shall provide samples of all materials mentioned in the list of makes as required by the Bank. A written approval of these samples shall be sought prior to commencement of any work. Bank reserve the right to enquire the genuineness of any material used at site directly from the manufacturer/ dealer.

---THE END---