# TENDER FOR REPAIR AND RENOVATION OF MUMBAI MAIN OFFICE BUILDING NO-1,2 AND 3, HORNIMAN CIRCLE, FORT,MUMBAI-400001.

**Bank of Baroda**
**Baroda Corporate Centre**
**Facilities Management Department**
**C-26, G-Block**
**Bandra Kurla Complex**
**Bandra (East), Mumbai - 400 051**

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## SECTION – I

### [A] Important Dates:

| # | Particulars | Timeline |
|---|---|---|
| 1 | Tender Issuance Date | 24.05.2022 |
| 2 | Tender Coordinator Name, Contact details (Bank) | Mr Manajit Behura Sr Manager (Civil)<br>Contact No. – 022 6698 5073<br>em.bcc@bankofbaroda.co.in<br><br>Mr Sabyasachi Mohanty Sr Manager (Electrical)<br>Contact No. – 022 6698 5102<br>em.bcc@bankofbaroda.co.in |
| 3 | Last Date of written request for clarifications before the Pre-bid Meeting | **em.bcc@bankofbaroda.com** |
| 4 | Online Pre–bid Meeting & Venue details | Pre bid meeting will be held online through Bank's Online Meeting Platform (i.e. Microsoft Teams) on at 11:00AM. On 03.06.2022.<br><br>Bidder to submit maximum two participant's names, contact numbers, designations and e-mail IDs on em.bcc@bankofbaroda.com at least one day before the scheduled teleconferencing date which will enable to add in the meeting.<br><br>Meeting invite Link will be sent by the Bank to bidder's provided email IDs to join the Online Meeting as per the schedule mentioned above.<br><br>Bidder representatives will have to click the Bank provided link (provided in the e-mail) to join the On-Line Pre-bid meeting. |
| 5 | Last Date of Submission of Online Tender (Closing Date) | **15:00** Hrs on 14.06.2022.<br>Mode: Online<br>URL: : https://www.tenderwizard.com/BOB |
| 6 | Eligibility Cum Technical Bid Opening Date (Online) | **15:30** Hrs on 14.06.2022.<br>Mode: Online<br>URL: https://www.tenderwizard.com/BOB<br>1. The meeting will be held online through Bank's Online Meeting Platform (i.e. Microsoft Teams).<br>2. Bidders are requested to send bid submission confirmation with their email address for attending online bid opening meeting on em.bcc@bankofbaroda.com id after Tender submission time is over. (mandatory) |

| | | |
|---|---|---|
| 7 | Commercial Bid | The commercial bids of only those Bidders who qualify in both eligibility and technical evaluation will be opened. The date for opening of the commercial bid would be communicated separately to the technically eligible Bidders. |
| 8 | Application Money | N.A |
| 9 | Earnest Money Deposit | **Rs 3.40 Lacs** |
| 10 | Minimum requirement for Online Tender- response submission | 1. Computer / Laptop (Notebook) with internet connection<br>2. Operating system - Windows 7 or above<br>3. Digital certificate (DC) - Class II or III, Signing + Encryption. (DC to be organizational type if bidder is participating on behalf of an organization)<br>4. Web Browsers: Internet Explorer 9.0 (32-bit Browser only) & above |
| 11 | Mode of bid submission & online portal's URL | Mode: Online<br>URL: https://www.tenderwizard.com/BOB |
| 12 | Support details of Online Portal facilitator | ITI Limited, Tenderwizard Helpdesk Team<br>Email: eprocurebob@etenderwizard.com<br>Phone: +91-11-49424365<br>For more details, check under contact us at home page of e-procurement portal https://www.tenderwizard.com/BOB |

**Confidentiality:**

*This document is meant for the specific use by the Company / person/s interested to participate in the current tendering process. This document in its entirety is subject to Copyright Laws. Bank of Baroda expects the bidders or any person acting on behalf of the bidders strictly adhere to the instructions given in the document and maintain confidentiality of information. The bidders will be held responsible for any misuse of information contained in the document, and liable to be prosecuted by the Bank In the event that such a circumstance is brought to the notice of the Bank. By downloading the document, the interested party is subject to confidentiality clauses.*

# NOTICE INVITING TENDER

To,
M/s. _____
_____

## TENDER FOR REPAIR AND RENOVATION OF MUMBAI MAIN OFFICE BUILDING NO-1,2 AND 3, HORNIMAN CIRCLE, FORT,MUMBAI-400001.

Bank of Baroda Invites Tender from experienced contractors for **"TENDER FOR REPAIR AND RENOVATION OF MUMBAI MAIN OFFICE BUILDING NO-1,2 AND 3, HORNIMAN CIRCLE, FORT,MUMBAI-400001.**
**."**

Tender form has to be downloaded from the Bank's website www.bankofbaroda.com (tender section). Application form available on website alone needs to be used. Tender forms will be available on the bank's website from 24.05.2022 **till** 14.06.2022 up to **15:00 Hrs.**

Tender shall be submitted in online mode only.

Contractors desirous to apply for said work shall fulfill the following:

| Sl. No. | Name of Work | Estimated cost in Rs. (approx.) |
|---|---|---|
| 1. | TENDER FOR REPAIR AND RENOVATION OF MUMBAI MAIN OFFICE BUILDING NO-1, 2 AND 3, HORNIMAN CIRCLE, FORT,MUMBAI-400001. | 339 Lacs |

**Minimum pre-qualifying/short listing criterion:**

1. They should have completed similar jobs* in last 7 {seven) years (as on 30.04.2022) as per the following criteria (Proforma enclosed) :

   **a) One** similar completed work costing not less than Rs. 272 Lacs **OR**
   a) **Two** similar completed works, each costing not less than Rs. 170 Lacs.
   OR
   b) **Three** similar completed works, each costing not less than Rs. 136 Lacs.

(*similar jobs include Restoration work in Grade I / II Heritage category buildings works including civil, plumbing, carpentry, electrical, of RCC Residential/ commercial buildings for Govt Sector and large listed pvt organization).

2. Average annual financial turnover of the firm during last 3 years, ending 31st March, 2022 should be at least Rs 102.00 Lacs (supported with Audited Balance Sheets).

**EMD: Rs. 3.40 Lacs only**

Bidder shall submit Earnest Money Deposit (EMD) amount online through NEFT/RTGS on the details below:

**Bank: BANK OF BARODA**
**Branch: Bandra East**
**IFSC: BARB0BANEAS ('0' is Zero) (Fifth Letter)**
**Account Type: OD**
**Account No.: 29040400000418**

**Under no circumstances, Earnest Money Deposit will be accepted in the form of fixed deposit receipt/DD/Banker's cheque or Insurance guarantee or Cheque.**

**Please note that firms/agencies claiming exemption from submission of EMD under any statutory authority/law (eg . NSIC, MSME,KVIC etc.) shall be required to submit necessary documents viz. valid registration certificate etc. to the satisfaction of the Bank. Such firms shall ensure to submit copy of valid Registration Certificate duly signed and stamped in place of receipt of NEFT/RTGS.**

**If the company found L-1 and back out subsequently, then Company shall be delisted / debarred from the Bank of Baroda for minimum 3 years.**

Validity of offer shall be 120 days from the date of opening of Price Bid. Bank may extend the validity of tender with consent of bidders.

Financial Bids of eligible bidders qualifying as per above eligibility criteria shall be opened only. Date of opening of financial bids shall be communicated separately.The Bank does not bind itself to accept the lowest or any tender and reserves the right to accept or reject any or all tenders either in whole or in part, without assigning any reasons whatsoever.

No conditional offer will be entertained. Conditional offers shall be summarily rejected. Disputes, if any, will be subject to Mumbai jurisdiction only.

**Tender documents downloaded from Bank's website shall only be accepted.**

In case of any clarification you may please contact following officials:

Senior Manager – Manajit Behura-022 66985073
Senior Manager – Sabyasachi Mohanty - 022 66985102
Chief Manager – A K Shukla - 022 66985101

Email- em.bcc@bankofbaroda.com

Bank has engaged M/s. Design Ideas (Architect) for providing Architectural Consultancy services for the project. His contact details are as under:

Name- Paresh Padgaonkar
Mob- 9821004421
Email- ideas.design@yahoo.com

Bidders desirous of visiting the project site can do so on by informing department vide mail and providing details of person after which the visit will be scheduled. Bank's official/Architect shall be present at site on the said date. No further requests for site visit shall be entertained after 10th of June,2022. The address of site is as under:

Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

**Seal & Signature of Tenderer**

SECTION – II

## MANDATORY INFORMATION FOR PRE-QUALIFICATION

### ANNEXURE -A

Mandatory information required for Prequalification of the bidder

(To be furnished on the letterhead of the bidder)

Important:

1. Please type or handwrite in capital letters.
2. Attach copies of the supporting documents.
3. Please use additional sheets if required.

| | | |
|---|---|---|
| 1 | a) Name of the applicant / organization<br>b) Address of the Registered Office<br>c) Address of office at Mumbai.<br>(With Phone Nos, Fax Nos & Email ID & Contact Person) | |
| 2 | Year of establishment | |
| 3 | Type of the organization (Whether sole proprietorship, Partnership, Private Ltd. or Ltd. Co. etc.)<br>(Enclose certified copies of documents as evidence) | |
| 4 | Name & qualification of the Proprietor / Partners / Directors of the Organization / Firm<br>a)<br>b)<br>c)<br>Enclose certified copies of document as evidence. | |
| 5 | Details of registration – Whether Partnership firm, Company, etc. Name of Registering Authority, Date and Registration number.<br>Enclose certified copies of document as evidence | |
| 6 | Whether registered with Government / Semi – Government / Municipal Authorities of any other Public Organization and if so, in which class and since when? (Enclose certified copies of document as evidence) | |
| 7 | a. No. of years of experience in the field and details of work in any other field.<br>b. Whether ISO certified, furnish the details. | |
| 8 | Area of business activities other than construction, if any, and place of business. | |

| | | |
|---|---|---|
| 9 | Registration of firm under Shop & Establishment Act 1948 | |
| 10 | Address of Mumbai office through which the proposed work of the Bank will be handled and the Name & Designation of officer-in-charge**.** | |
| 11 | (a) Yearly turnover of the organization during last 3 years (year wise) (Avg. turnover of last 3 years should not be less than Rs 101 **Lacs**) and furnish audited balance sheet and Profit & Loss A/c (Audited) for the last –3- years.<br><br>(b) Average turnover in<br>2019 – 2020<br>2020 – 2021<br>2021- 2022 | |
| 12 | Name & Address of Bankers<br>(Solvency certificate from a Bank to be enclosed for indicating satisfactory financial capacity of the organization)-Rs.100 Lacs -Issued not more than 6 months old frame the date of issue of tender. | 1.<br>2.<br>3. |
| 13 | Enclose copy of latest income tax clearance certificate. | |
| 14 | PAN No. | |
| 15 | Details of registration for GST | |
| 16 | Detailed description and value of works done (Proforma-1) and works on hand (Proforma-2) | |
| 17 | Details of Key Personnel Permanently employed (Proforma<br>–3) | |
| 18 | Other infrastructural information to be used/ referred for this project (Proforma-4)<br>List of available plants, machineries equipments etc. | |
| 19 | Furnish the names of –3- responsible persons along with their designation, address, Tel.No. etc., for whose organization, you have completed the above mentioned jobs and who will be in a position to certify about the performance of your organization. | |
| 20 | Whether any Civil Suit / litigation arisen in contracts executed / being executed during the last 10 years. If yes, please furnish the name of the project, employer, Nature of work, Contract value, work order and brief details of litigation.<br>Give name of court, place, and status of pending litigation. | |

| | | |
|---|---|---|
| 21 | Information relating to whether any litigation is pending before any Arbitrator for adjudication of any litigation or else any litigation was disposed off during the last ten years by an arbitrator. If so, the details of such litigation are required to be submitted. | |
| 22 | Have you been ever disqualified or levied penalty by the bank in past for non fulfillment of the contractual obligations. If yes, please provide details. | Attach a separate sheet if required. |

NOTE: Attach extra sheets with Sr. No if the space found less.

(Please enclose this information in PART I (Technical Bid) of the Bid. Bid of agencies who are not furnishing above information will be summarily rejected).

**PROFORMA – 1**

**LIST OF PROJECTS EXECUTED BY THE ORGANISATION DURING THE LAST 7 YEARS (Minimum Value of Work done not less than stipulated as per tender)**

| Sl No | Name of work/ project with address. | Name & full postal address of the owner. Specify | Contract Amount (Rs.) | Stipulated time of completion (Years) | Actual time of completion (years) | Any other relevant information.<br><br>Actual amount of the Project, if increased, give reasons. | Enclose clients certificate for satisfactory completion. |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | |

**Notes:**

1. Information has to be filled up specifically in this format. Please do not write remark "As indicated in Brochure".
2. Date shall be reckoned from the date of advertisement of the notice in news papers.
3. For certificates, the issuing authority shall not be less than an Executive In charge.
4.

**PROFORMA - 2**

**LIST OF IMPORTANT WORKS IN HAND**
**(Minimum Value of Work done not less than stipulated as per tender)**

| Sl. no | Name of work/ project with address | Name & full postal address of the owner. Specify whether Govt. undertaking along with name, address and contact nos. of –2- persons (Engineers or top officials of the organization) | Contract Amount (Rs.) (for PMC work only) with copy of Work Order & completion certificate from project in-charge. | Stipulated time of completion (Years) | Present status of the project | Any other relevant Information. |
|---|---|---|---|---|---|---|

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| | | | | | | |

**Note:-**

Information has to be filled up specifically in this format.

Please do not write remark “As indicated in Brochure”.

**PROFORMA - 3**

**Details of Infrastructure in Office**

(Please enclose this information in the PART I (technical bid) of the bid. Bid of agencies who are not

| Sr. No. | Items | Numbers | Details |
|---|---|---|---|
| 1 | Office Premises, Area, etc | | |
| 2 | Fax M/c | | |
| 3 | Telephones | | |
| 4 | Other instruments | | |
| 5 | Software used for planning. | | |
| 6 | Reference books used | | |
| 7 | Subscription to magazines, | | |
| 8 | Any other information | | |

furnishing above information will be summarily rejected).

I/We confirm that to the best of our knowledge this information is authentic and accept that any deliberate concealment will amount to disqualification by the Bank at any stage

PLACE :

DATE : __/__/2022 SIGNATURE OF BIDDER & Co’s seal

**SECTION -III**

**FORM OF TENDER**

To,
General Manager-FM&COA
Bank of Baroda,
Baroda Corporate Centre,
C-26, G-Block,
Bandra Kurla Complex,
Bandra East,
Mumbai-400051

Dear Sirs,

**Re: TENDER FOR REPAIR AND RENOVATION OF MUMBAI MAIN OFFICE BUILDING NO-1,2 AND 3, HORNIMAN CIRCLE, FORT,MUMBAI-400001.**

I Having visited the site ,examined the plans/ specifications and schedule of quantities, and satisfying ourselves as to various conditions stated, I/we hereby offer to execute the above works at the respective rates which I/we have quoted for the items in the Schedule of Quantities.

I/ we enclose copy of proof for online payment for **Rs 3.40 Lacs** towards Earnest Money deposit for the execution of the works at my/ our tendered rates, together with any variations at later stage, should the work be awarded to me/ us.

In the event of this tender being accepted, I/we agree to enter into and execute the necessary contract required by you. I/ We do hereby bind myself/ourselves to forfeit the aforesaid deposit of **Rs 3.40 Lacs** in the event of our refusal or delay in signing the Contract Agreement. I/we further agree to execute and complete the work within the time frame stipulated in the tender documents.

I/we agree to pay GST, and all or any other tax/ duties, Central/ State, VAT, Duties, all Royalties and all other applicable taxes prevailing and be levied from time to time on such items for which the same are livable and the rates quoted by me/us are inclusive of the same.

I/we understand that you are not bound to accept the lowest tender or bound to assign any reasons for rejecting our tender. I/we further understand that Bank of Baroda may award Contracts to more than one Contractor and that I/ we shall make no claims whatsoever if Bank of Baroda accept only a part of my/ our tender. We unconditionally agree to Bank of Baroda's preconditions as stipulated in the tender documents.

*Looking to the prevailing Pandemic Corona, I shall follow all guidelines issued by Government/Society and ensure regular Sanitization, Social Distancing, Wearing Mask etc. during the course of Work.*

Bank reserves the right to terminate our contract and forfeit the Earnest money deposit paid by us in additions to recovery of all the dues to the Bank from the payment receivable by us. Further we may also be barred from tendering in future for the Bank and its subsidiaries.

I/we enclose herewith the completed tender documents duly signed in duplicate.

Yours truly,

[To be signed by the Authorized Representative of Tenderer holding Power of Attorney]

Place:

Date

1) The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise 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 dealings".

**Equal treatment of all Bidders / Subcontractors**

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

2) The BOB will enter into agreements with identical conditions as this one with all Bidders.

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

**Criminal charges against violating Bidder(s)/ Subcontractor(s)**

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

## Independent External Monitor

1) The BOB has appointed Independent External Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission. Name: Shri. Harishwar Dayal (email id: dayalagra@gmail.com) appointed 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 this agreement.

2) 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 as confidential.

3) The Bidder(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BOB including that provided by the Bidder. The Bidder 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-contractors.

4) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s) / Sub-contractor(s) with confidentiality. The Monitor has also signed 'Non-Disclosure of Confidential Information '. In case of any conflict of interest arising during the selection period or at a later date, the IEM shall inform BOB and recuse himself / herself from that case.

5) The BOB 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 BOB and the Bidder. The parties offer to the Monitor the option to participate in such meetings.

6) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/ she will so inform the Management of the BOB 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.

7) The Monitor will submit a written report to the BOB officials within 15 days from the date of reference or intimation to him by the BOB and, should the occasion arise, submit proposals for correcting problematic situations.

8) If the Monitor has reported to the BOB , a substantiated suspicion of an offence under relevant IPC/ PC Act, and the BOB 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.

**Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

**Pact Duration**

This Pact begins when both parties have legally signed it. It expires for the selected Bidder till the contract period, 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 from 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 BOB .

**Other provisions**

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Corporate Office of the BOB, i.e. Mumbai.
2. Changes and supplements as well as termination notices need to be made in writing. 3) If the Bidder is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
3. 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.
4. Issues like scope of work, Warranty / Guarantee etc. shall be outside the purview of IEMs.
5. In the event of any contradiction between the Integrity Pact and tender/ RFQ/ tender documents and its Annexure, the Clause in the Integrity Pact will prevail.

(For & On behalf of the BOB) (For & On behalf of Bidder/Contractor) (Office Seal)

(Office Seal)

Place: _____ Date: _____

Witness 1: Witness 2:

(Name & Address) (Name&Address)

_____ _____

## SECTION - IV

## INFORMATION AND INSTRUCTIONS TO TENDERERS

**Scope of Work :**

1.1 The brief description of work to be carried out and its scope are given in the General Condition of Contract and the **"Special Conditions of Contract"** of these documents.

**2. Site Inspection and Information :**

2.1 The tenderer must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a tender and for entering into a contract and must examine the Drawings, inspect the site of the work and acquaint himself with all the information about all the local conditions, means of access to the work, nature of the work and all matters pertaining thereto.

2.2 Access to the Site will be given during the Tender period by Bank as mentioned in Tender

The tenderer shall ascertain the location, size and condition of the areas available for his use as working areas and all other information affecting this Tender.

2.3 The Employer will not be responsible and will not reimburse any expenses which may be incurred or losses to person or property suffered by any Tenderer in connection with visits to and examination of the site and in the preparation of his tender for submission.

2.4 The tenderers should note that information, if any, as regards to the site and local conditions, as contained in these tender documents has been given merely to assist the tenderers and is not deemed to be complete.

2.5 The tenderers should note and bear in mind that the Employer shall bear no responsibility for the lack of acquaintance of the site and other conditions or any information relating thereto, on their part. The consequences of the lack of any knowledge, as aforesaid, on the part of the tenderers shall be at their risk and cost and no charges or claims whatsoever consequent upon the lack of any information, knowledge or understanding shall be entertained or payable by the Employer either during tender stage or during the construction period.

3. **Rates & Discrepancies etc.:**

3.1 The contractor shall quote the rate after careful examination Tender documents & drawings.

3.2 The tenderers shall quote the rates both in figures and words. If some discrepancies found between the rates quoted in figures and words, the following procedure shall be adopted for checking and arithmetic calculation:

i) When there is difference between the rates in figures and words, the rates, which correspond to the amount worked out by the tenderer, shall be taken as correct.

ii) When the rates quoted by the tenderer in figures and words tally but amount is incorrect, the rate quoted by the tenderer in words shall be taken as correct.

iii) When it is not possible to ascertain the correct rate by either of the above methods, the rates quoted in words shall be taken as correct.

iv) All erasures and alterations made while filling the tender must be attested by initials of the tenderer. Overwriting of figures is not permitted and failure to comply with either of these conditions will render the tender void at the Employer's option. No advice of any change in rate or conditions after opening of the tender will be entertained.

v) **In case the contractor has not quoted both rate and amount for any items, then the maximum of the quotes for that item by other bidders shall be taken for assessing the value of his tender. Further, in case he is awarded the work, the rate for the said item shall be payable as per the lowest rate quoted by other bidders.**

vi) The rate quoted shall be inclusive of all material, labour, profit, tools and tackles, lead and lift, transportation, cutting etc complete including all applicable taxes, duties, cess, excise, octroi, LBT, WCT etc. GST shall be paid extra as applicable.

3.3 The Contractor shall not be entitled to any compensation for any loss suffered by him on account of delays, in commencing or executing the work, whatever the cause of delays may be, including delays arising out of modifications to the work entrusted to him or in any sub-contract connected therewith or delays in awarding contracts for other trades of the project or in commencement of completion of such works or in procuring Government controlled or other building materials or in obtaining water and power connections for construction purposes or for any claim in respect thereof. The Employer does not accept liability for any sum towards loss of overheads & profits of the contractor besides the accepted amount, subject to such variations as are provided for herein or as deemed fit to Employer. However, necessary time extension will be allowed if the delay is not attributable to contractor.

3.4 The Tenderers shall before tendering carefully examine the Tender Documents including these Information's & Instructions to Tenderers, General Conditions of Contract, Special Conditions of Contract, General Particulars & Requirements to Specifications, Detailed Specification, Drawings and other matters referred to therein, the Schedules and the Bill of Quantities and if there should be or appear to be any ambiguity in / or discrepancy between any of these documents or between figured and measured dimensions and other aspects upon the Drawings, he shall immediately refer the matter to the Employer / Architect **for clarification before submission of Tender. However, in case of any discrepancies between Drawings, Specifications and B.O.Q. items, B.O.Q. item shall supersede the others for quoting of rates.**

4.0 **Forms & Documents:**

i) The tenderer must use only the forms issued by the Employer to fill the rates.

ii) The Tender Form and the documents attached to it shall not be detached one from the other, and no alteration or mutilation (other than filling in all the blank spaces) shall be made in any of the documents attached hereto.

iii) All documents of the tender are to be read in conjunction with each other and rates quoted by the tenderer shall take this aspect into consideration.

5.0 **Signing of Documents:**

i) Each page of the tender documents should be signed by the person or persons submitting the tender in token of his / their having acquainted himself / themselves with the General Conditions of Contract, Specifications, Special Conditions, etc., as laid down. Any tender with any of the documents not signed will likely be rejected.

ii) The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a person who has the necessary authority on behalf of the firm to enter into the proposed contract. Otherwise, the tender may be rejected by the Employer

iii) Tender shall contain full address, Telephone Nos., Fax No. for serving notices / addendums required to be served to the Tenderer in connection with the Tender.

iv) Power of Attorney in the name of person(s) who has / have signed the tender document.

6.0 **The Tender shall accompany the following information and documents:**

a) A construction programme in the form of Bar chart showing the sequence of operation together with the estimated time for major activities.

b) Full details of any special methodology or technique the Tenderer proposes to use for the construction or for any other purpose.

c) List of Proposed Technical man-power including their qualification & experience.

d) List of proposed specialized contractors / associate if any, along with their credentials in respect to the trades of works together with their address.

e) Information regarding any changes from the previous submission made by the Tenderer for prequalification in respect of following aspects

- Details of Business & Technical Organization

- Financial resources

f) The Tenderers shall attach to their tender a copy, duly authenticated by a notary, of the documents containing the constitution of the consortium, company or firm by which the Tender is submitted so as to indicate by what persons and in what manner a contract may be entered by the consortium, company or firm and what persons would be directly responsible for the due performance of the Contract and can give valid receipt on behalf of the consortium, company or firm.

g) List of the equipment's, formwork and staging to be erected / installed / deployed at the site for timely completion of the works.

**7.0 Security Deposit;**

The successful Tenderer shall deposit a sum equal to 5%(minus EMD) of the accepted Contract value, in the form of DD / Bank Transfer- from nationalized Bank within 14 days of issue of letter of Acceptance / Work Order failing which the employer at his discretion may revoke the letter of Acceptance / Work order and forfeit the Earnest Money Deposit. If the contractor deposit 10% performance guarantee as mentioned below then Security Deposit shall not be required to be deposited and EMD shall be returned.

8.0 **Performance Guarantee**

The successful tenderer to whom the Contract is awarded shall deposit a sum equal to **10%** of the accepted contract value in the form of Bank Guarantee from a **Nationalised or Scheduled Bank.** The Performance Guarantee shall be deposited within 21 days from the date of issue of Letter of Acceptance / Work Order failing which the Employer at his discretion may revoke the Letter of Acceptance / Work Order and forfeit the Earnest Money Deposit. The Bank Guarantee for Performance Guarantee shall be valid till the issue of Virtual Completion Certificate.

9.0 The Tenderer (whether or not he submits a tender) shall treat the details of the documents as secret and confidential. In case a tenderer does not submit his tender, he shall return the blank tender documents & drawings.

10.0 **Examinations & Evaluation of Tenders :**

Employer will examine each Tender to satisfy whether – i) has been properly signed, ii) is accompanied by required security and documents and their correctness. A substantially responsive Tender is one, which conforms to all terms, condition and specifications of Tender Documents without material deviation or reservation. The Tender Evaluation will be as under :-

i) The Tender which does not fulfill the submission of documents as specified in Sl. No. – 6 of Information & Instruction to Tenderers or elsewhere in the Tender document will be treated as unqualified and will be rejected.

ii) The Tenders whose documents are found in order and satisfactory as stated above will be treated as responsive Tenders and the Price Bid of responsive Tenders will only be opened.

During evaluation employer may ask for any clarification or documents including breakdown of unit rates to the tenderer but no change in the price or substance of the bid will be sought.

11.0 **Award of Contract:**

Subject to **Clause no. 13** herein below Employer will award the contract to the Bidder whose bid has been determined to be substantially responsive and whose offer has been found lowest after arithmetical checking.

12.0 The Employer does not bind himself to accept, the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part, without assigning any reasons for doing so. The Employer also has the right to re-invite the tender at his sole discretion.

13.0 Throughout all the documents the term 'Bid' and 'Tender' and their derivatives like Bidders, Tenderer are synonymous.

## Terms and conditions

### General Terms

Information Provided: The Tender document contains statements derived from information that is believed to be true and reliable at the date obtained but does not purport to provide all of the information that may be necessary or desirable to enable an intending contracting party to determine whether or not to enter into a contract or arrangement with the Bank in relation to the provision of services. Neither the Bank nor any of its directors, officers, employees, agents, representative, contractors, or advisers gives any representation or warranty (whether oral or written), express or implied as to the accuracy, updating or completeness of any writings, information or statement given or made in this tender document. Neither the Bank nor any of its directors, officers, employees, agents, representative, contractors, or advisers has carried out or will carry out an independent audit or verification or investigation or due diligence exercise in relation to the contents of any part of the tender document.

For Respondent Only: The tender document is intended solely for the information of the party to whom it is issued ("the Recipient" or "the Respondent") and no other person or organization.

Costs Borne by Respondents: All costs and expenses (whether in terms of time or money) incurred by the Recipient / Respondent in any way associated with the development, preparation and submission of responses, including but not limited to attendance at meetings, discussions, demonstrations, etc. and providing any additional information required by the Bank, will be borne entirely and exclusively by the Recipient / Respondent.

No Legal Relationship: No binding legal relationship will exist between any of the Recipients / Respondents and the Bank until execution of a contractual agreement to the full satisfaction of the Bank.

Recipient Obligation to Inform Itself: The Recipient must apply its own care and conduct its own investigation and analysis regarding any information contained in the tender document and the meaning and impact of that information.

Evaluation of Offers: Each Recipient acknowledges and accepts that the Bank may, in its sole and absolute discretion, apply whatever criteria it deems appropriate in the selection of bidder, not limited to those selection criteria set out in this tender document.

The issuance of tender document is merely an invitation to offer and must not be construed as any agreement or contract or arrangement nor would it be construed as any investigation or review carried out by a Recipient. The Recipient unconditionally acknowledges by submitting its response to this tender document that it has not relied on any idea, information, statement, representation, or warranty given in this tender document.

Standards: All standards to be followed will adhere to Bureau of Indian Standards (BIS) specifications or other acceptable standards.

Acceptance of Terms: A Recipient will, by responding to the Bank's tender document, be deemed to have accepted the terms as stated in this Tender document

Only one submission of response to tender by each Respondent will be permitted

The Bank expects the bidder to adhere to the terms of this tender document and would not accept any deviations to the same.

The Bank expects that the bidder appointed under the tender document shall have the single point responsibility for fulfilling all obligations and providing all deliverables and services required by Bank.

Unless agreed to specifically by the Bank in writing for any changes to the issued tender document,

the bidder responses would not be incorporated automatically in the tender document.

Unless expressly overridden by the specific agreement to be entered into between the Bank and the bidder, the tender document shall be the governing document for arrangement between the Bank and the bidder.

The Bank will notify the Respondents in writing as soon as practicable after the Tender Evaluation Complete date, about the outcome of the Tender evaluation process, including whether the Respondent's Tender response has been accepted or rejected. The Bank is not obliged to provide any reasons for any such acceptance or rejection.

**Rules for Responding to this tender**

The timeframe provided in point "[A] Important Dates" above is for the overall selection process. The Bank reserves the right to vary this timeframe at its absolute and sole discretion and without providing any notice/intimation or reasons thereof. Changes to the timeframe will be relayed to the affected Respondents during the process. The time schedule will be strictly followed. Interested parties are expected to adhere to these timelines. However, the Bank reserves the right to change the aforementioned timelines.

All responses received after the due date/time as mentioned in "[A] Important Dates – 5. Last Date of Submission of tender Response (Closing Date)"would be considered late and would be liable to be rejected. E procurement portal will not allow to lodgment of tender response after the deadline. It should be clearly noted that the Bank has no obligation to accept or act on any reason for a late submitted response to tender. The Bank has no liability to any Respondent who lodges a late tender response for any reason whatsoever, including Tender responses taken to be late only because of another condition of responding.

The Bank has established Tender coordinators to provide a venue for managing bidder relationship and other requirements through the Bank's decision making body for contract clarification. All the queries and communication must be addressed to the tender coordinators / contact persons from the Bank mentioned in "[A] Important Dates -tender Coordinator"

Recipients are required to direct all communications for any clarification related to this tender to tender Coordinator.

All questions relating to the tender, technical or otherwise, must be in writing and addressed to the addresses given in point "**[A] Important Dates**" above. Interpersonal communications will not be entered into and a Respondent will be disqualified if attempting to enter into such communications. The Bank will try to reply, without any obligation in respect thereof, every reasonable question raised by the Respondents in the manner specified.

However, the Bank may in its absolute discretion seek, but under no obligation to seek, additional information or material from any Respondents after the tender closes and all such information and material provided must be taken to form part of that Respondent's response.

Respondents should invariably provide details of their email address(es) as responses to queries will only be provided to the Respondent via email. If Bank in its sole and absolute discretion deems that the originator of the query will gain an advantage by a response to a question, then Bank reserves the right to communicate such response to all Respondents.

The Bank may in its absolute discretion engage in discussion or negotiation with any Respondent (or simultaneously with more than one Respondent) after the tender closes to improve or clarify any response.

Bidder should submit their Eligibility Cum Technical and Commercial bids Online i.e. through https://bobtenders.abcprocure.com. The bidder must register for submission of their bid as specified in this document.

Application Money as mentioned in "[**A] Important Dates – Application Money**" must be deposited through RTGS (Real Time Gross Settlement) / NEFT Bidder should submit the bid security along with the bid response. The details of the transaction viz. scanned copy of the receipt of making transaction is required to be uploaded on e-procurement website at the time of "final online bid submission

The tender response without the accompanying amount towards Application Money / Bid Security are liable to be rejected.

Commercial Bid – (As per details given in Annexure 14).

If the submission to this tender does not include all the documents and information required or is incomplete or submission is through Fax mode, the tender is liable to be summarily rejected.

All submissions, including any accompanying documents, will become the property of the Bank. The Recipient shall be deemed to have licensed, and granted all rights to, the Bank to reproduce the whole or any portion of their submission for the purpose of evaluation, to disclose the contents of the submission to other Recipients who have registered a submission and to disclose and/or use the contents of the submission as the basis for any resulting tender process, notwithstanding any copyright or other intellectual property right of the Recipient that may subsist in the submission or accompanying documents

All responses should be in English language. All responses by the bidder to this tender document shall be binding on such bidder for a period of 120 days after opening of the price bids. The Bank shall have the right at its sole and absolute discretion to continue the assignment/contract on the selected bidder for future requirement for various items/activities as described in the tender after expiry of current assignment period.

All responses including commercial and technical bids would be deemed to be irrevocable offers/proposals from the bidders and may be accepted by the Bank to form part of final contract between the Bank and the selected bidder. Bidders are requested to attach a letter from an authorized signatory attesting the veracity of information provided in the responses. Unsigned responses would be treated as incomplete and are liable to be rejected.

The bids once submitted cannot be withdrawn / modified after the last date for submission of the bids unless specifically permitted by the Bank. In case, due to unavoidable circumstances, the Bank does not award the contract within six months from the last date of the submission of the bids, and there is a possibility to award the same within a short duration, the bidder would have the choice to maintain the EMD or bank guarantee in lieu of EMD with the Bank or to withdraw the bid and obtain the security provided.

The bidder may modify or withdraw its offer after submission but prior to the closing date and time as prescribed by Bank. No offer can be modified or withdrawn by the bidder subsequent to the closing date and time for submission of the offers.

The bidders required to quote for all the components/services mentioned in the "scope of works" and all other requirements of this tender. In case the bidder does not quote for any of the components/services, the response would be deemed to include the quote for such unquoted components/service. It is mandatory to submit the details in the formats provided along with this document duly filled in, along with the offer. The Bank reserves the right not to allow / permit changes in the technical specifications and not to evaluate the offer in case of non-submission of the technical details in the required format or partial submission of technical details.

Based on the Bank's requirements as listed in this document, the bidder should identify the best-suited product / solution that would meet the Bank's requirements and quote for the same. In case the bidder quotes more than one model and they have not specified which particular model quoted by them needs to be considered, then the response would be considered as improper and the whole tender submitted by the bidder is liable to be rejected. The bidder is expected to provide the best option and quote for the same.

Bidder must furnish requirements as per the formats provided in the tender document.

The Bank ascertains and concludes that everything as mentioned in the tender documents circulated to the Bidder and responded by the bidders have been quoted for by the bidder, and there will be no extra cost associated with the same in case the bidder has not quoted for the same.

All out of pocket expenses, traveling, boarding and lodging expenses for the entire life of the contract should be a part of the financial bid submitted by the bidder to the Bank. No extra costs on account of any items or services or by way of any out of pocket expenses, including travel, boarding and lodging etc. will be payable by the Bank. The bidder cannot take the plea of omitting any charges or costs and later lodge a claim on the Bank for the same.

The bidder at no point in time can excuse themselves from any claims by the Bank whatsoever for their deviations in confirming to the terms and conditions, payments schedules, time frame for solution etc. as mentioned in the tender document circulated by the Bank. Bidder shall be fully responsible for deviations to the terms & conditions as proposed in the tender document.

**Grievance Redressal:** Any bidder who claims to have a grievance against a decision or action with regards to the provisions of this tender may file a request to the General Manager- FM Deptt at em.bcc@bankofbaroda.com. It may please be noted that the grievance can be filed by only that bidder who has participated in Procurement proceedings in accordance with the provisions of this tender. All letters must be addressed to the following:

The General Manager-FM Deptt
Bank of Baroda, Baroda Corporate Center
C-26s, G-Block, BKC, Bandra- East-Mumbai-51.

**Price Bids**

The bidder is requested to quote in Indian Rupee (INR). Bids in currencies other than INR would not be considered. The date for opening of price bids would be communicated separately to the successful bidders post the completion of the technical evaluation

The prices and other terms offered by bidders must be firm for an acceptance period of 180 days from the opening of the commercial bid.

In case of any variation (upward or down ward) in Government levies/ taxes/ cess/ duties etc. which has been included as part of the price will be borne by the bidder. Variation would also include the introduction of any new tax/ cess/ duty, etc provided that the benefit or burden of other taxes quoted separately as part of the commercial bid like GST and any taxes introduced instead of GST and levies associated to GST or any new taxes introduced after the submission of bidder's proposal shall be passed on or adjusted to the Bank. If the Bidder makes any conditional or vague offers, without conforming to these guidelines, Bank will treat the prices quoted as in conformity with these guidelines and proceed accordingly. Necessary documentary evidence should be produced for having paid any tax/ cess/ duty, if applicable, and or other applicable levies.

If any Tax authorities of any state, including, Local authorities like Corporation, Municipality etc. or any Government authority or Statutory or autonomous or such other authority imposes any tax, charge or levy or any cess/ charge other than GST and if the Bank has to pay the same for any of the items or supplies

made here under by the bidder, for any reason including the delay or failure or inability of the bidder to make payment for the same, the Bank has to be reimbursed such amounts paid, on being intimated to the Bidder along with the documentary evidence. If the Bidder does not reimburse the amount within a fortnight, the Bank shall adjust the amount out of the payments due to the Bidder from the Bank along with the interest calculated at commercial rate.

Terms of payment as indicated in the Purchase Contract that will be issued by the Bank on the selected Bidder will be final and binding on the bidder and no interest will be payable by the Bank on outstanding amounts under any circumstances. If there are any clauses in the Invoice contrary to the terms of the Purchase Contract, the bidder should give a declaration on the face of the Invoice or by a separate letter explicitly stating as follows "Clauses, if any contained in the Invoice which are contrary to the terms contained in the Purchase Contract will not hold good against the Bank and that the Invoice would be governed by the terms contained in the Contract concluded between the Bank and the bidder".

The Bank ascertains and concludes that everything as mentioned in the tender documents circulated to the bidder and responded by the bidders have been quoted for by the bidder, and there will be no extra cost associated with the same in case the bidder has not quoted for the same.

The Bank is not responsible for any assumptions or judgments made by the bidder for arriving at any type of costing. The Bank at all times will benchmark the performance of the bidder to the tender and other documents circulated to the bidder and the expected service levels as mentioned in these documents. In the event of any deviations from the requirements of these documents, the bidder must make good the same at no extra costs to the Bank, in order to achieve the desired service levels as well as meeting the requirements of these documents. The Bank shall not be responsible for any assumptions made by the bidder and the Bank's interpretation will be final.

The Commercial Offer should give all relevant price information and should not contradict the Technical Offer in any manner. There should be no hidden costs for items quoted.

The Bank is not responsible for the arithmetical accuracy of the bid. The bidders will have to ensure all calculations are accurate. The Bank at any point in time for reasons whatsoever is not responsible for any assumptions made by the Bidder. The Bank at a later date will not accept any plea of the bidder or changes in the commercial offer for any such assumptions.

Considering the enormity of the assignment, any service which forms a part of the Project Scope that is not explicitly mentioned in scope of work as excluded would form part of this tender, and the Bidder is expected to provide the same at no additional cost to the Bank. The Bidder needs to consider and envisage all services that would be required in the Scope and ensure the same is delivered to the Bank. The Bank will not accept any plea of the Bidder at a later date for omission of services on the pretext that the same was not explicitly mentioned in the tender.

**Price Comparisons**

The successful bidder will be determined on the basis evaluation mentioned in this tender document . Lowest bidder among qualified bidders shall be L-1 and awarded work.

Normalization of bids: The Bank will go through a process of evaluation and normalization of the bids to the extent possible and feasible to ensure that bidders are more or less on the same ground of evaluation. After the normalization process, if the Bank feels that any of the bids needs to be normalized and that such normalization has a bearing on the price bids; the Bank may at its discretion ask all the shortlisted bidders to resubmit the commercial bids once again for scrutiny. The Bank can repeat this normalization process at every stage of bid submission or till the Bank is satisfied. The bidders agree that they have no reservation or objection to the normalization process and all the bidders will, by responding to this, agree to participate in the normalization process and extend their co-operation to the Bank during this process. The bidders, by submitting the response to this tender, agree to the process and conditions

of the normalization process.

The Price offer shall be on a fixed price basis. Bid submitted with an adjustable price quotation will be treated as non-responsive and will be liable to be rejected. The rate quoted by the bidder should necessarily include the following:

Transportation, forwarding and freight charges of all equipment to the site;

Prices quoted by the Bidder should be inclusive of all taxes, duties, levies etc. except GST. GST will be paid extra as applicable. There will be no price escalation for during the contract period and any extension thereof. Bid submitted with an adjustable price quotation will be treated as non-responsive and will be rejected.

The Bidders expected to provide details of services which are required to be extended by the Bidder in accordance with the terms and conditions of the contract.

The Bidder must provide and quote for the required product and services as desired by the Bank as mentioned in this tender. Any product or services not proposed to be provided by the Bidder will result in the proposal being incomplete, which may lead to disqualification of the Bidder.

**Application Money, Bid Security and Performance Guarantee**

**Application Money**

Nil

**Bid Security / Earnest Money Deposit**

Bidders are required to give an earnest money deposit of an amount as mentioned in "[A] Important Dates – 9. Bid Security (Earnest Money Deposit)" shall be paid through RTGS (Real Time Gross Settlement) / NEFT (National Electronic Fund Transfer) favoring BANK OF BARODA, BANK ACCOUNT NO. 29040400000418, BANK IFSC CODE - BARB0BANEAS or by way of Demand Draft/Pay Order drawn on BKC, Mumbai payable to "Bank of Baroda". The Demand Draft should be of a Commercial Bank only (other than Bank of Baroda) and will be accepted subject to the discretion of the Bank.

- Offers made without the Earnest money deposit will be rejected.
- The amount of Earnest money deposit would be forfeited in the following scenarios:
  - In case the bidder withdraws the bid prior to validity period of the bid for any reason whatsoever;
  - In case the bidder refuses to accept and sign the contract as specified in this document within 1 month of issue of contract order/letter of intent for any reason whatsoever; or
  - In case the Bidder fails to provide the performance guarantee within 21 days from the purchase order date, for any reason whatsoever.
- Unsuccessful Bidder's - Bid security money deposit or bank guarantee will be returned by the Bank within 4 weeks from closure of the tender. No interest shall be paid on Bid security money deposit to unsuccessful Bidders.
- Successful Bidder – Bid security money deposit or bank guarantee will be discharged upon the bidder furnishing the performance guarantee. The Bid security Money of the successful bidder may be forfeited or the bank guarantee in lieu of Bid security money may be invoked by the Bank if the bidder fails to furnish performance guarantee within 30 days from the date of Bank placing the order for any reason whatsoever and / or the bidder refuses to accept and sign the contract within 1 month of issue of contract order / letter of intent for any reason whatsoever.
- MSEs (Micro and Small Enterprise (MSE) are exempted from paying the application money and Bid security amount for which the concerned enterprise needs to provide necessary

documentary evidence. For MSEs Government of India provisions shall be considered while evaluating the tender

**Performance Guarantee**

The successful bidder shall provide a Performance Guarantee within 14 days from the date of receipt of the order or signing of the contract whichever is earlier in the format as provided in Annexure 15 to the extent of 10% of the total order value for the entire period of the contract plus 3 months and such other extended period as the Bank may decide for due performance of the project obligations.

In the event of non-performance of obligation or failure to meet terms of this Tender the Bank shall be entitled to invoke the performance guarantee without notice or right of demur to the bidder. Any amount pending for payment due to non-achieving of milestone/s set under the agreement or any other reason solely attributable to the bidder should be included in the remaining amount of the contract value.

The Bank reserves the right to recover any dues payable by the selected bidder from any amount outstanding to the credit of the selected bidder, including the pending bills and/or invoking Performance Guarantee, if any, under this contract.

If the Performance guarantee is not submitted within the stipulated time, the Bank reserves the right to cancel the order / contract and the earnest money deposit taken from the bidder, will be forfeited.

**Others**

The works/services will be deemed accepted only after successful ATP and sign off from Bank's identified Project Manager.

Responses to this tender should not be construed as an obligation on the part of the Bank to award a purchase contract for any services or combination of services. Failure of the Bank to select a bidder shall not result in any claim whatsoever against the Bank. The Bank reserves the right to reject any or all bids in part or in full, without assigning any reason whatsoever.

By submitting a proposal, the bidder agrees to promptly contract with the Bank for any work awarded to the bidder. Failure on the part of the awarded bidder to execute a valid contract with the Bank will relieve the Bank of any obligation to the bidder, and a different bidder may be selected based on the selection process.

The terms and conditions as specified in the tender and addendums (if any) thereafter are final and binding on the bidders. In the event the bidders not willing to accept the terms and conditions of the Bank, the bidder may be disqualified. Any additional or different terms and conditions proposed by the bidder would be rejected unless expressly assented to in writing by the Bank and accepted by the Bank in writing

The bidder must strictly adhere to the delivery dates or lead times identified in their proposal and as agreed by the Bank. Failure to meet these delivery dates, unless it is due to reasons entirely attributable to the Bank, may constitute a material breach of the Bidder's performance. In the event that the Bank is forced to cancel an awarded contract (relative to this tender document) due to the Bidder's inability to meet the established delivery dates or any other reasons attributing to the bidder then that bidder will be responsible for any re-procurement costs suffered by the Bank. The liability in such an event could be limited to the differential excess amount spent by the Bank for procuring similar deliverables and services.

The bidder shall represent and acknowledge to the Bank that it possesses necessary experience, expertise and ability to undertake and fulfil its obligations, involved in the performance of the provisions of this tender. The bidder represents that the proposal to be submitted in response to this tender shall meet

the proposed tender requirement. If any services, functions or responsibilities not specifically described in this tender are an inherent, necessary or customary part of the deliverables or services and are required for proper performance or provision of the deliverables or services in accordance with this tender, they shall be deemed to be included within the scope of the deliverables or services, as if such services, functions or responsibilities were specifically required and described in this tender and shall be provided by the bidder at no additional cost to the Bank. The bidder also acknowledges that the Bank relies on this statement of fact, therefore neither accepting responsibility for, nor relieving the bidder of responsibility for the performance of all provisions and terms and conditions of this tender, the Bank expects the bidder to fulfill all the terms and conditions of this tender. The modifications, which are accepted by the Bank, shall form a part of the final contract.

The Bidder shall represent that the services provided and/or use of the same by the Bank shall not violate or infringe the rights of any third party or the laws or regulations under any governmental or judicial authority. The Bidder further represents that the documentation to be provided to the Bank shall contain a complete and accurate description of the deliverables and services (as applicable), and shall be prepared and maintained in accordance with the highest industry standards. The Bidder represents and agrees to obtain and maintain validity throughout the specified term, of all appropriate registrations, permissions and approvals, which are statutorily required to be obtained by the bidder for performance of the obligations of the bidder. The bidder further agrees to inform and assist the Bank for procuring any registrations, permissions or approvals, which may at any time during the Contract Period be statutorily required to be obtained by the Bank for availing services from the bidder.

All terms and conditions, payments schedules, time frame for expected service levels as per this tender will remain unchanged unless explicitly communicated by the Bank in writing to the bidder. The Bank shall not be responsible for any judgments made by the bidder with respect to any aspect of the Service. The bidder shall at no point be entitled to excuse themselves from any claims by the Bank whatsoever for their deviations in confirming to the terms and conditions, payments schedules, expected service levels etc. as mentioned in this tender document.

“Bank of Baroda will abide by Govt. of India Public procurement (preference to "Make in India) order P-45021/2/2017-B.E.-II Dated 15th June 2017 as applicable to encourage ‘Make in India’ and to promote manufacturing and production of goods and services in India. In case the bidder wishes to avail preference to Make in India order 2017 in public procurement as applicable, bidder may provide self-certification of ‘Local content’ where ‘Local content’ means the amount of value added in India as a percentage of total value in percentage”

The Bank and the bidder covenants and represents to the other Party the following:

- It is duly incorporated, validly existing and in good standing under as per the laws of the state in which such Party is incorporated.
- It has the corporate power and authority to enter into Agreements and perform its obligations there under. The execution, delivery and performance of terms and conditions under Agreements by such Party and the performance of its obligations there under are duly authorized and approved by all necessary action and no other action on the part of such Party is necessary to authorize the execution, delivery and performance under an Agreement.

The execution, delivery and performance under an Agreement by such Party:

- Will not violate or contravene any provision of its documents of incorporation;
- Will not violate or contravene any law, statute, rule, regulation, licensing requirement, order, writ, injunction or decree of any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority by which it is bound or by which any of its properties or assets are bound;
- Except to the extent that the same have been duly and properly completed or obtained, will

not require any filing with, or permit, consent or approval of or license from, or the giving of any notice to, any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority, joint venture party, or any other entity or person whatsoever;

- To the best of its knowledge, after reasonable investigation, no representation or warranty by such Party in this Agreement, and no document furnished or to be furnished to the other Party to this Agreement, or in connection herewith or with the transactions contemplated hereby, contains or will contain any untrue or misleading statement or omits or will omit any fact necessary to make the statements contained herein or therein, in light of the circumstances under which made, not misleading. There have been no events or transactions, or facts or information which has come to, or upon reasonable diligence, should have come to the attention of such Party and which have not been disclosed herein or in a schedule hereto, having a direct impact on the transactions contemplated hereunder.
- The bidder shall undertake to provide appropriate human as well as other resources required, to execute the various tasks assigned as part of the project, from time to time.
- It would be the responsibility of the bidder to arrange / obtain necessary road permits or any other document for delivery of the material till Bank's premises. The bidder shall arrange road permit for locations applicable at no extra cost to the Bank.
- The Bank would not assume any expenses incurred by the bidder in preparation of the response to this tender and also would not return the bid documents to the Bidders
- The Bank will not bear any costs incurred by the bidder for any discussion, presentation, demonstrations etc. on proposals or proposed contract or for any work performed in connection therewith.

**Other tender Requirements**

This tender document may undergo change by either additions or deletions or modifications before the actual award of the contract by the Bank. The Bank also reserves the right to change any terms and conditions of the tender document and its subsequent addendums as it deems necessary at its sole discretion. The Bank will inform all bidders about changes, if any.

The Bank may revise any part of the tender document, by providing a written addendum at stage till the award of the contract. The Bank reserves the right to issue revisions to this tender document at any time before the award date. The addendums, if any, shall be published on Bank's website only.

The Bank reserves the right to extend the dates for submission of responses to this document.

**Preliminary Scrutiny** – The Bank will scrutinize the offers to determine whether they are complete, whether any errors have been made in the offer, whether required documentation has been furnished, whether the documents have been properly signed, and whether items are quoted as per the schedule. The Bank may, at its discretion, waive any minor non-conformity or any minor deficiency in an offer. This shall be binding on all bidders and the Bank reserves the right for such waivers and the Bank's decision in the matter will be final.

**Clarification of Offers** – To assist in the scrutiny, evaluation and comparison of offers, the Bank may, at its discretion, ask some or all bidders for clarification of their offer. The Bank has the right to disqualify the bidder whose clarification is found not suitable to the proposed project.

**No Commitment to Accept Lowest bid or Any Tender** – The Bank shall be under no obligation to accept the lowest price bid or any other offer received in response to this Tender notice and shall be entitled to reject any or all offers including those received late or incomplete offers without assigning any reason whatsoever. The Bank reserves the right to make any changes in the terms and conditions of purchase. The Bank will not be obliged to meet and have discussions with any Bidder, and / or to listen to any representations unless there is change in the terms and conditions of purchase.

**Erasures or Alterations** – The offers containing erasures or alterations will not be considered. There

should be no hand-written material, corrections or alterations in the offer. Technical details must be completely filled up. Correct information of the services being offered must be filled in. Filling up of the information using terms such as “OK”, “accepted”, “noted”, “as given in brochure / manual” is not acceptable. The Bank may treat the offers not adhering to these guidelines as unacceptable.

**Price Discussion** – It is absolutely essential for the Bidders to quote the lowest price at the time of making the offer in their own interest. The Bank reserves the right to do price discovery and engage the successful bidder in discussions on the prices quoted.

**Right to Alter Quantities** – The Bank reserves the right to alter the requirements specified in the Tender. The Bank also reserves the right to delete one or more items from the list of items specified in the Tender. The Bank will inform all Bidders about changes, if any. The Bidder agrees that the Bank has no limit on the additions or deletions on the items for the period of the contract. Further the Bidder agrees that the prices quoted by the Bidder would be proportionately adjusted with such additions or deletions in quantities

**Incidental Services** - The Bidder shall provide all the services as specified in the tender document, particularly the Project Overview and Technical Summary. The price for performing the required incidental services shall be deemed to be included in the Contract Price.

If the Bank is not satisfied with the specifications as specified in the tender document and observes major deviations, the bids of such bidders will not be short-listed for further evaluation. No further discussions shall be entertained with such bidders in respect of the subject bid.

There will be an acceptance test by the Bank after implementation of the solution. In case of discrepancy in solution implemented, the Bank reserves the right to cancel the entire purchase contract and the bidder should take back their equipment at their costs and risks. The test will be arranged by the bidder at the sites in the presence of the officials of the Bank and / or its consultants

Bidder shall indemnify, protect and save the Bank against all claims, losses, costs, damages, expenses, action, suits and other proceedings, resulting from infringement of any patent, trademarks, copyrights etc or such other statutory infringements under any laws including the Copyright Act, 1987 in respect of services provided by them in the Bank from whatsoever source, provided the Bank notifies the Bidder in writing as soon as practicable when the Bank becomes aware of the claim. However, (i) the Bidder has sole control of the defense and all related settlement negotiations (ii) the Bank provides the Bidder with the assistance, information and authority reasonably necessary to perform the above and (iii) the Bank does not make any statements or comments or representations about the claim without the prior written consent of the Bidder, except where the Bank is required by any authority/regulator to make a comment/statement/representation.

The Bidder shall perform its obligations under this Tender as an independent contractor, and may engage subcontractors to perform any of the Deliverables or Services with prior permission from Bank. Neither this Tender nor the Bidder’s performance of obligations under this Tender shall create an association, partnership, joint venture, or relationship of principal and agent, master and servant, or employer and employee, between the Bank and the Bidder or its employees, subcontractor; and neither Party shall have the right, power or authority (whether expressed or implied) to enter into or assume any duty or obligation on behalf of the other Party.

The Bidder shall solely be responsible for all payments (including any statutory payments) to its employees and / or sub-contractors and shall ensure that at no time shall its employees, personnel or agents hold themselves out as employees or agents of the Bank, nor seek to be treated as employees of the Bank for any purpose, including claims of entitlement to fringe benefits provided by the Bank, or for any kind of income or benefits. The Bidder alone shall file all applicable tax returns for all of its personnel

assigned hereunder in a manner consistent with its status as an independent contractor of services; and the Bidder will make all required payments and deposits of taxes in a timely manner.

**Corrupt and Fraudulent Practices**

As per Central Vigilance Commission (CVC) directives, it is required that Bidders / Suppliers / Contractors observe the highest standard of ethics during the procurement and execution of such contracts in pursuance of this policy:

- "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of values to influence the action of an official in the procurement process or in contract execution AND
- "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of contract to the detriment of the Bank and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Bank of the benefits of free and open competition.

The Bank reserves the right to reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
The Bank reserves the right to declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if at any time it determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

**Authorized Signatory**

The selected bidder shall indicate the authorized signatories who can discuss and correspond with the Bank, with regard to the obligations under the contract. The selected bidder shall submit at the time of signing the contract, a certified copy of the resolution of their Board, authenticated by Company Secretary/Director, authorizing an official or officials of the company or a Power of Attorney copy to discuss, sign agreements/contracts with the Bank. The bidder shall furnish proof of signature identification for above purposes as required by the Bank.

**Service Level Agreement and Non-Disclosure Agreement**

The successful bidder shall execute a) Service Level Agreement (SLA), which must include all the services and terms and conditions of the services to be extended as detailed herein, and as may be prescribed or recommended by the Bank and b) Non Disclosure Agreement (NDA). The successful bidder shall execute the SLA and NDA within 30 days from the date of acceptance of Purchase Order
All the expenses related to execution of the document such as the applicable stamp duty and registration charges if any shall be borne by the bidder.

**Right to Reject Bids**

Bank reserves the absolute and unconditional right to reject the response to this tender if it is not in accordance with its requirements and no correspondence will be entertained by the Bank in the matter. The bid is liable to be rejected if:

- It is not in conformity with the instructions mentioned in the tender document.
- It is not accompanied by the requisite Earnest Money Deposit (EMD).
- It is not properly or duly signed.
- It is received through email.
- It is received after expiry of the due date and time.
- It is incomplete including non- furnishing the required documents.

- It is evasive or contains incorrect information.
- There is canvassing of any kind.
- It is submitted anywhere other than the place mentioned in the tender
- Any form of canvassing/lobbying/influence/query regarding short listing, status etc will be a disqualification.

**Disclaimer**

Subject to any law to the contrary, and to the maximum extent permitted by law, the Bank and its directors, officers, employees, contractors, representatives, agents, and advisers disclaim all liability from any loss, claim, expense (including, without limitation, any legal fees, costs, charges, demands, actions, liabilities, expenses or disbursements incurred therein or incidental thereto) or damage, (whether foreseeable or not) ("Losses") suffered by any person acting on or refraining from acting because of any presumptions or information (whether oral or written and whether express or implied), including forecasts, statements, estimates, or projections contained in this tender document or conduct ancillary to it whether or not the Losses arises in connection with any ignorance, negligence, inattention, casualness, disregard, omission, default, lack of care, immature information, falsification or misrepresentation on the part of the Bank or any of its directors, officers, employees, contractors, representatives, agents, or advisers.

## Instructions to Bidders - E TENDERING

### General Instructions

To view the Tender Document along with this Notice and its supporting documents, kindly visit following e-Tendering website of Bank of Baroda:

www.tenderwizard.com/BOB

The bidders participating first time for e-tendering on Bank of Baroda e-tendering portal willhave to complete the Online Registration Process on the e-tendering portal. A link for enrolment of new bidders has been provided on the above link. All bidders interested in participating in the online e-tendering process are required to procure Class III Digital Signatures e-Token having -02- certificates inside it, one for Signing/Verification purpose and another for Encryption/Decryption purpose. The bid should be prepared & submitted online using the bidder's authorized Class III Digital Signature (Individual certificate is allowed for proprietorship firms) Digital e- Token.

If any assistance is required regarding e-tendering (registration / upload / download / Bid Preparation / Bid Submission) please contact Tender wizard Help Desk as per following:

**Helpdesk Contact No.: +91-11-49424365**

**email:** eprocurebob@etenderwizard.com

Primary Contact Number

- Mr. Krunal Mahajan : +91-8800907637

Alternate Contact Numbers

- Mr. Sandeep Gautam : +91-8800496478
- Mr. Kamal Mishra : +91-8800115821

Contact No. for other activities

- Registration Help Desk : +91-11-49424365

(Kindly put "REGISTRATION/PROFILE UPDATE" in the subject line of the email to eprocurebob@etenderwizard.com)

- e-procurement queries : +91-11-49424365

(Kindly put "E-PROCUREMENT QUERIES" in the subject line of the email to eprocurebob@etenderwizard.com)

*Note: please note support team will be contacting through email and whenever required through phone call as well. Depending on nature of assistance support team will contact on the priority basis. It will be very convenient for bidder to schedule their online demo in advance with support team to avoid last minute rush.*

**Downloading of Tender Document**

The tender document is uploaded / released on Bank of Baroda e-tendering portal link as mentioned above. Tender document and supporting documents may be downloaded from same link. Subsequently, bid has to be prepared and submitted ONLINE ONLY as per the schedule given in Notice Details. The Tender document will be available online only. Tender document will not be sold / issued manually.

Only those tender offers shall be accepted for evaluation for which Earnest Money Deposit (EMD)/Exemption Certificate is deposited as per the terms mentionedin this Tender.

**Preparation & Submission of Bids**

The bids (Pre-Qualification, Technical as well as Commercial) shall have to be prepared and subsequently submitted online only. Bids not submitted "ONLINE" or by any other means shall be summarily rejected. No other form of submission shall be permitted.

**Do's and Don't for Bidder**

- Registration process for new Bidders should be completed within first week of release oftender.
- The e-procurement portal is open for upload of documents from the start of the bid submission date. Hence bidders are advised to start the process of upload of bid documents well in advance.
- Bidders have to prepare for submission of their bid documents online well in advance as
  - The encrypt/upload process of soft copy of the bid documents large in number to e-procurement portal may take longer time depending upon bidder's infrastructure and connectivity.
  - To avoid last minute rush & technical difficulties faced by bidders in uploading/submission of bids, bidders are required to start the uploading of all the documents required -01- week in advance for timely online submission of bid.
- Bidders to initiate uploading of few primary documents during the start of the tender submission and any request for help/support required for uploading the documents / understanding the system should be taken up with e-procurement service provider well in advance.
- Bidders should not raise request for extension of time on the last day of submission dueto non-submission of their bids on time as Bank will not be in a position to provide any support at the last minute as the portal is managed by e-procurement service provider.
- Bidder should not raise request for offline submission or late submission since ONLINE submission is accepted only.
- Partly or incomplete submission of bids by the bidders will not be processed and will be summarily rejected.

**Guidelines to Bidders for Electronic Tendering System**

**Pre-requisites to participate in the Tenders**

Registration of bidders on e-procurement portal of Bank of Baroda:

The bidders unregistered on e-procurement portal of Bank of Baroda and interested in participating in the e-tendering process shall be required to enrol/register on the e-

procurement portal. To enrol, bidders have to generate User ID and password on www.tenderwizard.com/BOB. The bidders may obtain the necessary information on the process of registration/enrolment either from Helpdesk Support Team: +91-11-49424365 or may download Vendor Help Manuals available under "Help Manuals/ Latest Circulars/ Formats" on home page of e-procurement portal i.e. www.tenderwizard.com/BOB.

**Preparation of Bid & Guidelines for Digital Certificate**

The Bid Data that is prepared online is required to be signed & encrypted and the hash value of the Bid Data is required to be signed electronically using a Class III Digital Certificate. This is required to maintain the security of the Bid Data and also to establish the identity of the Bidder transacting on the System. This Digital Certificate should be having Two Pair (1.Sign Verification 2. Encryption/ Decryption). Encryption Certificate is used to encrypt the data / information and Signing Certificate to sign the hash value during the Online Submission of Tender stage.

The Digital Certificates are issued by an approved Certifying Authority authorized by the Controller of Certifying Authorities of Government of India through their Authorized Representatives upon receipt of documents required to obtain a Digital Certificate.

Bid data / information for a particular Tender must be submitted only using the Digital Certificate. In case, during the process of preparing and submitting a bid for a particular tender, the bidder loses his / her Digital Signature Certificate (i.e. due to virus attack, hardware problem, operating system problem), he / she may not be able to submit the Bid online. Hence, the bidders are advised to store his / her Digital Certificate securely and if possible, keep a backup at safe place under adequate security to be used in case of need.

In case of online tendering, if the Digital Certificate issued to an authorized user of a partnership firm is used for signing and submitting a bid, it will be considered equivalent to a no objection certificate / power of attorney to that user to submit the bid on behalf of the Partnership Firm. The Partnership Firm has to authorize a specific individual via an authorization certificate signed by a partner of the firm (and in case the applicant is a partner,another partner in the same form is required to authorize) to use the digital certificate as per***Indian Information Technology Act, 2000***.

Unless the Digital Certificate is revoked, it will be assumed to represent adequate authority of the Authority User to bid on behalf of the Firm for the Tenders processed on the Electronic Tender Management System of Bank of Baroda as per ***Indian Information Technology Act, 2000***. The Digital Signature of this Authorized User will be binding on the Firm. It shall be the responsibility of Partners of the Firm to inform the Certifying Authority or Sub Certifying Authority, if the Authorized User changes, and apply for a fresh Digital Signature Certificate. The procedure for application of a Digital Signature Certificate will remain the same for the new Authorized User.

The same procedure holds true for the Authorized Users in a Private / Public Limited Company. In this case, the Authorization Certificate will have to be signed by the Director of the Company or the Reporting Authority of the Applicant.

The bidder should Ensure while procuring new digital certificate that they procure a pair of certificates (two certificates) one for the purpose of Digital Signature, Non-Repudiation and another for Key En-cipherment.

**Recommended Hardware and Internet Connectivity**

To operate on the Electronic Tendering System, the bidders are recommended to use Computer System with at least 2 GB of RAM and broadband connectivity with minimum 1 Mbps bandwidth. However, Computer Systems with latest i3 / i5 Intel Processors and Broadband/4G connection is recommended for better performance.

- **Operating System Requirement**

Windows 7 & above

- **Browser Requirement (anyone from following)**
  Microsoft Internet Explorer (IE) version 11 and above
  Mozilla Firefox - Latest version
  Google Chrome - Latest version
- **Browser settings**
  1. Disable the 'Popup Blocker' in the browser under Tools. Make sure this is in 'Turn Off'mode.
  2. Add the e-procurement domain name in the 'Compatibility View' list of your browserTurn off the 'Smart Screen Filter' in the browser.
- **Supported File Types**
  1. General Documents such as DOC, XLS, JPG, BMP, GIF, PNG, PDF, ZIP formats areallowed
  2. Files with .EXE, .PSD extensions are not allowed
  3. File size not to exceed 5 MB per attachment
  4. All uploaded files should be virus free and error free
- **Minimum System Configuration**
  1. CPU speed of 2.0 GHz
  2. USB Ports
  3. 2 GB of System Memory (RAM)
  4. Anti-virus software should be enabled and updated regularly
- **Requirement of utility software**
  1. Java Run Time Engine (JRE – 1.8.0) or higher.
  2. Microsoft Office 2003 with MS Word and MS Excel
  3. Adobe Acrobat Reader, PKI Installation Driver for Digital Signature

**Steps to participate in the e-Tenders**

Online viewing of Detailed Notice Inviting Tenders

The bidders can view the Detailed Tender Notice along with the Time Schedule (Key Dates)for all the Live Tenders released by Bank of Baroda on the home page of bank's e-Tendering Portal on www.tenderwizard.com/BOB.

Download of Tender Documents

The Pre-qualification / Main Bidding Documents are available for free downloading. However, to participate in the online tender, the bidder must pay application money via Demand Draft/NEFT/RTGS mode & submit the details in the e-procurement portal.

## Online Submission of Tender

Submission of bids will be preceded by Online Submission of Tender with digitally signed Bid Hashes (Seals) within the Tender Time Schedule (Key dates) published in the Detailed Notice Inviting Tender. The Bid Data is to be prepared in the templates provided by the Tendering Authority of BOB. The templates may be either form based, extensible tables and / or upload-able documents. In the form-based type of templates and extensible table type of templates, the bidders are required to enter the data and encrypt the data/documents using the Digital Certificate / Encryption Tool wherever applicable.

### Close for Bidding

After the expiry of the cut-off time of Online Submission of Tender stage to be completed by the Bidders has lapsed, the Tender will be closed by the Tender Authority.

### Online Final Confirmation

After submitting all the documents bidders need to click on “Final Submission” tab. System will give pop up “You have successfully completed your submission” that assures submission completion.

### Short listing of Bidders for Commercial Bidding Process

The Tendering Authority will first open the Technical Bid documents of all Bidders and after scrutinizing these documents will shortlist the Bidders who are eligible for Commercial Bidding Process. The short-listed Bidders will be intimated by email.

### Opening of the Commercial Bids

The Bidders may remain present in the office of the Tender Opening Authority at the time ofopening of Commercial Bids. However, the results of the Commercial Bids i.e. TCO of all bidders shall be made available on the bank’s e-procurement portal after the completion ofopening process.

### Tender Schedule (Key Dates)

The bidders are strictly advised to follow the Dates and Times as indicated in the Time Schedule in the detailed tender Notice for the Tender. All the online activities are time tracked and the electronic Tendering System enforces time-locks that ensure that no activity or transaction can take place outside the Start and End Dates and time of the stage as defined in the Tender Schedule.

At the sole discretion of the tender Authority, the time schedule of the Tender stages may be extended.

**Important Points:**

The Bid hash values are digitally signed using valid Class – III Digital Certificate issued by any Certifying Authority. The bidders are required to obtain Digital Certificate well inadvance.

a. The bidder may modify bids before the deadline for Online Submission of Tender as per Time Schedule mentioned in the Tender documents.

b. This stage will be applicable during Pre-bid / Pre-qualification and Financial BiddingProcesses.

Steps by step detailed Vendor Manual are available on homepage under Support section related to activities like Java Settings, Registration, Login Process, Tender Participation, BidDownload, upload & Submission, Corrigendum/Addendum, Clarifications, Re-submissions

etc. on e-procurement portal i.e. www.tenderwizard.com/BOB

*Note: Bank and ITI Limited shall not be liable & responsible in any manner whatsoever for any failure to access & bid on the e-tender platform due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, any other unforeseen circumstances etc. before or during the event. Bidders are advised to ensure system availability and prepare their bid well before time to avoid last minute rush. Bidders can fix a call with support team members in case guidance is requiredby calling on helpdesk number.*

## SECTION -V

## APPENDIX TO FORM OF OFFER - ANNEXURE 1

Ref.: to Clauses in conditions herein before referred to

| Sr. No. | Description of Work: | PROPOSED RESTORATION WORKS FOR MMO BUILDING 1,2 & 3 AT HAMAM STREET, HORNIMAN CIRCLE, MUMBAI. |
|---|---|---|
| 1. | Name of Employer | BANK OF BARODA |
| 2. | Time allowed for execution of work | **6 MONTHS** |
| 3. | Cost of Tender Document | Nil |
| 8. | Validity of the Tender | 120 days from the date of opening of price bid |
| 9. | Retention Money | Not applicable as 10% performance bank guarantee is to be obtained |
| 10. | Period of Commencement | 14 days from the date of work order or the date of instruction for taking possession of site, whichever is later. |
| 11. | Amount of liquidated damages for delay. | 1 % of the Contract value per week subject to maximum of 5% of contract value. |
| 12. | Defects liability period. | 12 months from the date of virtual completion certificate issued by Architect/Bank. Other guarantee/warrantee etc. shall be as per tender terms and conditions. |
| 13. | Interval of interim bills. | Every month/ as per minimum bill amount whichever is earlier |
| 14. | Minimum Gross Amount of Interim Bill. | Rs. 50 Lac |
| 15. | Period of certification of interim bills by Architect | 15 working days after submission of Bill along with measurement sheets by Contractor |
| 16 | Period of certification of final bills by Architect. | 30 working days after submission of Bill along with measurement sheets & “as built” drawings by Contractor. |
| 17. | Time within which payment to be made after certificate. | 75% of the net payment to be released within 20 working days from date of receipt of Architect’s certificate along with R.A. Bill Certificate (Annexure-I) jointly signed by (Contractor, Architect and Bank’s Engineer/P&E officer and Bills, Measurement Sheet/M.B. Balance 25% to be released after 25 working days from date of receipt of Architect’s certificate and R.A. Bill certificate jointly signed by Contractor, Architect and Bank’s Engineer/P&E officer. No interest is payable on any delayed payment in any circumstances by Bank whatsoever reason. |
| 18. | Secured Advance against supply of material on site | 75% of basic cost or 60% of item rate whichever is less. Secured advance will be given over cement, steel tile and non-perishable items only. |

| | | |
|---|---|---|
| 19. | Performance Guarantee (Bank Guarantee - Non Perishable) | Performance Guarantee:**10%** of Contract Amount to be submitted as Bank Guarantee within 14 days of receipt of Letter of Award (valid up to completion period of the contract/extended period if permitted). No extra charge is payable on extension of BG by Bank. This Performance Guarantee shall be refunded within 21 days of the issue of Virtual completion Certificate (Taking Over Certificate with a list of Defects) as per tender terms and conditions. |
| 20. | Escalation for Material & Labour & work | No escalation/PVA is applicable .The Rates will be remain firm till handing over the site/completed building from date of commencement of work. |
| 21. | Release of Total Security Deposit (EMD, ISD & Retention Money) :- | "50% of the Total Security Deposit (EMD,SD& Retention Money) shall be refunded to the contractor on":<br>s<br>i) Issue of Virtual Completion Certificate by the Architects as per tender terms & condition ii) Contractor's removal of his materials, equipment, labour force, temporary sheds/ stores etc. from the site, (excepting for a small presence required if any for the Defect Liability Period and approved by the Bank.). The remaining 50% of the amount shall be refunded **21 (twenty one)** days after the end of defects liability period provided he has satisfactorily carried out all the works and attended to all defects in accordance with the conditions of the contract, including site clearance.<br>ii) On submission of new performance Bank guarantee for DLP of 1 years having 3 months grace period having value of 5% of total executed work value for release of 10 % of performance Bank guarantee |
| 22. | Insurance | CAR Policy (in joint name with Bank as the first party) **within 21 days** of receipt of Letter of Award (valid up to completion period of the contract/extended period if permitted).Details of Policies is given in annexure. No extra charge is payable on extension of Insurance by Bank. |
| 23 | Test certificate/reports of materials & Mix Design | Contractor has to submit:<br>i) Satisfactory Test certificates/reports (as per relevant IS code) of materials (including cement, coarse aggregates, fine aggregates, steel etc. of makes mentioned in tender) are to be used at site have to be submitted to our office from a reputed (govt./govt. university) authorized testing lab **before its utilization/consumption** at site. |

| | | |
|---|---|---|
| | | ii) all other test/manufacturer's certificates are to be submitted as per tender terms and conditions.<br>Failing which, Bank may take strict action as per tender terms & condition. |

## SECTION VI

## ARTICLES OF AGREEMENT

(On Non-Judicial stamp paper of Rs. 500/-)

ARTICLE OF AGREEMENT made on this ..... day of _____ Two Thousand Twenty one BETWEEN the Bank of Baroda, …….. hereinafter called "Employer/Bank/BOB" (which expression shall include its successors and assigns wherever the context or meaning shall so require or permit) of the one part and _____

_____

_____ hereinafter called the "Contractor" (which expression shall include its successors and assigns wherever the context or meaning shall so require or permit) of the other part.

WHEREAS the Employer is desirous of carrying out Refurbishment Work including Furnishing, Air Conditioning, Electrical and allied works at 14th Floor, Wing – B, Kohinoor Square It Park, N. C. Kelkar Marg, Shivaji Park, Dadar-West, Mumbai-400 028.

AND WHEREAS the Contractor has agreed to execute upon and subject to the conditions set forth herein and to the conditions set forth in the special conditions and in the Bill of Quantities and General Conditions of Contract (all of which are collectively hereinafter referred to as "The said terms & conditions") the works, shown upon the said drawings and or described in the said specifications and included in the said bill of quantities at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (herein after referred to as the said "Contract Value").

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract Value to be paid at the times and in the manner set forth in the said terms & conditions, the contractor shall upon and subject to the said terms & conditions execute and complete the works shown on the said drawings, and described in the specifications and / or bill of quantities.

2. The Employer shall pay the contractor The Said Contract Value or such other sum as shall become payable at times and in the manner specified in the said terms & conditions.

3. The said terms & conditions and Appendices thereto shall be read and construed as forming part of this Agreement and the parties hereto shall respectively abide by submit themselves to the said terms & conditions and perform the agreements on their part respectively in the said terms & conditions contained.

4. This Contract is neither a fixed Lump sum Contract nor a Piece Work Contract but is a Contract to carry out the work in respect of the entire work as defined in the contract

documents to be paid for according to actual measured quantities at the rates contained in the bill of quantities or as provided in the said Contract documents.

5. The Contractor shall afford every reasonable facility for the carrying out of all works relating to Interior Decoration Works comprising interior finishing and furniture work in the manner laid down in the said terms & conditions.

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

7. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work within given date in tender for date of issue of Acceptance letter or the date of handing over of site whichever is later as provided for in the said terms & conditions to complete the entire work within **6 Months** subject nevertheless to the provisions for extension of time.

8. All payments by the Employer under this contract will be made at Baroda Corporate Centre, BKC, Mumbai.

9. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Mumbai and only courts in Mumbai shall have jurisdiction to determine the same.

10. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor. The Contractor shall not be entitled for the payment for the quantities beyond the tendered quantities unless ordered for by specific written instructions from the engineer.

IN WITNESS WHEREOF THE Employer and the Contractor have set their respective hands to these presents and two duplicates hereof the day and year first hereinabove written. (If the contractor is a partnership or an individual).

IN WITNESS WHEREOF the Employer has set its hands to these presents through its duly authorized official and the Contractor has caused its common seal to be affixed hereunto and the said two duplicates / has caused these presents and the said two duplicates hereof to be executed on its behalf, the place, day, month and year first hereinabove written (If the contractor is a Company).

Signature Clause.

SIGNED AND DELIVERED by the

Bank of Baroda by the hand of

Shri _____

(Name and Designation)

in the presence of

(i) _____

Address _____

(2)_____

Address _____

Witness

SIGNED AND DELIVERED by----

---

(If the party is a partnership firm or an Individual should be signed by all or On behalf of all the partners.)

in the presence of

(i) _____

Address _____

(2)_____

Address _____

Witness

The COMMON SEAL OF CONTRACTOR was hereunto affixed pursuant to the resolutions passed by its common

---

(If the contractor signs under its

Board of Directors at the meeting should tally with held on ----------in the Articles of

presence of Association)

(1)----------

(2)----------

Directors who have signed these

presents in token thereof in the

presence of

(1)----------

(2)----------.

seal the signature clause the sealing clause in the

SIGNED AND DELIVERED BY the hand

Contractor by the hand of company

(If the contractor is signing by the

of power of attorney whether a

or individual.)

Shri_____

and duly constituted attorney

.

## SECTION -VII

## GENERAL CONDITIONS OF CONTRACT

**1. Definitions & Interpretations**

In construing these conditions, the Specifications, Bill of quantities and Contract Agreement etc. the following words shall have the meaning herein assigned to them except where the subject or context otherwise requires**.**

**1.2** (i)

**a) "Employer" / "Owner"** means **Bank of Baroda. (BOB)** a Corporate Body constituted under Banking and Companies (Acquisition and Transfers of Undertaking) Act 1970 and having its Head Office at Mandvi, Vadodara with its Corporate Office office at Mumbai. The Project shall be executed under :

**The General Manager & Head**
**Facilities Management & COA**
**Baroda Corporate Centre,**
**C-26,G Block, BKC,**
**Bandra-East ,Mumbai 400051**

**"Architect "** means. Consulting Architect Design Ideas Architects, 701, A wing, K K Tower, G D Ambekar Marg, Parel Village, Mumbai – 400012.
**M: 9821004421** and their authorized nominees & representatives or such other firms / persons, as shall be nominated by the Employer.
f

(ii) **"Contractor" shall** mean: -

a) In the case of a Partnership firm :- ---------- and ---------- trading as partners in the name and style of ---------- and having a place of business at ---------- and shall include the partners for the time being of the said firm and the legal representatives of a deceased partner.

b) In the case of individual Contractor:- Shri _____ trading in the name and style of

_____ and shall include his heirs, successors & legal successors & legal representatives.

c) In the case of Company :- _____ a company incorporated under _____ 20___ and having its registered office at _____ and office at _____ and shall include its successors and assignee.

(iii) **"Site"** shall mean the site of the contract works including any building and erections thereon and any other land (inclusively) as aforesaid allotted by the Employer for the Contractor's use.

(iv) **"Contract"** shall mean the following documents, all duly signed, collective in that order of precedence.

a) Articles of Agreement

b) Letter of acceptance of Tender / Award of Work

c) The Bid including Appendix to Bid, Addendum if any

d) Special Conditions of Contract

e) General Conditions of Contract

f) Priced Bill of Quantities

g) Technical Specifications (including any further instructions by Architect/Employer / EIC during construction work)

h) Drawings (Tender drawings / Working drawings issued during construction)

(v) **"Notice in writing" or "written notice"** shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address or

registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.

(vi) **"Act of Insolvency"** shall mean any Act of Insolvency as defined by the Presidency Towns insolvency Act, or the Provincial Insolvency Act or any Act amending such original.

(vii) **"Net Prices" :** If in arriving at the contract amount, the Contractor shall have added to or deducted from the total amount of the items in the Tender any sum, either as a percentage or other wise, then the net price of any item in the tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the Tender as the price of that item and similar percentage or proportionate sum provided always that in determining the percentage or proportion of the sum so added or deducted by the Contractor, the total amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the tender. The expression "net rates" or "net prices" when used with reference to the contract or accounts shall be held to mean rates or prices so arrived at.

(viii) **"Works"** means the permanent works described in the "Scope of Work" and / or to be executed in accordance with the Contract and includes materials, apparatus, equipment, temporary supports, fittings and things of all kinds to be provided, the obligations of the Contractor hereunder and work to be done by the Contractor under the contract.

(ix) **"Drawings"** means the drawings prepared by the Interior Designer s and issued by the Architect/Employer-in-Charge / Architect/Employer & referred to in the Specifications and any modification of such drawings and such other drawings as may be issued by the Architect/Employer from time to time.

(x) **"Bill of Quantities"** means the Schedule and Quantities of items, materials & rates, summaries, etc. as finally accepted.

(xi) **"Specification"** means the specifications given in these documents including relevant Indian standard specification where so required and where such a specification is not available, specifications will be provided and approved by the Architect/Employer.

(xii) **"Temporary Works"** means all temporary works of every kind required in or about the execution, completion or maintenance of the works.

(xiii) **"Materials"** means the materials, apparatus, equipment, fittings, fixtures and all such other material which are incorporated in the 'work".

(xiv) **"Virtual Completion of the Works"** means the completion of the whole of the works substantially in all respects as evidenced by issuance of a Certificate of Completion by the Architect/Employer-in-Charge / Architect/Employer.

(xv) **"Period of Maintenance / Defect Liability Period"** shall mean the period of 365 (Three hundred Sixty Five) days calculated from the date of virtual completion of the works as certified by the Architect/Employer-in-Charge / Architect/Employer.

(xvi) **"Urgent Works"** means any urgent works, which in the opinion of the Architect/Employer-In-Charge / Architect/Employer becomes necessary at the time of execution and / or during the progress of work to obviate any risk of accident or failure or to obviate any risk of damage to the structure or services or required to accelerate the progress of work for which becomes necessary for safety and security or for any other reason, the Architect/Employer / Employer may find it necessary.

(xvii) **"Market Rate"** means the rate as decided by the Architect/Employer-in-Charge / Architect/Employer on the basis of cost of materials at site inclusive of any tax, duty, octroi etc. at the time of execution of work.

(xviii) **"Approved"** means approved in writing; "Approval" means approval in writing.

(xix) **"Month"** means calendar month.

(xx) **"Week"** means seven consecutive calendar days.

(xxi) **"Day"** means a calendar day beginning and ending at 00 Hours and 24 hours respectively,

(xxii) **"Contract Value / Tender Value"** means the total value of the tender as accepted by the Employer.

(xxiii) **Interpretations / Marginal Note / Heading / Catch Lines**.

The Marginal Notes, Headings and in the catch lines hereto and in the annexures hereto are meant only for convenience of reference and shall not in any way be taken into account in the interpretation of these presents and the annexures hereto. The Contractor will have to carry out and complete the said work in every respect in accordance with this contract

Words imparting the singular only also include the plural and vice versa where the context requires

2. **Language and Law**

The language in which the Contract documents shall be drawn up shall be English only and the law governing the Contract is the law of Union of India.

3. **Errors, Omissions and Discrepancies**

In all cases of errors, omissions and / or doubts or discrepancies in any of the items or specifications, a reference shall be made to the Architect/Employer whose elucidation, elaboration or decision shall be considered as authentic. The Contractor shall be held responsible for any error that may occur in the work through lack of such reference and precaution.

4. **Scope of Contract**

The Contract comprises the construction, completion and maintenance of the works and except in so far as the Contract otherwise stipulates the provision of all labour, materials, constructional plant, machinery temporary works and everything whether of a temporary or permanent nature required in and for such construction, completion and maintenance so far as necessary for providing the same as specified in or reasonably to be inferred from the Contract.

5. (i) **Letter of Acceptance / Award**

Before signing of the Contract, the Employer shall issue by registered post or by otherwise depositing at the registered office of the Contractor, Letter of Acceptance / Award to enter into a Contract with the Contractor for the execution of the works in accordance with the contract. Until a formal contract agreement is prepared and executed, the tender documents i.e. Volume I, II, III & set of drawings together with the relevant correspondence exchanged from receipt of the tender to acceptance and together with the Employer's letter of Acceptance / Award shall constitute a binding contract between the parties.

(ii) **Contract Agreement**

On receipt of intimation from the Employer of the acceptance of his / their tender, the successful tenderer shall be bound to implement the contract & within seven **days thereof**, the successful tenderer shall sign an agreement in accordance with the draft agreement. The Contract shall be executed in quadruplicate and the Employer, the ARCHITECT and the Contractor shall be entitled to one executed copy each for their use.

(iii) **Commencement of Work**

Contractor shall commence the work within 14 days from the date of issue of the Acceptance Letter / Work Order issued to the Contractor or the date of handing

over of site whichever is later.

(iv) **Possession of Site**

Save in so far as the Contract may prescribe the extent of portions of the Site of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will within 7 days from the date of issue of acceptance letter / work order give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the programme and otherwise in accordance with such reason able proposals of the Contractor as he shall, by notice in writing to the Architect/Employer, make and will from time to time as the Works proceed give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the construction of the Works in accordance with the said programme or proposals (as the case may be).

If the Contractor suffers delay or incurs expense from failure on the part of the Employer to give possession in accordance with the terms of this clause the EIC shall grant an extension of time for the completion of the works on approval from Employer.

(v) **Wayleaves, etc.**

The Contractor shall bear all expenses and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the Site required by him for the purpose of the Works.

6. **Custody of Drawings & Specifications**

The Contractor will be given free of cost two copies of Drawings during the progress of the works. Any further copies of such Drawings required by the Contractor shall be obtained by him from the Architect/Employer on payment of necessary charges to be fixed by the Interior Designer. The Contractor shall keep one copy of all Drawings at the works site and the Architect/Employer/ ARCHITECT shall at all reasonable time have access to the same. Before the issue of the final certificate to the Contractor, he shall forthwith return to the Employer all Drawings and Specifications. No drawings shall be taken as in itself an order for execution unless, in addition to the Interior Designer signature, it is marked “Fit for Construction” by ARCHITECT.

7. **Disruption of Progress**

The Contractor shall give adequate but not less than 4 weeks of time written notice to the Architect/Employer whenever planning or progress of the Works is likely to be delayed or disrupted unless any further drawing or order, including a direction, instruction or approval,

is required to be issued by the Architect/Employer. The notice shall include details of the drawing or order required explaining why and by when it is required and of any delay or disruption likely to be suffered if it is late.

8. **Further Drawings and Instructions**

The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Employer / ARCHITECT. The Architect/Employer may in his absolute discretion or in consultation with Architect/Employer and from time to time issue further drawings and / or written instructions, details, directions and explanations which are hereafter collectively referred to as "Architect/Employer's Instructions" in regard to:-

(a) The variation or modification of the design, quality or quantity of items of works or the addition or omission or substitution of any item

(b) Any discrepancy in the Drawings or between the Bill of Quantities and / or Drawings and / or Specification.

(c) The removal from the site of any material brought thereon by the Contractor and the substitution of any other material therefore.

(d) The removal and / or re-execution of any works executed by the Contractor.

(e) The dismissal from the works of any persons employed thereupon.

(f) The opening up for inspection of any work covered up.

(g) The amending and making good of any defects.

The Contractor shall forthwith comply with and duly execute any work comprised such Architect/Employer's instructions provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Architect/Employer shall, if involving a variation, be confirmed in writing by the Contractor within three days & if not dissented from in writing within a further three days by the Architect/Employer, such shall be deemed to be Architect/Employer's instructions within the scope of the Contract.

9. **Contractor's General Responsibilities**

The Contractor shall provide at his cost everything necessary for the proper execution of the works according to the intent and meaning of the Drawings, Bill of Quantities and Specifications taken together with whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred therefrom, and if the Contractor finds any discrepancy in the Drawings or between the Drawings, Bill of

Quantities and Specifications, he shall immediately and in writing refer the same to the Architect/Employer.

The successful tenderer is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the Bill of Quantities and rates. Instructions in respect of such additional items and their quantities will be issued in writing by the Architect/Employer on approval from Employer.

The Contractor must co-operate with the other contractors appointed by the Employer so that the work shall proceed smoothly to the satisfaction of the Architect/Employer.

The Contractor must bear in mind that all the work shall be carried out strictly in accordance with the Specifications as given in these documents and also in compliance of the requirements of the local public authorities and to the requirements / satisfaction / direction of the Architect/Employer and no deviation on any account will be permitted.

The Contractor shall have to use materials from the makes / manufacturers specified in the list of materials of approved brand and / or manufacture contained in contract documents and as approved by Architect/Employer in Consultation with Employer.

10. **Safety of Site Operations**

The Contractor shall take full responsibility for the safety, stability and adequacy of all site operations and methods of construction including all temporary works, provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the permanent works.

The integration of MEPF services above and below false ceiling shall be co-operated / co-related during the execution of the work and final integration drawing incorporating all services shall be prepared by the Architect before and after undertaking interior decoration/ furnishing and furniture work.

11. **Watching & Lighting**

The Contractor shall in connection with the Works provide and maintain at his own cost adequate lights, guards, fencing, warning signs and watch & ward staff when and where necessary or as directed by the Architect/Employer or as directed by duly constituted authority for the protection of the works or for the safety and convenience of the public or pilferage of materials from site

12. **Care of Works**

From the commencement to the certified completion of the whole of Works, the contractor shall take full responsibility for the care thereof and of all Temporary Works and in case any damage loss or injury shall happen to the works or to any part thereof or to any Temporary Works from any cause whatsoever.

The Contractor shall at his own cost repair and make good the same so that on completion, the works shall be in good order and condition and in conformity to every respect with the requirements of the Contract and the Architect/Employer's instructions. The Contractor shall also be liable for any damage to the Works occasioned by him including his sub-contractors in the course of any operations carried out by him for the purpose of completing any outstanding work and complying with his obligations under **Clause no. 36** hereof. The Contractor shall indemnify the Employer from all risks on this account.

13. (i) **Contractor's Senior Representative for Execution & Co-ordination of Works**

The Contractor shall have on site at all times during working hours throughout the course of the Contract at least one competent senior representative who shall be empowered to make decisions binding on the Contractor in respect of all matters likely to arise in connection with the execution & coordination of the Works at site and shall keep the Architect/Employer and the Employer informed at all times about the name and designation of such representative.

Any directions, explanations, instructions or notices given by the Architect/Employer to such representative shall be held to be given to the Contractor.

(ii) **Contractor's Employees**

The Contractor shall provide and employ after approval from the Architect/Employer on the site in connection with the execution, completion and maintenance of the Works all Employed staff / Technical assistants are qualified, skilled and experienced in their respective trades, foremen and leading hands as are competent to give proper supervision, ensuring quality & output to the work they are required to supervise, and also such skilled, semi-skilled and unskilled labour as are necessary for the proper and timely execution, completion and maintenance of the works.

(iii) **Removal of Contractor's Employee**

The Contractor shall on the direction of the Architect/Employer immediately dismiss from the works any person employed thereon by him who may, in the opinion of the Architect/Employer, be incompetent or misconduct himself and such person shall not be again employed on the works without the permission of the Architect/Employer.

(iv) **Unauthorized Persons**

No unauthorized persons are to be allowed on the site. The Contractor shall instruct all such persons to keep out and shall take steps to prevent trespassing.

14. **Compliance with Statutes, Regulations, Etc.**

The Contractor shall conform to the provisions of any Act of the legislature relating to the works and to the regulations and bye-laws of any authority, and of any water, electric supply and other companies and / or authorities with whose systems the structure is

proposed to be connected, and shall, before making any variations from the Drawings or Specifications that may be necessitated by so regulations, give to the Architect/Employer written notice, specifying the variation proposed to be made and the reason for making it and apply for instructions thereon. In case, the Contractor shall not within ten days of submission of such notice, receive such instructions, he shall proceed with the work conforming to the provisions, regulations, or bye-laws in question, and any variation so necessitated shall be dealt with under **Clause no. 29** thereof.

The Contractor shall bring to the attention of the Architect/Employer all notices required for execution by the said Acts, regulations or bye-laws to be given to any authority and pay to such authority, or to any public office all fees that may be properly chargeable in respect of the works, and lodge the receipts with the Architect/Employer.

15. **Setting Out**

The Contractor shall set out the works and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof. If at any time any error in this respect shall appear during the progress of the works or within the defects liability period the Contractor shall, if so required, at his own expense rectify such error to the satisfaction of the Architect/Employer.

16. (i) **Quality of Materials & Workmanship & Test**

All materials and workmanship shall be the best of the respective kinds described in the Contract and in accordance with the Architect/Employer's instructions and shall be subjected from time to time to such tests as the Architect/Employer may direct at the place of manufacture or fabrication or on the Site or at Government recognized / any approved testing laboratory

The Contractor shall upon the instruction of the Architect/Employer furnish him with documentation to prove that the materials and goods comply with the requirements of contract and for requirement stated above. The Architect/Employer may issue instruction in regard to removal of material from site or any work, if these are not in accordance with the Contract. The Contractor shall provide such assistance instruments, machinery, labour and materials as are normally required for examining, measuring, sampling and testing any material or part of work before incorporation in the Works for testing as may be selected and required by the Architect/Employer.

(ii) **Samples**

All samples of adequate numbers, sizes, shades & pattern as per specification shall be supplied by the Contractor without any extra charge. Apart from adhering to any special provision made in the specifications regarding submission of samples the contractor shall provide to the Architect/Employer samples along with the detailed literature of all materials he proposes to use in the building irrespective of the fact that a specific make / material might have been stipulated at least before 90 days of their incorporation in work. If certain items proposed to be used are of such nature

that samples cannot be presented or pre pared at the site, detailed literature / test certificate of the same shall be provided instead to the satisfaction of the Architect/Employer. Before submit ting the samples / literature the contractor shall satisfy himself that the material / equipment for which he is submitting the samples / literature meet with the requirement of the specification. The Architect/Employer shall check the samples and give his comments and / or approval to the same. Only when the samples are approved in writing by the Architect/Employer, the contractor shall proceed with the procurement and installation of the particular material / equipment. The approved samples shall be signed by the Architect/Employer for identification and shall be kept on record at site office until the completion and acceptance of the work and shall be available at the site for inspection / comparison at any time. The contractor shall keep with him a duplicate of such samples to enable him to process the matter.

For items of work where the samples are to be made at the site, the same procedure shall be followed. All such samples shall be prepared at a place where it can be left undisturbed until the completion of the project.

The Architect/Employer shall communicate his comments / approval to the Contractor to the samples at his earliest convenience. Any delay that might occur in approving of the samples for reasons of its not meeting with the specifications or other discrepancies, inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials / equipments, etc. shall be to the account of the contractor. In this respect the decision of the Architect/Employer shall be final.

On delivery of the supplies of materials / equipment for permanent works at the site, the contractor shall specifically arrange to get the supply inspected by the Architect/Employer and compared with the approved sample and his specific approval obtained before using the same in the work.

(iii) **Inspection & Testing during Manufacture**

The Architect/Employer shall be entitled during manufacture to inspect, examine and test on the Contractor's premises during working hours the materials and workmanship and check the progress of manufacture of all fabrication materials to be supplied under the Contract, and if part of the said materials is being manufactured on other premises the Contractor shall obtain for the Architect/Employer permission to inspect, examine and test as if the said Plant were being manufactured on the Contractors premises. Such inspection, examination or testing if made shall not relieve the Contractor from any obligation under the Contract.

(iv) **Dates for Inspection & Testing**

The Contractor shall agree with the Architect/Employer the date on and the place at which any plant / works will be ready for testing as provided in the Contract and unless the Architect/Employer shall attend at the place so named on the date agreed the Contractor may proceed with the tests, which shall be deemed to have been made in the Architect/Employer's presence, and shall forthwith forward to the Architect/Employer duly certified copies of the test readings. The Architect/Employer shall give the Contractor 24 hours notice in writing of his intention to attend the tests.

(v) **Facilities for Testing at Manufacturer's Works**

Where the Contract provides for tests on the premises of the Contractor or of any sub-contractor the Contractor shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be requisite and as may be reasonably demanded to carry out such tests efficiently.

(vi) **Certificate of Testing**

As and when fabrication materials shall pass the tests referred in this, the Architect/Employer shall furnish to the Contractor a certificate in writing to that effect.

(vii) **Rejection**

If as a result of such inspection, examination or test of the works the Architect/Employer shall decide that such material is defective or not in accordance with the Contract he shall notify the Contractor accordingly stating in writing his objection and reasons therefore. The Contractor shall with all speed make good the defect or ensure that the material complies with the Contract. Thereafter, if required by the Architect/Employer, the tests shall be repeated under the same terms and conditions and that all reasonable expenses to which the Employer may be put by the repetition of the tests shall be deducted from the Contract Sum.

(viii) **Delivery of Materials & Equipment**

Unless the Architect/Employer shall otherwise direct, no material shall be delivered to site until the Architect/Employer shall have issued, in respect of such material, a certificate under **Clause no. 17** above. Likewise Fabrication Materials

or Contractor's Equipment shall be delivered to Site only upon an authorization in writing applied for and obtained by the Contractor from the Architect/Employer.

The Contractor shall be responsible for the reception on site of all Materials and Contractor's Equipment delivered for the purposes of the Contract.

(ix) **Inspection & Testing and Re inspection & Retesting**

All deficiencies revealed by testing and inspection shall be rectified by the Contractor at his own expense and to the satisfaction and approval of the Architect/Employer. Rectified components shall be subject to retesting and re-inspection.

(x) **Inspection Reports**

The Contractor shall provide the Architect/Employer with 3 copies of reports of all inspections and tests.

(xi) **Cost of Tests**

The cost of making any test shall be borne by the Contractor if such test is intended by or provided for in the Specification or Bill of Quantities or required as per standard practice of the trade / BIS and as advised by the Architect/ Employer .

(xii) **Costs of Tests not provided for, etc.**

If any test is ordered by the Architect/Employer which is either

(a) not so intended by or provided for or not required as per standard practice / BIS.

(b) (in the cases above mentioned) is not so particularized, or

(c) though so intended or provided for but ordered by the Architect/Employer to be carried out by an independent person authorized by Architect/Employer at any place other than the site or the place of manufacture / fabrication and shows the materials, plants not to be in accordance with the provision of contract then the cost of such test shall be borne by the Contractor.

17. **Absence of Specification**

If the specifications do not contain particulars of materials and works which are obviously necessary for the proper completion of the works, and the intention to include, which is inferred, all such materials and works shall be supplied and executed by the Contractor without extra charge. If the Contractor requires additional information, he shall request in writing well in advance to commencement of the particular work to the Architect/Employer who will issue such detailed information as necessary within a reasonable time. Generally, in absence of any specification BIS code, CPWD and PWD Specification shall be followed in order of preference.

18. **Obtaining Information Related to Execution of Work**

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

19. **Contractor's Superintendence**

The Contractor shall give all necessary personal superintendence during the execution of the works, and as long, thereafter, as the Architect/Employer may consider necessary until the expiry of the "Defects Liability Period" stated hereto.

20. **Access for Inspection**

The Employer/Architect and their respective representatives shall at all reasonable times have free access to the work and / or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall give to the Employer, Interior Designer, the Architect/Employer and their representatives every facility necessary for checking measurements, inspection and examination and test of the materials and workmanship. No person not authorized by the Architect/Employer except the representatives of public authorities shall be allowed on the works at any time.

21. (i) **Examination of Work Before Covering Up**

No work shall be covered up or put out of view without the approval of the Architect/Employer and the Contractor shall afford full opportunity for the Architect/Employer to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Architect/Employer of any such work or foundations is or are ready or about to be ready for examination and the Architect/Employer shall without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or for examining such foundations.

(ii) **Uncovering and making openings**

The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Bank's Architect/Employer/Architect may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Architect/Employer. If any such part or parts have been covered up or put out of view after compliance with the requirements of sub-clause (i) of this Clause and are found to be executed in accordance with the contract the expenses of uncovering, making openings in or through reinstating and making good the same shall be borne by the Employer but in any other case all such expenses shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.

22. (i) **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 thereof or any interest therein without the prior written consent of the Employer & no undertaking shall relieve the Contractor from the full & entire responsibility of the contract or from active superintendence of the works during their progress

(ii) **Work is to be Carried Out to the Satisfaction of Employer / Architect**

The Contractor shall carry out all the works strictly in accordance with Drawings, detailed Specifications and instructions of the Architect/Employer. If in the opinion of the Employer or EIC changes have to be made in the works the Contractor shall carry out the same, and payment, if any, arising out of these shall be made as per the terms of the contract.

(iii) **Removal of Improper Work & Materials**

The Architect/Employer shall, during the progress of the works, have power to order in writing from time to time the removal from the works within such reasonable time or times as may be specified in the order, of any materials which in the opinion of the Architect/Employer are not in accordance with the Specifications or the instructions of the Architect/Employer, the substitution of proper materials, and the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the Drawings and Specifications or instructions, and the Contractor shall forthwith carry out such order at his own cost. In case of default on the part of the Contractor to carry out such order, the Employer shall have the power to employ and pay other persons to carry out the same, and all expenses consequent thereon, or incidental thereto, as certified by the Architect/Employer shall be borne by the Contractor, or may be deducted by the Employer from any moneys due, or that may become due, to the Contractor.

(iv) **Urgent Repairs**

If by reason of any accident or failure or other event occurring to in or in connection with the Works, or any part thereof, either during the execution of the Works or during the Period of Defect Liability / Maintenance any remedial or other work or repair shall, in the opinion of the Architect/Employer / Employer or their representative be urgently necessary for security and safety of life or for the works or of adjoining property, and the Contractor is unable or unwilling at once to do such work or repair, the Employer may employ his own or other workmen do such work or repair, as the Architect/Employer / EIC or their representative may consider necessary. If the work or repair so done by the Employer which is in the opinion of the Architect/Employer, the Contractor was liable to do at his own expense under the Contract, all costs and charges incurred by the Employer in so doing shall on demand be paid by the Contractor to the Employer or may be deducted by the Employer from any amount due or which may become due to the Contractor. Provided always that the Architect/Employer or the Architect/Employer's representative (as the case may be) shall, as soon after the occurrence of any such emergency, as may be reasonably practicable notify, the Contractor thereof in writing.

(v) **Default of Contractor in Compliance**

If the Contractor after receipt of written notice from the Architect/Employer / EIC requiring compliance within ten days fails to comply with such further drawings and / or Architect/Employer's instructions the Employer may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer on the Certificate of the Architect/Employer as a debt or may be deducted by him from any moneys due to the Contractor.

23. (i) **Prime Cost Items**

The material(s) required for execution of any item for which a sum has been provided as a prime cost price in the tender, shall be procured by the contractor or supplied by the Employer at the sole discretion of the Employer. Every sum in the bill of quantities, which contains either as a whole or part the amount, as prime cost price of the materials shall be varied by substitution of the actual cost of the materials.

No variation shall be made in respect to the percentage quoted for labour and to cover for overheads & profits, work contract taxes, service taxes on account of variation in the prices, as above. Prime cost items will not be considered for Price Variation Adjustment.

(ii) **Production of Vouchers, Etc.**

The Contractor shall when required by the Employer / Architect produce all quotations, invoices, vouchers and accounts or receipts in connection with expenditure in respect of Prime Cost items.

(iii) **Nominated Specialist Agencies / Objection to Nomination**

All Specialists, Merchants, Tradesman and others executing any work of supplying and fixing any goods for which prime cost items or provisional sums are included in the Bill of Quantities and / or Specification who may be nominated or selected by the Architect/Employer are hereby declared to be sub-Contractors employed by the Contractor and are herein referred to as nominated Sub-Contractors.

No nominated Sub-Contractor shall be employed on or in connection with the works against whom the Contractor shall make reasonable objection or who will not enter into a contract providing:

(a) That the nominated Sub-Contractor shall indemnify the Contractor against the same obligations in respect of the Sub-Contract as the Contractor is under in respect of this contract.

(b) That the nominated Sub-Contractor shall indemnify the Contractor against claims in respect of any negligence by the Sub-Contractor, his servants or agents or any misuse by him or them of any scaffolding or other plant, the property of the Contractor or under any Workmen's Compensation Act in force.

(c) Payment shall be made to the nominated Sub-Contractor by the contractor within fourteen days of his receipt of payment from the Employer provided that before any Certificate is issued, the Contractor shall upon request furnish to the Architect/Employer proof that all nominated Sub-Contractor's accounts included in previous certificates have been duly discharged, in default whereof the Employer may pay the same upon a Certificate of the Architect/Employer and deduct the amount thereof from any sums due to the Contractor. The exercise of this power shall not create privity of contract as between Employer and Sub-Contractor.

24. **Quantities and Variation**

i) The Bill of Quantities (BOQ), unless otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurement and quantities in B.O.Q. are to be considered as estimated and not accurate. The rates quoted shall remain valid for variation of quantity against each individual item by + 25%.

ii) Variation Exceeding 25% of Tender Quantity : When the quantity of any item varies by + 25% of Tender Quantity, the rate for such item of works will be determined on the basis Cl. No. 29 (c) hereof or as decided by the Employer / EIC. No compensation for deletion or non-execution of item will be considered.

25. **Works to be measured**

The Architect/Employer may from time to time intimate to the Contractor that he requires the works to be measured & the Contractor shall forthwith attend or send a qualified Representative to assist the Architect/Employer in taking such measurements and calculations and to furnish all particulars or to give all assistance required by any of them.

Should the Contractor not attend or neglect or omit to send such Representative, then the measurement taken by the Architect/Employer or a person approved by him shall be taken to be correct measurements of the works. Such measurements shall be taken in accordance with the Mode of Measurements detailed in the Specifications.

The Architect/Employer shall take joint measurements with the contractor and the measurements shall be entered in the measurement book / sheet by the Architect/Employer's representative.

The Contractor or his Representative may at the time of measurement take such notes and measurements as he may require.

All authorized extra works, omissions and all variations made without the Architect/Employer's knowledge, but subsequently sanctioned by him in writing (with the prior approval in writing of the Employer) shall be included in such measurements.

26. **Claims for additional expenses**

The Contractor shall send to the Architect/Employer once in every month an account giving particulars as complete and fully detailed as required of all claims for any additional expenses, to which the Contractor may consider himself entitled and of all extra or additional / substituted work ordered by the Architect/Employer which he has executed during the preceding month subject of provisions under relevant clauses of contract hereof, and no claim for payment for any such work will be considered which has not been included in such particulars. Provided always that the Architect/Employer shall be entitled to authorize payment to be made for any such work notwithstanding the Contractor's failure to comply with this condition, if the Contractor has, at the earliest practicable opportunity notified the Architect/Employer in writing that he intends to make a claim for such work and thereafter send complete and detailed particulars of the claim to the Architect/Employer as directed by the Architect/Employer but not later than 10 days from the date of notification of his claim.

27. **Variations**

Any alteration, omission or variation ordered in writing by the Architect/Employer shall not vitiate this contract. In case the Architect/Employer / EIC think proper at any time during the progress of the works to make any alterations in, or additions to or omissions from,

the works or any alteration in the kind or quality of the materials to be used therein, the Architect/Employer shall give notice thereof in writing to the Contractor or shall confirm in writing within seven days of giving any such oral instructions. The Contractor shall alter, add to, or omit from, as the case may be, in accordance with such notice, but the Contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviation from any of the provisions of the Contract, stipulations, Specification or Contract Drawings without the previous consent in writing of the Architect/Employer and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect/Employer in accordance with the provisions of **Clause no. 29** hereof, and the same shall be added to or deducted from the Contract value, as the case may be.

## 28. Valuation of Variations

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

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

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

(c) It is further clarified that for all such authorized extra items where rates cannot be derived from accepted tender rates, the Contractors shall submit rates supported by rate analysis worked on the “market rate basis", for material including all taxes, octroi and delivery at site, labour, hire / running charges of equipment and wastages etc. plus 20% towards establishment charges including water & electricity, contractor's overheads & profit, work contract tax, or like. **GST will be paid extra as per the prevailing statutory norms.** In case of variation in items of works, which are subcontracted to specialist agencies, specialist agencies’ profit and overhead is deemed to be included in above stated 20%. **Items derived from market rates shall not be eligible for escalation.**

The measurement and valuation in respect of the Contract shall be completed within the "Period of Final Measurement" stated in the Appendix.

## 29. Security Deposit / Retention Money

For due fulfillment of the contract by the Contractor, 8% of the value of each Interim Bill will be retained by the Employer towards Retention Money until the total Security Deposit including Initial Security Deposit amounts to 5% of the Contract Value or Actual Value of work whichever is higher. 50% of the security deposit shall be released to the contractor after issue of virtual completion certificate and balance 50% on issue of "No Dues Certificate" as per **Clause no 35.** The amounts retained by the Employer shall not bear any interest.

All compensation or other sums of money payable by the Contractor to the Employer under the terms of this contract may be deducted from the security deposit if the amount so permits and the Contractor shall, unless such deposit has become otherwise payable, within ten days after such deduction make good in cash the amount so deducted.

The security deposit of the contractor will be forfeited if he fails to comply with any of the conditions of the contract

30. **Certificates & Payment**

(i) **Secured Advance on Materials at Site**

The Contractor will be paid secured advance against cement, reinforcement steel & Structural steel and other non-perishable and quantifiable material as decided by Architect/Employer and stacked at site for use in permanent works and in the opinion of the Architect/Employer are required to be procured in advance. The advance paid for the materials stacked at site shall be maximum 75% of the cost of the materials or **60% of the relevant item rate, whichever is less at the discretion of Employer** and the Contractor shall produce necessary vouchers / documents in support of cost of each material. No advance shall be admitted for perishable materials or cannot be stored and quantified properly and materials procured prematurely as decided by the Architect/Employer. The secured advance so given to the Contractor will be recovered from next three (3) R.A. Bills.

Where in any Certificate (of which the Contractor has received payment), the Architect/Employer has included the value of any unfixed materials intended for and / or placed on or adjacent to the works such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Architect/Employer. The Contractor shall be liable for any loss of or damage to, such materials.

The materials shall also be in conformity with contract specifications and of approved quality as stated in relevant clauses hereof. These advances shall be made on the basis of the quantity of each material lying at site at the time of preparation of each interim bill. The Contractor shall sign Indemnity Bond as per **Annexure I** for any loss either due to theft or fire etc.

(ii) **Interim Bill**

(a) The Contractor shall be paid by the Employer from time to time by installments under Interim Certificate to be issued by the Architect/Employer

to the Contractor on account of the works executed when in the opinion of the Architect/Employer, work to the approximate value named in the Appendix to Form of Tender "Minimum value of Work for Interim Certificate" (or less at the sole discretion of the Architect/Employer / Employer) has been executed in accordance with this contract, subject to a retention of the percentage of such value named in the Appendix to form of tender hereto as 'Retention Percentage for Interim Certificates' until the total amount retained shall reach the sum named in the Appendix to form of tender as 'Security Deposit'.

b) The contractor shall generally be paid one Interim bill in a month satisfying the minimum value of work, which shall include work done and secured advance against material. If in the opinion of the Architect/Employer the progress of the work warrants a second payment in a month, the same shall be so arranged by the Employer.

c) After submission of bill along with complete information, vouchers, etc. to the satisfaction of the Architect/Employer and after making necessary deductions toward Income Tax, Work Contract Tax and other recoveries deductible at source, the bill will be paid as follows:

i) An adhoc payment of 75% of the value of work done as assessed by the Architect/Employer and vetted by EIC/ Interior Designer shall be released within 7 working days by the Employer, after certification by the Architect/Employer/ Interior Designer who will certify within reasonable period from submission of Bill with necessary vouchers, documents etc.

ii) Balance amount shall be certified by the Architect/Employer/ Interior Designer on submission of bill and payment shall be released by the Employer within 15 working days of certificate receipt from the Architect/Employer/ Interior Designer.

d) All Interim Bill payment shall be regarded as payment by way of advance against the final payment only & not as payment for the work actually done.

e) All payments under this Clause will be released after due checking & verification by EIC/ Interior Designer.

f) Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided, without prejudice to the right of the employer to take action under the terms of the contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

g) 50% of Service Tax as applicable will be deducted from each Bill and deposited to the authority by Bank. Balance 50% will be deposited by the Contractor.

(iii) **Final Bill**

a) The Contractor shall submit final bill within 60 days from the date of issue of virtual completion certificate with all relevant information and details, documents as-built drawing etc. complete.

b) The Architect/Employer within 60 days of submission of the final bill, shall issue a certificate of payment against the final bill to the Employer / EIC who shall thereupon, within 60 days from the date of receipt of the certificate, shall release the balance payment to the contractor after effecting all recoveries, including advances and payments against interim certificates.

(c) The Architect/Employer / EIC shall have power to withhold Certification if the works or any parts thereof are not being carried out to his satisfaction.

(d) The Architect/Employer / EIC may by any Certificate make any correction in any previous Certificate, which shall have been issued by him.

(e) No payment shall be made to the Contractor if the Contractor fails to insure the works and keep them insured till the issue of the Virtual Completion Certificate.

31. **Time for Completion**

The entire work is to be completed in all respects within 6 **Months** from the Date of Commencement as stated in Appendix to "Form of Tender" or such extended time as may be allowed under **Clause no. 33** hereof. Time is the essence of the contract and shall be strictly observed by the contractor.

**If required in the contract or as directed by the Architect/Employer, the contractor shall complete certain portion of the work before the completion of the whole of the work. However the completion date for whole of the work shall not change for above.**

32. **Extension of Time for Completion**

i. If the Contractor needs an extension of time for the completion of the work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion stipulated in the contract, the Contractor shall apply to the Employer for extension of time in writing at least 30 days before the expiry of the scheduled time and while applying for extension of time, Contractor shall furnish the reasons in detail and his justification, if any, for the delays.

ii. If in the opinion of the Architect/Employer the works be delayed for reasons beyond the control of the contractor, the Architect/Employer with due consultation with Employer may make a fair and reasonable extension of time for completion of the contract works such time extension will be said as "Authorised Time Extension" which will not qualify for levy of liquidated damages.

iii. If the works be delayed beyond the authorized time extension, the Architect/Employer with due consultation with Employer may allow extension of time for completion of contract works but with levy of Liquidated damage as stated under **Clause no. 37**.

**Further, the contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.**

iv. The contractor shall be bound to extend validity of all insurance covers, Bank Guarantees till such period of completion as may be considered necessary at contract cost.

33. **Virtual Completion Certificate**

Virtual Completion of works means the completion of whole of the work substantially in all respects including all types of testing, obtaining all necessary statutory approvals and is fit for occupation. The works shall not be considered as completed until the Architect/Employer in Consultation with Employer has certified in writing that they have been virtually completed. The Defects Liability Period shall commence from the date of virtual completion as certified by the Architect/Employer.

34. **Approval Only by No Dues Certificate**

(i) **Final Completion Certificate**

On successful completion of entire works covered by the Contract to the full satisfaction of Employer / Architect, the Contractor shall ensure that the following works have been completed to the satisfaction of Architect/Employer : *(a)* clear the site of all scaffolding, wiring, pipes, surplus materials, Contractor's labour, equipment and machinery *(b)* demolish, dismantle and remove all Contractor's site offices and other temporary works, structures & constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the Contractor by the Owner and not incorporated in the permanent works *(c)* remove all rubbish, debris etc. from the site and the land allotted to Contractor and shall clear, level and dress, compact the site as required and said land to the satisfaction of the Architect/Employer *(d)* shall put the Owner in undisputed custody and possession of the site and all land allotted by the Owner to the Contractor *(e)* All defects / imperfections have been attended & rectified to full satisfaction of the Architect/Employer during the Defect Liability Period.

Unless the Contractor shall have fulfilled the provisions of the clause, the works shall not be deemed to have been completed.

Upon the satisfactory fulfillment by Contractor as stated above, the Contractor shall be entitled to apply to the Architect/Employer for a Final Completion Certificate in respect of the entire work.

If the Architect/Employer is satisfied of the completion of the work relative to which the Completion Certificate has been sought, the Architect/Employer shall within 14 (fourteen) days of the receipt of the application for Completion Certificate, issue a Completion Certificate in respect of the works for which the Completion Certificate has been applied.

This issuance of a Completion Certificate shall be without prejudice to the Employer's rights and Contractor's liabilities under the Contract, including the Contractor's liability for the Defect Liability Period nor shall the issuance of a Completion Certificate in respect of the works or work at any site be construed as a waiver of any right or claim of the Employer against the Contractor in respect of work or the works at the site and in respect of which the Final Completion Certificate has been issued.

(ii) **No Dues Certificate**

The Contract shall remain valid and shall remain incomplete until no dues Certificate shall have been signed by the Architect/Employer and delivered to the Employer with a copy to the contractor. Such a certificate shall be given by the Architect/Employer within 30 days of completion of defects liability period (the last period to be considered if different periods to be considered if different parts of the work) or within 30 days from the date of payment of final bill whichever is later.

35. **Defect Liability Period**

Any defect, shrinkage, settlement or other faults which may appear within the "Defects Liability Period" stated in the Appendix hereto or, if none stated, then within 365 days after the date of the virtual completion of the works as certified by the Architect/Employer, arising in the opinion of the Architect/Employer from materials or workmanship not in accordance with the contract, shall upon the direction in writing of the Architect/Employer, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his own cost and in case of default the Employer may employ and pay other persons to amend and make good such defects, shrinkage, settlements or other faults, and all damages, loss and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damage, loss and expenses shall be recoverable from him by the Employer or may be deducted by the Employer, upon the Architect/Employer's Certificate in writing, from any money due or that may become due to the Contractor, or the Employer may in lieu of such amending and making good by the Contractor deduct from any monies due to the Contractor, a sum, to be determined by the Architect/Employer equivalent to the cost of amending such

work and in the event of the amount retained under **Clause no. 30** hereof being insufficient, recover the balance from the Contractor, together with any expenses the Employer may have incurred in connection therewith. Should any defective work have been done or material supplied by any Specialist Agencies employed on the works who has been nominated or approved by the Architect/Employer, the Contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by the Contractor and been subject to the provisions of this Clause and **Clause no. 23 (ii)** hereof. The Contractor shall remain liable under the provisions of this Clause notwithstanding the signing of any certificate or the passing of any accounts, by the Architect/Employer. The Contractor will not be responsible for defects arising out of fair wear & tear & damage caused by Employer's personnel during the use of the building after being occupied.

36. **Liquidated Damages for Delay**

If the Contractor fails to complete the works by the period stated in the Appendix or within any authorized extended time under **Clause no. 33** hereof and the Architect/Employer with due Consultation with Employer certifies in writing that in his opinion the same ought to have been reasonably completed by the original completion date or authorized extended completion date, as the case may be, the Contractor shall pay the Employer the sum named in the Appendix to Form of Tender as "Liquidated Damages" for the period during which the said works shall so remain incomplete or the Employer may deduct such damages from any monies due to the Contractor.

37. (i) **Default of Contractor**

It the Contractor being an individual or a firm, commits any “Act of insolvency” or shall be adjudged as insolvent or being an incorporated Company shall have an order for compulsory winding up or applies for voluntary winding up or subject to the supervision of the court and of the official Assignee or the Liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Architect / Employer that he is able to carry out and fulfill the Contract, and to give security therefore, if so required by the Architect / Employer

i) Or if the contractor (whether an individual; firm or incorporated company) shall suffer execution to be issued, or shall suffer any payment under this contract. To be attached by or on behalf of any of the creditors of the Contract.

ii) Or shall assign or sub-let the Contract without the consent in writing of the Architect / Interior Designer / Employer first obtained.

iii) Or shall charge or encumber this Contract or any payments due or which might become due to the Contract or any payments due or which might become due to the Contractor there under.

Then in any of the said cases the Employer may not withstanding any previous waiver, after giving seven days notice in writing to the Contractor, determine the Contract but without thereby affecting the powers of the Interior Designer, or the obligations and liabilities of the Contractor, the whole of which shall continue in force as fully as if Contract has not been determined and as if the works subsequently executed had been executed by or on behalf of the Contractor. And further, the Employer, may enter upon and take possession of the work and all plant, tools, scaffoldings, sheds, machinery, seam and other power utensils and material lying upon the premises or the adjoining lands or roads and use the same as his own property or may employ the same by means if his own servants and workmen carrying on and completing the works and the Contractor shall not in any way interrupt or to do any act, matter or things to prevent or hinder such other contractor or other person or persons employed for completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon thereafter as convenient, the Architect/Employer shall give a notice in writing to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within a period of 14 days after receipt thereof by him the employer shall sell the same by public auction and shall give credit to the Contractor for the amount realized after deducting there from the costs of removal and sales by the Employer for the values of the said and the expenses or loss which the Employer shall have been put to in procuring the works to be completed and the amount, it any, owing to the Contractor and the amount which shall be so certified shall thereupon be paid by the Employer, to the Contractor, or, by the Contractor to the Employer, as the case may be, and the certificate of the Architect / Employer shall be final and conclusive between the parties. On termination of the contract, the contractor shall forthwith remove himself and his workmen from the works site.

(ii) **Default of Employer**

a) If payment of the amount payable by the Employer under the Certificates of the Architect shall be in arrears and unpaid for 45 (forty five) days after notice in writing requiring payment of the amount shall have been given by the Contractor to the Employer, or the Employer commits any 'Act of Insolvency', or if the Employer being an individual or firm shall be adjudged insolvent or (being an incorporated company) shall have an order made against it or pass an effective resolution for winding up either compulsorily or subject to the supervision of the court or voluntarily, or if the official assignee of the Employer shall repudiate the contract, or if the official assignee or the liquidator in any such winding up fails within 15 (fifteen) days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Contractor that he is able to carry out and fulfill the Contract and to make all payments due, and to

b) become due hereunder and if required by the Contractor, to give security for the same, or if the works be stopped for 3 (three) months under an order of the Architect/ or the Employer or by any injunction or other orders of any court of law, then and in any of the said cases the Contractor shall be at liberty to determine

the Contract by notice in writing to the Employer, through the Architect, and he shall be entitled to recover from the employer payment for all works executed and for any loss he may sustain upon any plant or material supplied or purchased or prepared for the purpose of the Contract.

In arriving at the amount of such payment, the net rates or prices quoted for Item rate work contained in the Contractor's original tender shall be followed or where the same may not apply, valuation shall be made in accordance with Clause No. 29 (c) of GCC.

38. (i) **Determination of Contract**

The Employer shall in addition to any other power enabling him to determine the Contract have power to determine the Contract at any time by giving not less than fourteen (14) days notice in writing to the Contractor and on the expiry of such notice the Contractor shall forthwith determine but without prejudice to the claims of either party in respect of any antecedent breach thereof.

(ii) **Compliance with Architect/Employer's Direction on Determination**

If the Contract shall be determined under the provisions of the **Clause no. 39 (i)** the Contractor shall with all reasonable dispatch comply with the directions of the Architect/Employer in respect to:

(a) Cancellation of outstanding commitments

(b) Performance of further work required for the protection of work executed

(c) The removal of Constructional Plant Temporary Works and materials from the Site

(d) Any other matters arising out of the Contract with regard to which the Architect/Employer decides that directions are necessary or expedient.

(iii) **Payment on Determination**

In the event of the Contract being determined under the provisions of this Clause the sum payable to the Contractor shall be such sum as would have been payable under **Clause no. 43** hereof and

(a) The reasonable cost of complying with the Architect/Employer's directions under sub-clause (ii) hereof and

(b) Such reasonable sum as may be agreed between the parties or in default of agreement settled by arbitration in respect of the Contractor's overheads including any sums properly and necessarily incurred as the

direct result of such determination.

(iv) The Architect/Employer has a right to ascertain the happening of any contingency, including but not limited to the contingencies listed below, which would vest in the Employer certain powers including, but not limited to, taking possession of the work so far as it has been performed and to completing the work either by himself or by employing some other Agency, retaining property of the Contractor, such as materials, plant or money already due to the Contractor:

a) Failure of Contractor to proceed with or complete the works in the time or manner stipulated

b) Contractor's bankruptcy

c) Failure of Contractor to commence the work

d) Failure of Contractor to regularly proceed with the work for a certain fixed period

e) Failure of Contractor to proceed to the satisfaction of the Employer or the Architect/Employer

f) Failure of Contractor to proceed with the work for any reason independent of prevention by Employer

g) If in the Architect/Employer's opinion, the Contractor is not exercising due diligence and proceeding with such dispatch as will enable the works to be duly completed in time

h) Failure of Contractor in complying with the orders and directions given by the Architect/Employer

i) Failure of Contractor in complying with the Specification, stipulations, conditions or Drawings

j) The Contractor being guilty of any default in the fulfillment of the contract

k) The Contractor leaves the work unfinished

l) Failure of Contractor, after due notice, to rectify defective work

m) The Contractor renouncing materials from site and

n) Failure of Contractor to maintain the works

39. **Work by Other Agencies**

The Employer / Architect reserves the right to use premises and any portions of the site for the execution of any work not included in this contract which it may desire to have carried out by other persons simultaneously, and the Contractor shall allow all reasonable facilities for the execution of such work, but shall not be required to provide any plant or

material for the execution of such work except by special arrangement with the Employer. Such work shall be carried out in such manner as not to impede the progress of the works included in the Contract and the Contractor shall not be responsible for any damage or delay which may happen to or occasioned by such work.

## 40. Insurance Policies

### 40.1. On commencement for the work:-

a) The contractor shall take out a suitable C.A.R. Insurance policy covering entire scope of the works under this contract for the value of work as per contract tender conditions and arrange to keep the policy valid till issue of virtual completion certificate/ handing over of the project.

b) The contractor shall take out and submit to the Architect / Employer, a suitable insurance policy against third party risks. The limit of liability of this insurance shall be limited to Rs. 5 Lac in respect of any one accident or series of accidents arising out of one event or Rs.5 Lac in respect of any passer-by. The policy shall be kept valid, issue of virtual completion certificate/ handing over of the project.

c) The contractor shall take out and submit to Employer a suitable Insurance Policy against Workmen's compensation / Janata Policy as per requirements. The policy shall be kept valid till issue of virtual completion certificate/ handing over of the project.

**d)** Necessary PF & ESI contribution of contractor's labourers will have to be paid by contractor as per statutory authority's regulations and Employer shall be absolved of all the risk.

### 40.2 Against third party risks :-

On commencement of the work, the contractor shall take out and submit to the Employer a suitable insurance policy against third party risks. The limits of liability of this insurance shall be as follows:

Rs. 5 Lacs in respect of any one accident or series of accidents arising out of one event. Contractor shall take out third party insurance for 3 no. of such accidents and repetition of the same after three occurrence including visitors like Local Authority, Vendors etc.

### 40.3 In Respect of Damage to Person and Property :-

In addition to the above, from Commencement to Completion, the Contractor shall be responsible for all injury to persons, animal or things and for all structural and decorative damage to property which may arise from operation or neglect of himself or any subcontractor or of any of his or a sub-contractor's employee whether such injury or damage may arise from carelessness, accident or any other cause whether in any way

connected with the carrying out of this contract. This clause shall be held to include interalia any damage to building, whether immediately adjacent or otherwise, any damages to roads, streets, footpaths, bridges, or ways as well as all damage to the buildings and works forming the subject of this contract by first or other inclemency weather. The contractor shall indemnify the Employer and hold him harmless in respect of all and

Any expenses arising from any such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of any award of compensation or damages consequent upon such claim.

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

**CONTRACTOR'S LIABILITY AND INSURANCE SUMMARY**

| Sr. No | Nature and Scope of Risk | Value of Insurance | Validity Period of Insurance | Name of the Insurer | Insurance Policy No. and |
|---|---|---|---|---|---|
| 1. | Loss of damage to works or any part thereof and all materials at site from any cause whatsoever.<br>**CAR Policy** | 100 % of Contract Amount | The policy shall be valid till issue of virtual completion certificate. | The policy shall be in the joint names of the Employer / Bank | |
| 2. | Damage, Loss or Injury to any Property of the Employer or Consultant to any person including the Employer or Consultant for his Agents and Servants. | Rs. 5 Lacs per claim upto 3 claims | - DO - | - DO - | |
| 3. | Claims under the Workmen's Compensation Act, 1923 | As per Govt. Rules | - DO - | - DO - | |
| 4. | Third party insurance | Rs. 5 Lacs in respect of any one accident or series of accidents arising out of one event. | - DO - | - DO - | |

| | | | | | |
|---|---|---|---|---|---|
| | | Contractor shall take out third party insurance for 3 no. of such accidents and repetition of the same after three occurrence including visitors like Local Authority, Vendors etc. | | | |

In addition to the above, the Contractor is responsible and liable as per Clause 41.3.

**41.** (i) **Rate of Progress**

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

(ii) **Work during Night or on Holidays**

Subject to any provision to the contrary contained in the Contract none of the permanent work shall save as herein provided be carried on during the night or on Holidays without the permission in writing of the Architect/Employer, save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works in which case the Contractor shall immediately advise the Architect/Employer. Provided always that the provisions of this clause shall not be applicable in the case of any work, which becomes essential to carry out by rotary or double shifts in order to achieve the progress & quality of the part of the works being technically required / continued with the prior approval of the Architect/Employer.

All work at night shall be carried out without unreasonable noise and disturbance and with the approval of the Architect/Employer and in addition that of the local authority, if so applicable. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the work and from and against all claims, demands, proceedings, costs, charges and expenses whatsoever in regard or in relation to such liability.

## 42. Suspension of Work

The Contractor shall on the written order of the Architect/Employer in Consultation with EIC suspend the progress of the Works or any part thereof for such time or times and in such manner as the Architect/Employer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Architect/Employer. The extra cost including all running wages to be paid on the Site, salaries, depreciation and maintenance of plant, Site on costs & overhead costs of the Contract relatable to the works done or incurred by the Contractor in giving effect to the Architect/Employer's instructions under this Clause shall, be borne and paid by the Employer. However, the same will not be payable if the such suspension is :

(a) otherwise provided for in the Contract

OR

(b) necessary by reason of inclement weather conditions affecting adversely the safety or quality of the Works.

OR

(c) necessary by reason of some default on the part of the contractor

Provided that the Contractor shall not be entitled to recover any such extra cost unless he gives notice in writing of his intention to claim to the Architect/Employer within 28 days of the Architect/Employer's order. The Architect/Employer shall settle and determine such extra payment and / or extension of time under relevant Clause hereof to be made to the Contractor in respect of such claim as shall in the opinion of the Architect/Employer be fair and reasonable and the Architect/Employer's decision shall be final and binding.

## 43. Settlement of Disputes and Differences

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

**i)** If the contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Employer **or**

ii) in case the contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the contractor shall forthwith give notice in writing of his claim, or dispute to the **Chief**

**Manager -Facilities Management, Baroda Corporate Centre** and endorse a copy of the same to the Architect, within 30 days from the date Of disallowance thereof or the date of deduction or recovery. the said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the contractor unless notice of such claim shall have been given by the contractor to the **Chief Manager -Facilities Management, Baroda Corporate Centre** in the manner and within the time as aforesaid. The contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the **Chief Manager -Facilities Management,** in writing in the manner and within the time as aforesaid.

iii) **Chief Manager / Asst. General Manager, Bank of Baroda** shall give his decision in writing on the claims notified by the contractor. The contractor may within 30 days of the receipt of the decision of **Chief Manager -Facilities Management, Baroda Corporate Centre** submit his claims to the conciliating authority namely the **General Manager & Head, Facilities Management, Baroda Corporate Centre** for conciliation along with all details and copies of correspondence exchanged between him and the **Chief Manager.**

44. **Arbitration**

If the conciliation proceedings are terminated without settlement of the disputes, the contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned **General Manager & Head, Facilities Management, Baroda Corporate Centre** for appointment of an Arbitrator to adjudicate the notified claims failing which the claims of the contractor shall be deemed to have been considered absolutely barred and waived.

Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the sole Arbitrator appointed by the **General Manager & Head, Facilities Management, Baroda Corporate Centre.** It will also be no objection to any such appointment that the Arbitrator so appointed is a Bank office and that he had to deal with matter to which the contract relates in the course of his duties as Bank officer. If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole Arbitrator shall be appointed in the manner aforesaid by the said the **General Manager & Head, Facilities Management, Baroda Corporate Centre.** Such person shall be entitled to proceed with the reference from the stage be entitled to proceed with the reference from the stage at which it was left by his Predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amount claimed in respect of each dispute along with the notice for appointment of arbitrator. It is also a term of this contract that no person other than a person appointed

by such the **General Manager & Head, Facilities Management, Baroda Corporate Centre** as aforesaid should act as Arbitrator. The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re - enactment thereof and the rules made there under. It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank officer. It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof, shall be paid and fix or settle the amount of costs to be so paid.

45. **Interference with Traffic and Adjoining Properties**

All operations necessary for the execution of the Works and for the construction of any Temporary Works shall so far as in compliance with the requirements of the Contract permits be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to use and occupation of public or private roads and footpaths or to or of properties whether in the possession of the Employer or of any other person and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expense whatsoever arising out of or in relation to any such matters in so far as the Contractor is responsible.

(i) **Special Loads**

Should it be found necessary for the Contractor to move one or more loads of Constructional Plant Machinery or pre-constructed units or parts of units of work over part of a highway or bridge the moving whereof is likely to damage any highway or bridge unless special protection or strengthening is carried out then the Contractor shall adopt proper & adequate measures and shall be responsible for all the costs and consequences thereof.

46. **Contractor to Keep Site Clear**

During the progress of the works the Contractor shall keep the site reasonably free from all unnecessary obstruction and shall store or dispose of any constructional plant and surplus materials and clear away and remove from the site any wreckage, rubbish or temporary works which are no longer required.

47 . **Clearance of Site on Completion**

On the 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 works clean and in a workmanlike condition to the full satisfaction of the Architect/Employer / local authorities not later than 30 days from the virtual completion of the works or by such other later date as fixed by the Architect/Employer.

48 **Incorporation of Clause in Sub-Contracts**

Sub-contracting or back to back contracting not allowed. The Contractor shall when entering into any sub-contract for the execution of any specialized work incorporate in such sub-contract by reference or otherwise the provisions of this Clause in relation to Constructional Plant, Temporary Works and Materials, Essential Hired Plant and Hire Purchase Plant brought on to the site by the Specialist Agency.

49. **Labour Laws**

49.1 The Contractor shall at all times during the continuance of the Contract, comply fully with all existing Acts, regulations and bylaws including all statutory amendments and re-enactment of State or Central Government and other local authorities and any other enactments, notifications and acts that may be passed in future either by the State or the Central Government or local authority, including Indian Workmen's Compensation Act. Contract Labour (Regulation and Abolition) Act 1970 and Equal Remuneration Act 1976, Factories Act, Minimum Wages Act, Provident Fund Regulations, Employees Provident Fund Act, schemes made under the same Act and also Labour Regulations as revised Health and Sanitary Arrangement for Workmen, Insurance and other benefits and shall keep Employer indemnified in case any action is commenced by competent authorities for contravention by the Contractor. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated henceforth on the part of the Contractor, the Interior Designer / Employer shall have the right to deduct from any money due to the Contractor, his amount of Performance Security or recover from the Contractor personally any sum required or estimated to be required for making good the loss or damage suffered by the Employer, responsibility in connection with the employees of the contractor, who shall, in no case, be treated as the employees of the Employer at any point of time.

**49.2 Fair Wages:**

The Contractor shall pay the labourers engaged by him on the work not less than fair wage which expression shall mean, whether for time of piecework, the respective rates of wages fixed by the local authorities as fair wages for the area payable to the different categories of labourers or those notified under the Minimum Wages Act for corresponding employees of the Employer, whichever may be higher.

49.3 The Contractor shall, notwithstanding the provisions of a contract to the contrary, cause to be paid a fair wage to labourers indirectly engaged on the Works, including any labour engaged by sub/contractors in connection with the said works as if the labourers had been directly employed by him.

49.4 **Notices:**

The Contractor shall before he commences the work, display, and correctly maintain in a clean and legible condition at a conspicuous place on the Site, notices in English and in a language spoken by the majority of the workers, stating therein the rate of wages which have been fixed as fair wages and the hours of work for which such wages are earned and send a copy of such notices to the Architect.

**49.5 Record of wages etc.**

The contractor shall maintain records of wages and other remuneration paid to his employees in such form as may be convenient and as per the requirements of the Employer/Architect and the Conciliation Officer (central), Ministry of Labour Government of India, or such other authorized person appointed by the central or State Government and the same shall include the following particulars of each worker :

a. Name, worker's number and grade;
b. Rate of daily or monthly wage;
c. Nature of work on which employed;
d. Total number of days worked during each wage period;

e. Total, amount payable for the work during each wage period; All deductions made from the wage with details in each case of the ground for which the deduction is made;
f. Wage actually paid for each wage period.
g. The Contractor shall provide a Wage Slip for each worker, employed on the Works.
h. The Wage records and Wage Slips shall be preserved for at least 12 months after the last entry for Inspection of Wage Records.
i. The Contractor shall allow inspection of the aforesaid Wage Records and Wage Slips to the Architect/Employer and to any of his workers or to his agent at a convenient time and place after due notice is received, or to the Employer or any other person authorized by him on his behalf.
j. The Architect/Employer or any other person authorized by them on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the Fair Wages Clause. He shall also have the Power to investigate into any complaint regarding any default made by the Contractor or subcontractor in regard to such provision.
k. No party shall be represented by a legal practitioner in any investigation or inquiry under this Clause, unless Architect/Employer agree otherwise.

**50. Safety Code**

The Contractor shall comply with all the precautions as required for the safety of the workmen by the I.L.O. Convention No. 62 as far as they are applicable to the Contract. The Contractor shall provide all necessary safety appliances, gears like goggles, helmets, masks, etc. to the workmen and the staff.

**SCAFFOLDS**

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 of 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

ii. Scaffolding or staging more than 4m. above the ground floor, swung or suspended from an overhead support or erected with stationary 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 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.

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 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 1 m. Wherever there are open excavations in ground, they shall be fenced of 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 9m. in length while the width between side rails in rung ladder shall in no case, be less than 290mm. for ladder up to and including 3m. in length. For longer ladders this width shall be increased at least 20mm 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 Architect/Employer obtained prior to construction.

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.

**DEMOLITION**

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

b. 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.

c. 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 overloaded with debris or materials as to render it unsafe.

**PERSONAL SAFETY EQUIPMENTS**

i. All necessary personal safety equipment as considered adequate by the site Architect/Employer 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.

a) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

b) Those engaged in white washing and mixing or stacking of cement bags or any material which is injuries to the eyes shall be provided with protective goggles.

c) Those engaged in welding works shall be provided with welder's protective eye sight lids.

d) The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Wherever men above the age of 18 are employed on the work of such painting the following precautions should be taken:

e) No paint containing lead or lead products shall be used except in the form of paste or readymade paint. Paints like vinyl and epoxies having toxic

fumes should be applied after following all precautions laid down by manufacturers.

f) 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.

ii. 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.

iii. When the work is done near any public place where there is risk of drowning all necessary equipment 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.

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

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

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.

v. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting machine including any scaffolding which or give signals to operator.

vi. 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. In case of a hoisting machine having a variable 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.

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

viii. 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 reduce to the minimum of the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulated 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.

ix. 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 at or near places of work.

x. 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.

xi. 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, Architect/Employers of the Department or their representatives.

xii. Notwithstanding the above clause from (i) to (xviii), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

**First Aid:**

At every workplace, there shall be maintained in readily accessible place first aid appliances including an adequate supply of sterilized dressings and sterilized cotton wool as prescribed in the Factory Rules of the State in which the work is carried on. The appliances shall be kept in good order and, in large workplaces; they shall be placed

under the charge of a responsible person who shall be readily available during working hours.

**Accommodation for Labour:**

The Contractor shall during the progress of the Work provide, erect and maintain necessary temporary living accommodation and ancillary for labour at his own expenses.

**Payment of Wages**

a. Wages due to every worker shall be paid to him direct. All wages should by paid in current coins or currency or in both.

b. Wages of every worker employed on the Contract shall be paid where the wage period is one week, within THREE days from the end of the Wage period, and in any other case before the expiry of the 7th day or 10th day from the end of the wage period according as the number of workers does not exceed 1,000 or exceeds 1,000.

**NOTE:** The term "Working Day" means a day on which the work on which the labour is employed is in progress.

**Employment Card:**

The Contractor shall issue an employment card in the Form appended to these regulations to each worker on the day of work or entry into his employment. If a worker already has any such card with him issued by the previous employer, the Contractor shall merely endorse that Employment Card with relevant entries. On termination of employment, the Employment Card shall again be endorsed by the Contractor and returned to the worker.

**Register of Wages, etc.:**

i) A Register of Wages cum Muster Roll in the Form appended to these regulations shall be maintained and kept at the Work Site or as near to it as possible.

ii) A wage slip in the form appended to these regulations shall be issued to every worker employed by the Contractor at least a day prior to disbursement of wages.

**51. Force Majeure**

**Conditions of Force Majeure**

The terms “Force Majeure” as employed herein shall mean act of God, war, revolt, riot, fire, flood and Acts & Regulations of respective Governments of the two parties namely the Employer and the Contractor.

**Note : ‘Typhoon’, ‘Cyclones’, ‘Hurricanes’, ‘Tornado’ are covered under act of God.**

*In the event of either party being rendered unable by force majeure to perform any of obligations required to be performed by them under the Contract, the relative obligation of the party affected by such Force Majeure shall upon notification to the other party be suspended for the period of delay, which is directly caused by such Force Majeure event.*

Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing within (72) seventy two hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim.

Time for performance of the relative obligation suspended by the Force Majeure shall then stand extended by the period of delay, which is directly caused by Force Majeure event. The party who has given such notice shall be executed from timely performance of its obligations under the Contract, for so long as the relevant event of Force Majeure continues and to the extent that such parties performance is prevented, hindered or delayed, provided the party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its performance of the Contract and so to fulfill its obligations under the Contract.

If works to be executed by the Contractor are suspended by Force Majeure conditions lasting for more than (2) two months, the Employer shall have the option of cancelling or terminating this Contact in whole or part thereof at Employer's discretion. Upon such termination provisions of Clause 39 shall apply.

52. Delay or non-performance by a party hereto caused by the occurrence of any of Force Majeure shall not:

a) Constitute a default or breach of the Contract,

b) Give rise to any claim for damages or additional cost or expense occasioned there by: if such delay or non-performance is caused by the occurrence of any event of Force Majeure. Force Majeure conditions shall not be payable under any circumstances.

53. The Contractor must use only the forms displayed on the bank's website to fill in the rates. (Any addition/ alteration in the text of the tender form made by the tenderer shall not be valid and would be liable of rejection).

54 The tender form must be filled in Hindi / English and all entries must be made by hand and written in ink. The rate and amount should be in figures and words. If any of the documents is missing or unsigned, the tender may be considered invalid by the Bank Representative in its discretion.

55 Rates should be quoted both in figures and in words in columns specified. All erasures and alterations made while filling the tender must be attested by initials of the bidder. Overwriting of figures is not permitted and failure to comply with either of these conditions will render the tender void at the Bank's option. No advice of any change in rate or conditions after the opening of the tender will be entertained.

56 Each of the Tender documents should be signed by the person or persons submitting the tender in token of his/their having acquainted himself/themselves with the General Conditions of Contract, General Specifications, Special Conditions etc., as laid down. Any tender with any of the documents not so signed will be rejected.

57 The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract. Otherwise the tender may be rejected by the Bank.

58. The Bank does not bind itself to accept the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part, without assigning any reasons for doing so.

59 The Contractor shall not, without the written consent of the Bank assign this Contract, and shall not without the written consent of the Bank (which consent shall not be unreasonably withheld to the prejudice of the Contractor) sublet any portion of the work.
Bank may serve a notice in writing on the Contractor rescinding the contract, whereupon the security deposit shall stand forfeited to the Employer, without prejudice to his/other remedies against the Contractor.

60 The Contractor shall carry out all the work strictly in accordance with drawings, details and instructions of Bank's Architect & Engineer. If in the opinion of the Bank Representative, changes have to be made in the design and with the prior approval in writing of the Bank's Representative, they desire the Contractor to carry out the same, the Contractor shall carry out the same without any extra charge.

61 A schedule of Probable Quantities in respect of each work and Specifications accompany these Special Conditions. The Schedule of Probable Quantities is liable to alterations by omissions, deductions or additions at the discretion of the Bank. Each tender should contain not only the rates but also the value of each item of work entered in a separate column and all the amounts quoted against various items should be totaled in order to show the aggregate value of the entire tender.

62 The bidder must obtain for himself on his own responsibility and at his own expense all the information which may be necessary for the purpose of making a tender and for entering into a contract and must examine the Drawings, inspect the site of the work, acquaint himself with all local conditions, means of access of the work, nature of the work and all matters pertaining thereof.

63 The rates quoted in the tender shall include all charges for clearing of site before commencement as well as after completion, water, electric consumption, meters, double scaffolding, centering, boxing, staging, planking, timbering and pumping out water including bailing, fencing, hoarding, plant and equipment, storage sheds, watching and lighting, by night as well as day including Sundays and Holidays, temporary plumbing and electric supply, protection of the public and safety of adjacent roads, streets. The rates quoted shall be deemed to be for the finished work to be measured at site. The rates shall also be firm and shall not be subject to exchange variations, Labour conditions, fluctuations in railway freights or any conditions whatsoever.

64 The Contractor should note that unless otherwise stated the tender is strictly on item rate basis and his attention is drawn to the fact that rates for each and every item should be correct, workable and self supporting. The quantities in the Schedule of Quantities approximately indicate the total extent of work but may vary to any extent and may even be omitted thus altering the aggregate value of the Contract.

65. Time allowed for carrying out the work as mentioned in the tender document shall be strictly observed by the successful bidder and it shall be reckoned from the seventh day after written order to commence the work is issued.

66 The Contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the cause of delays may be, including delays arising out of modification to the work entrusted to him.

67 The successful tenderer is bound to carry out any or all items of work necessary for the completion of the job even though such items are not included in the quantities and rates. Schedule of instructions in respect of such additional items and their quantities will be issued in writing by Bank.

68 The contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications made by the Bank and also in compliance of the requirements of the local public authorities and no deviation on any account will be permitted.

69 The bidder shall have to use materials of the makes/manufacturers specified in the list of material approved brand and/or manufacture contained in this tender form.

70 The contractor shall strictly comply with the provision of safety code annexed hereto.

71 I.S. Code numbers wherever mentioned in the tender shall be the latest version of I.S. codes as on the date of opening of Tenders.

72 **CONTRACTOR TO INFORM HIMSELF FULLY:**

The contractor shall be deemed to have carefully examined the work and sited conditions including Labour, the general and special conditions, the specifications, schedules and drawings and shall be deemed to have visited the site of work, to have fully informed himself regarding the local conditions and carried out his own investigations to arrive at the rates quoted in the tender. In this regard he will be given necessary information available with the department but without any guarantee about its accuracy.

If the contractor shall have any doubt as to the meaning of any portion of the general conditions, or the special conditions or the scope of the work or the specifications and drawings or any other matter concerning the contract he shall in good time, before submitting his tender, put forth the particulars thereof and submit them to the Bank, Mumbai in writing in order that such doubts may be clarified authoritatively in writing before tendering. Once a tender is submitted the matter will be decided according to

tender conditions in the absence of such authentic pre-clarification.

I/We hereby declare that I/We have read and understood the above instructions for the guidance of tenderers.

**Witness Signature ……** **Contractor's Signature……**

**Addresses……** **Address……..**

**……** **……**

**Date……** **Date……**

## SECTION VIII

## Special Condition of Contract

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| Materials & workmanship to confirm to description | All materials and workmanship shall so far as procurable be of the respective kinds described in the Schedule of Quantities and/or Specifications and in accordance with the Bank's instructions, and the Contractor shall upon the request of the Bank furnish it with all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and/or carry out any test of any materials which the Bank may require as per the testing schedule of tender. |
| Contractor's superintendence and representative on the works. | The Contractor shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Bank may consider necessary until the expiry of the "Defects Liability Period" stated in the Appendix hereto. |
| Dismissal of workmen. | The Contractor shall on the request of the Bank immediately dismiss from the works any person employed thereon by him who may, in the opinion of the Bank be incompetent or misconduct himself and such persons shall not be again employed on the works without the permission of the Bank. |
| Access to works | The Employer, their respective representatives shall at all reasonable times have free access to the work and/ or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall give every facility to the Employer. |
| Schedule of Quantities. | The Schedule of Quantities, unless otherwise stated shall be deemed to have been prepared in accordance with the Standard Method of Measurement. |
| Sufficiency of Schedule of quantities | The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices stated in the Schedule of Quantities, and/or the Schedule of Rates and Prices which rates and prices shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the works. |
| Measurement of works | The Bank may from time to time intimate to the Contractor and Employer that he requires the works to be measured, and the Contractor shall forthwith attend or send a qualified Agent to assist the Bank.<br><br>The Contractor Should not attend or neglect or omit to send such Agent then the measurement taken by the Bank shall be taken to be correct measurements of the works. Such measurements shall be taken in |

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| | accordance with the Mode of Measurements detailed in the Specifications.<br><br>The Contractor or his Agency may at the time of measurement take such notes and measurements as he may require. |
| Unfixed materials when taken into account to be the property of the Employer. | Where in any Certificate (of which the Contractor has received payment), the Bank has included the value of any unfixed materials intended for and/or placed on or adjacent to the works such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Bank. The Contractor shall be liable for any loss of or damage to, such materials. |
| Defects after virtual completion. | Any defect, shrinkage, settlement or other faults which may appear within the "Defects Liability Period" stated in the Appendix hereto or, if none stated, then within twelve months after the virtual completion of the works, arising in the opinion of the Bank from materials or workmanship not in accordance with the contract, shall upon the directions in writing of the Bank, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his own cost and in case of default the Employer may employ and pay other persons to amend and make good such defects, shrinkage, settlement or other faults, and all damages loss and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damage, loss and expenses shall be recoverable from him by the Employer. |
| Certificate of virtual completion & defects liability period. | The works shall not be considered as completed until the Bank has certified in writing that they have been virtually completed. The Defects Liability Period shall commence from the date of such Certificate. |
| Other persons employed by Employer. | The Employer reserves the right to use premises and any portions of the site for the execution of any work not included in this Contract which it may be desire to have carried out by other persons, and the contractor shall allow all reasonable facilities for the execution of such work, but shall not be required to provide any plant or material for the execution of such work except by special arrangement with the Employer. Such work shall be carried out in such manner as not to impede the progress of the works included in the Contract and the Contractor shall not be responsible for any damage or delay which may happen to or occasioned by such work. |
| Insurance in respect | The Contractor shall be responsible for all injury or damage to persons, |

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| to damages to persons and property. | animals or things and for all damage to property which may arise from any factor omission on the part of the Contractor or any Sub-Contractor or any nominated Sub-Contractor or any of their employees. The liability under this clause shall cover also, interalia any damages to structures, whether immediately adjacent to the works or otherwise; any damage to roads, streets, footpaths, bridges as well as damage caused to the building and other structures and works forming the subject matter of this contract. The contractor shall also be responsible for any damage caused to the buildings and other structures and works forming the subject, matter of this contract due to rain, wind, frost or other inclemency of weather. The contractor shall, indemnify and keep indemnified the employer and hold him harmless in respect of all and any loss and expenses arising from any such injury or damage to persons or property as aforesaid and also against any claim made in respect of injury or damage, whether under any statute or otherwise and also in respect of any award or compensation or damage consequent upon such claims. The Contractor shall, at his own expense, effect and maintain till issue of the virtual completion certificate under this contract, with an insurance company approved by the Employer, an All Risk Policy for Insurance for the full amount of the contract in the joint names of the employer and the contractor (the name of the former being placed first in the policy) against all risk as per the standard all risk policy for contractors and deposit such policy or policies with the employer before commencing the works. |
| | The Contractor shall reinstate all damage of every sort mentioned in this clause so as to do delivery of the whole of the works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to property or third parties. |
| | The Contractor shall also indemnify and keep indemnified the Employer against all claims which may be made against the Employer by any person in respect of anything which may arise in respect of the works or in consequence thereof and shall at his own expense, effect and maintain until the virtual completion of the contract, with an Insurance Company approved by the employer a policy of Insurance in the joint names of the Employer and the Contractor (name of the former being placed first in the policy) against such risk and deposit such policy or policies before commencement of the works.<br><br>The minimum limit of the coverage under the policy shall be Rs.2 Lacs per person for any one accident or occurrence and Rs.5 Lacs in respect of damage to property for any one accident or occurrence. The contractor shall also indemnify the employer against all claim which may be made upon the Employer, whether under the Workmen's Compensation Act or any other statute in force, during the currency of this contract or at Common Law in respect of any employee of the |

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| | contractor or of Sub-Contractor and shall be at his own expense effect and maintain until the virtual completion of the contract, or with an Insurance Company, approved by the Employer, a policy of insurance against such risks and deposit such policy or policies with the Employer from time to time during the currency of this contract. |
| | In default of the contractor insuring as provided above, the employer may so insure and may deduct the premiums paid from any moneys due or which may become due to the contractor. |
| | The contractor shall be responsible for any liability which may not be covered by the Insurance Policies referred to above and also for all other damages to any person, animal or defective carrying out of this contract, whatever, may be the reasons due to which the damage shall have been caused. |
| | The contractor shall also indemnify and keep Indemnified the Employer against all and any costs, charges or expenses arising out of any claim or proceedings relating to the works and also in respect of any of damage or compensation arising there from. |
| | Without prejudice to the other rights of the employer against contractors in respect of such default, the employer shall be entitled to deduct from any sums payable to the contractor the amount of any damages, compensation costs, charges and other expenses paid by the employer and which are payable by the contractor under this clause. |
| | The Contractor shall upon settlement by the insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the money received from the Insurer in respect of such damage shall be paid to the Contractor and the contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged. |
| | The contractor, in case of re-building or reinstatement after damage shall be entitled to such extension of time for completion as the Bank deem fit, but shall, however, not be entitled to reimbursement by the employer of any shortfall or deficiency in the amount finally paid by the insurer in settlement of any claim arising as set out herein |
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| Date of commencement and completion. | The Contractor shall be allowed admittance to the site on the "Date of Commencement" stated in the Appendix hereto, or such later date as may be specified by the Bank and he shall thereupon and forthwith begin the works and shall regularly proceed with and complete the same (except such painting or other decorative work as the Bank may desire to delay) on or before the "Date of Completion" stated in the Appendix subject nevertheless to the provisions for extension of time hereinafter contained. |
| Damage for non-completion | If the Contractor fails to complete the works by the date stated in the Appendix or within any extended time reasonably to have been completed the Contractor shall pay the Employer the sum named in the work order as "Liquidated Damages" for the period during which the said work shall so remain incomplete and the employer may deduct such damage from any moneys due to Contractor. |
| Delay and extension of time. | If in the opinion of the Bank the works be delayed (a) by force majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractor's own default or (d) by the works or delays of other Contractors or Tradesmen engaged or nominated by the Employer or the Bank and not referred to in the Schedule of Quantities and/or Specification or (e) by reason of Bank's instructions as per Clause 2 hereof or (f) by reason of civil commotion, local combination of workmen or strike or lockout affecting any of the building trades or (g) in consequences of the Contractor not having received in due time necessary instructions from the Bank for which he shall have specifically applied in writing or (h) from other causes which the Bank may certify as beyond the control of contractor or (i) in the event, the value of work exceed the value of the priced schedule of quantities owing to variations the Bank may with previous approval in writing make fair and reasonable extension of time for completion of the Contract Works. In case of such strike or lockout the Contractor shall immediately give written notice thereof to the Bank but the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of the Bank to proceed with work. |
| | If the Contractor needs an extension of time for the completion of the work or if the completion of work gets delayed for any reason beyond due date of completion stipulated in the contract, the Contractor shall apply to the Employer for extension of time in writing at least 7 days before the expiry of the scheduled time and while applying for extension of time Contractor shall furnish the reasons in detail and his justification, if any, for delays. Only that period of extension of time as granted by the Employer (on receipt of the application from the contractor or even in absence of any such application) will qualify for exemption of imposition |

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| | of liquidated damages. |
| | Further, the contract shall remain in force even for the period beyond the due date of completion irrespective whether the Contractor has applied or not, for the grant of extension of time for completion unless the Employer decides to terminate the contract. The delay for completion of work for any reason will not entail any right to the contractor to claim any revision of rates or any extra compensation for any reason. |
| Termination of contract by The Employer | If the Contractor being an individual or a firm commits any "act of insolvency", or shall be adjudged an insolvent or being an incorporated Company shall have an order for compulsory winding up made against it or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court and the Official Assignee or the Liquidator of such acts of insolvency or winding up, as the case may be, shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Bank that he is able to carry out and fulfill the Contract and to give security therefore, if so required by the Bank. |
| | Or if the Contractor (when and individual, firm or incorporated Company) shall suffer execution or other process of Court attaching property to be issued against the Contractor. |
| | Or shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the Contractor. |
| | Or shall assign or sublet this Contract without the consent in writing of the Employer first had and obtained. |
| | Or shall charge or encumber this Contract or any payments due or which may become due to the Contractor hereunder. |
| Certificates and payments | The Contractor shall be paid by the Employer from time to time by installments under Interim Certificates to be issued by the Bank to the Contractor on account of the works executed when in the opinion of the Bank, found complete. |
| Settlements of disputes try arbitration. | All disputes and differences of any kind whatever arising out of or in connection with the contract or the carrying out of the works (whether during the progress of the works or within 12 months from the date of virtual completion of the work and whether before or within 12 months of determination abandonment or breach of the contract) shall be referred to giving inter-alia full details of the matter under dispute like quantities, rates, amount claimed and the reason thereto and settled by the Bank. |
| | The Arbitrator shall have power to open up, review and revise any Certificate, opinion, decision requisition or notice, save in regard to the excepted matters, referred to in the preceding Clause and to determine |

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| | all matters in dispute which shall be submitted to arbitration and of which notice shall have been given as aforesaid. |
| | The Arbitrator shall make his award within one year (or such further extended time as may be decided by him or them as the case may be with the consent of the parties) from the date of entering on the reference. In case during the arbitration proceedings the parties mutually settle, compromise or compound their dispute or difference, the reference to arbitration, the reference to arbitration and the appointment of the Arbitrator shall be deemed to have been revoked and the arbitration proceedings shall stand withdrawn or terminated, with effect from the date on which the parties file a joint memorandum of settlement thereof; with the Arbitrator or the Arbitrators as the case may be. |
| | The submission shall be deemed to be a submission to arbitration within the meaning of the Indian Arbitration Act, 1996 or any statutory modification thereof. |
| | It is agreed that the Contractor shall not delay the carrying out of the works by reason of any such matter, question or dispute being referred to arbitration, but shall proceed with the works with all due diligence and shall, until the decision of the Arbitrator or Arbitrators as the case may be, is given. |
| Right of Technical Scrutiny of Final Bill. | The Employer shall have a right to cause a technical examination of the works by any of the persons or organization as appointed by the employer and the final bill of the Contractor including all supporting vouchers, abstracts, etc. If as a result of this examination or otherwise any sum is found to have been overpaid or over certified it shall be lawful for the Employer to recover the sum from any payment due to the Contractor for this works or any other works being carried out by the contractors elsewhere under the BANK OF BARODA. |
| Employer entitled to recover compensation paid to workmen. | If, for any reason, the Employer is obliged, by virtue of the provisions of the Workmen's Compensation Act, 1923, or any statutory modification or re-enactment thereof to pay compensation to a workman employed by the Contractor in execution of the works, the Employer shall be entitled to recover from the Contractor the amount of compensation so paid, and without prejudice to the rights of the Employer under the said Act. The Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Employer to the Contractor under this contract or otherwise. The Employer shall not be bound to contest any claim made against it under the said Act, except on the written request of the contractor and upon his giving to the Employer full security to the satisfaction of the Employer for all costs for which the Employer might become liable in consequence of contesting such claim. |

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| Return of surplus materials | Notwithstanding anything to the contrary contained in any or all the clause of this Contract, where any material for the execution of the Contract is procured with the assistance of the Employer by purchases made under orders or permits or licenses issued by Government, the Contractor shall held the said materials economically and solely for the purpose of the Contract and not dispose of them without the prior written permission of the Employer and return it to the Employer, if required by the Employer, at the mutually agreed price. Price is inclusive of sales tax, octroi and other such levies paid by Contractor in respect thereof. In the event of breach of the aforesaid condition, the Contract shall, in addition to being liable to action for contravention of the terms of licenses or permit and or criminal breach of trust, be liable to Employer for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. |
| Right of Employer to terminate contract in the event of death of contractor if individual. | Without prejudice to any of the rights or remedies under this contract, it the Contractor, being an individual, dies, the Employer shall have the option of termination the contract without incurring any liability for such termination. |

# SECTION IX

## INTEGRITY PACT ( IP )

### MODEL PRE-CONTRACT INTEGRITY PACT

**General**

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on _____ day of _____ Month,

20____, between, on one hand, Bank of Baroda, a body corporate constituted under the Banking Companies (Acquisitions and Transfer of Undertakings) Act, 1970 having its head office at Mandvi Baroda, and its corporate office at Baroda Corporate Centre, C-26, G-Block, Bandra Kurla Complex, Bandra East, Mumbai-400051 (hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s _____ represented by Shri _____, Chief Executive Officer (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item/Services) and the BIDDER/Seller is willing to offer/has offered the said stores/equipment/item/services and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Public Sector Undertaking performing its functions on behalf of the President of India.

NOW, THEREFORE, To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

**1. Independent Monitors**

1.1 Shri Harishwar Dayal has been appointed Independent External Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission. The name and e-mail address of the IEM is as follows:

Name: Shri Harishwar Dayal
E-mail: dayalagra@gmail.com

1.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

1.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

1.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

1.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.

1.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.

1.7 The BUYER 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 parties. The parties will offer to the Monitor the option to participate in such meetings.

1.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of reference or intimation to him by the BUYER I BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

**2. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

**3. Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

**4. Other Legal Actions**

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

**5. Validity**

The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

5.1 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

**6. The parties hereby sign this Integrity Pact at _____ on _____**

| BUYER | BIDDER |
|---|---|
| Name of the Officer: | Chief Executive Officer |
| Designation: | Department: |
| Witness | Witness |
| 1. _____ | 1. _____ |
| 2. _____ | 2. _____ |

# SECTION -X

## PROFORMAS & ANNEXURES

**PROFORMAS & ANNEXURES**

**ANNEXURE – A NOTICE OF COMMENCEMENT / COMPLETION OF CONTRACT WORK**

**ANNEXURE – B FORTNIGHTLY PROGRESS REPORT**

**ANNEXURE – C RECEIPT & CONSUMPTION OF MATERIALS AT SITE**

**ANNEXURE – D MEASUREMENT BOOK (Interior Decoration WORK)**

**ANNEXURE – E RUNNING A/C BILL**

**ANNEXURE – F R. A. BILL CERTIFICATE**

**ANNEXURE – G PROFORMA OF UNDERTAKING IN CONNECTION WITH PAY MENTS OF ADVANCE ON MATERIALS BROUGHT BY THE CON TRACTORS TO THE SITE**

**ANNEXURE – H CERTIFICATE OF PAYMENT BY THE ARCHITECT**

**ANNEXURE – I HINDRANCE REGISTER**

**ANNEXURE – J EXTENSION OF TIME LIMIT**

**ANNEXURE K - PERFORMANCE BANK GUARANTEE**

**BARODA CORPORATE CENTRE ,BANK OF BARODA,BKC,MUMBAI-51**

## PROFORMA & ANNEXURES

### ANNEXURE – A

**PROFORMA OF NOTICE OF COMMENCEMENT / COMPLETION OF CONTRACT WORK**

1. Name and principle employer & address

2. No. and date of certificate of registration

3. I / we hereby intimate that the contract work _____ (Name of work) given to _____ (Name and address of the Contractor) having License No. _____ dated _____ has commenced / has been completed with effect from _____ (date ) / on _____ (date).

Signature of the Principle

Employer

The Inspector,

_____

_____

_____

## PROFORMA & ANNEXURES

### ANNEXURE – B

### PROFORMA OF MONTHLY PROGRESS REPORT

Name of work
Progress report for the month
Report No.

| Sr. No. | Description | Details of location where works is done | Approximate quantity executed |
|---|---|---|---|
| | | | |
| | | | |

A. **GENERAL FURNISHING WORK**

1. Overall progress
2. Carpentry work, Partitions (half & full), Storage
3. Carpentry work for Meeting Rooms, Storages
4. False ceiling/Flooring/Wall Cladding
5. Loose furniture, Tables in cabins etc.

| Sr. No. | Description of work | Date of Commencement | Due date of Completion | Percentage Progress Achieved |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

## PROFORMA & ANNEXURES

### ANNEXURE - C

### RECEIPT & CONSUMPTION OF MATERIALS AT SITE

| Sr. No. | Description | Opening Balance | Receipt during month | Consumption during month | Closing balance | Total quantity received till date |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## PROFORMA & ANNEXURES

### ANNEXURE – D

**MEASUREMENT BOOK (Interior Decoration Work)**

| Item. No. | Description | Measurements No. | | | Quantity |
|---|---|---|---|---|---|
| | | L | B | D/H | |
| | | | | | |
| | | | | | |
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## PROFORMA & ANNEXURES

### ANNEXURE – E

### I - RUNNING A/C BILL MEASUREMENTS

1. Name of Contractor / Agency

2. Name of work

3. Sr. No. of this bill

4. No. and date of previous bill

5. Reference to Agreement No.

6. Date of written order to commence

7. Date of completion as per agreement

| Sr. No. | Item Description | Unit | Rate (Rs.) | As per Tender |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| | | | | |

| Upto previous R/A. Bill | | Upto date (Cumulative) | | Present Bill | | Remarks |
|---|---|---|---|---|---|---|
| Qty. | Amount (Rs.) | Qty. | Amount (Rs.) | Qty. | Amount (Rs.) | |
| 6. | 7. | 8. | 9. | 10. | 11. | 12. |
| | | | | | | |

**Note:** 1) if part rate is allowed for any item, it should be indicated with reasons for allowing such a rate

2) if adoc payment is made, it should be mentioned specifically

_____

Net values since
Previous bill

## PROFORMA & ANNEXURES

### ANNEXURE – F

**R.A. BILL CERTIFICATE**

The measurements on the basis of which the above entries for the running bill no. : _____ were made have been taken jointly on_____ and are recorded at pages _____ to _____ of Measurement Book No. _____

Signature and date of Contractor

Signature and date of Architect/ Representative (seal)

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

Architect

Bank's Engineer

## PROFORMA & ANNEXURES

**ANNEXURE – G**

**PROFORMA OF UNDERTAKING IN CONNECTION WITH PAYMENTS OF ADVANCE ON MATERIALS BROUGHT BY THE CONTRACTORS TO THE SITE**

The undertaking made this _____ day of _____ 2021_____ between the Bank of Baroda _____ and having its _____ office at (hereinafter called the Employer) of the one part and _____ (hereinafter called the Contractors of the other part).

The Employer and the Contractors have entered into an Agreement dated _____ hereinafter called as the said agreement and in terms of clause no. _____ of the conditions in the agreement, the Employer has agreed that the Contractors will be paid an advance of 75 % of the cost of non-perishable building materials brought by the Contractor to the site for consumption in the works at the discretion of the Employer.

The Contractors have applied to the Employer that they be allowed advances on the security of materials absolutely belonging to them and brought by them to the site of work. The Employer has agreed to do so on the terms and hereinafter set out.

Not this Letter of Undertaking witnesses that in consideration of the said agreement and in consideration of the amount paid / payable to the Contractors by the Employer and / or any further advances as may be made to the Contractors as aforesaid, the Contractors hereby agree with the Employer and undertake as under:

i) The amount advanced by the Employer to the Contractors as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the Contractors in or towards expediting the execution of the said works and for no other purpose whatsoever.

ii) That the materials which have been offered to and accepted by the Employer as security are absolutely the Contractors own property and free from encumbrances of any kind and the Contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractors indemnify the Employer against all claims to any materials in respect of which an advance has been made to them as aforesaid.

iii) That the materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractors solely in the execution of the said works in accordance with the directions of _____ of the Employer and accordance with the terms of the said agreement.

iv) That the contractors shall take their own cost all the necessary and adequate arrangement for the proper watch, safe custody and protection against all risks of the site of the said works in the contractors custody and on their own responsibility and shall at all times be open to inspection to the Employer's Engineers or any Officer authorized by the

Employer. In the event of the materials or any part thereof being stolen, destroyed or damaged, the Contractors will further replace the same with other materials of like quality or repair and make good the same as required by the Employer.

v) That the said materials shall not on any account be removed from the site of the said works except with the written permission of the_____ of Bank of Baroda.

vi) That the advances shall be repayable in full when or before the Contractors receive payment from the Employer of the price payable to them for the said works under the terms and the provisions of the said agreement provided that if any intermediate payments are made to the Contractors on account of work done, then on occasion of each such payment, the Employer will be at liberty to make a recovery from the Contractors bill for such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amount of the advances made under these presents were calculated.

vii) That if the Contractors shall at any time make any default in the performances or observance in any respect of any of the terms and provisions of the said agreement or of these presents, the total amount of advance or advances that may still be owing to the Employer, shall immediately on the happening of such default be repayable by the Contractors to the Employer together with interest thereon at 12% per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs, charges, damages and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractors and the Contractors hereby covenant and agree with the Employer to repay and pay the same respectively to him accordingly.

viii) That the Contractors hereby charge all the said materials with the repayment to the Employer of the sum or sums advanced as aforesaid and all costs, charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment hereinabove contained shall become enforceable and the money owing shall not be paid in accordance therewith, the Employer may at any time thereafter adopt all or any of the following courses as he may deem best:

ix) Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractors in accordance with the provisions in that behalf contained in the said agreement debiting the Contractors with the actual cost of effecting such completion and the amount due in respect of advances under these presents and crediting the Contractors with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractors, they are bound to pay the same to the Employer on demand.

x) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale, retain all the sums aforesaid repayable or payable to the Employer under these presents and pay over the surplus (if any) to the Contractor.

xi) Deduct all or any part of the money owing out of the Security Deposits or any sum due to the Contractor under the said agreement.

xii) That except in the event of such default on the part of the Contractors as aforesaid, no interest shall be payable on the said advance.

xiii) That in the event on any conflict between the provisions of these presents and the said agreement, the provisions of these presents shah prevail and in the event of any dispute or difference arising over the construction of effect of these presents the settlement of which has not been herein before expressly provided for the same shall be referred to the Officer in charge, Premises Department , whose decision shall be final and no appeal shall lie against his decision before any court, arbitrator or authority.

xiv) The provision of this Undertaking shall be deemed to be supplemental to the said agreement.

IN WITNESS WHEREOF the Contractors have set their hands to these presents the day and year first hereinabove written.

Signed, sealed and delivered by the said Contractors in the presence of Witness:

Signature

Name

Address

## PROFORMA & ANNEXURES

### ANNEXURE – H

**PROFORMA OF CERTIFICATE OF PAYMENT BY the ARCHITECT**

| | | |
|---|---|---|
| **Certificate No. Interim** | **Dated** | |
| Client: | Project No. | Interior Refurbishment Work |
| | Particulars: | |
| Contractor: | Contract / Letter No. | Dated: |
| | Contract's Bill No. | Dated: |

This is to certify that the amount given below (*) is due to your contractors for the work done by them and / or against materials delivered at site and/or for advance towards contract on the above referred project.

Advance against contract:

Less: Advance adjusted to date

Balance Advance

Advance against material delivered at site

Amount of work done to date

Total

Less: Retention on work done

Less: Previously certified upto

Present Certificate (*)

Rupees _____

The cost of interior items or any other material supplied by you or payments made by you directly if any, and not covered herein above, should be adjusted before making the payment of the certified amount (*)

Necessary Deduction U/S 194C of the Income Tax 1961 and sales tax may be made before paying the above certified amount.

By a copy of this letter, we are intimating the contractors to call on you for the necessary payment. Remarks, if any

Details of insurance policy are enclosed .

Enclosures: Bill

Signature of the Architect

## PROFORMA & ANNEXURES

### ANNEXURE – I

### PROFORMA OF HINDRANCE REGISTER

Name of the work : Date of state of work:

Name of Contractor : Period of Completion:

Agreement No. : Date of completion:

| Sr. No. | Nature of Hindrance | Date of Occurrence of Hindrance | Date of which Hindrance was removed | Period of Hindrance | Signature of PMC | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | |

_

Architect :

## PROFORMA & ANNEXURES

**ANNEXURE – J**

**APPLICATION OF PROFORMA FOR EXTENSION OF TIME LIMIT**

1. Name of Contractor

2. Name of the work as given in the Agreement

3. Agreement No.

4. Estimated Tender Amount.

5. Date of Commencement of work as per Agreement.

6. Period allowed for Completion of work as per Agreement.

7. Date of Completion Stipulated in Agreement.

8. Period for which Extension of Time has been given previously:

   a) 1st Extension vide Architects / Bank letter no. dtd, month, days

   b) 2nd Extension vide Architects / Bank letter no. dtd, month, days

   c) 3rd Extension vide Architects / Bank letter no. dtd, month, days

   d) 4th Extension vide Architects / Bank letter no. dtd, month, days

9. Total Extension previously given.

   a) Reasons for which extensions have been given (copies of the previous application should be attached)

10. Period for which extension is applied for :

11. Hindrances on account of which extension is applied for with dates on Hindrances occurred and the period for which these are likely to last :

    a) Serial No.

    b) Nature Of Hindrance:

    c) Date of Occurrence:

    d) Period for which is likely to last :

    e) Period for which Extension required for this particulars Hindrance:

    f) Overlapping period if any , with to item (e) above

    g) Net extension applied for :

    h) Remarks if any

12. Extension of time required for extra work

13. Details of extra work and amount involved :

    a) Total value of extra work :

    b) Proportionate period of extension time on estimated amount put tender

14. Total extension time required for 11 & 12 :

Submitted to the Architect / Employer/Bank's Engineer Incharge

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Signature of contractor

Date:

**Annexure-K Performance Guarantee**

BANK GUARANTEE

(FORMAT OF PERFORMANCE BANK GUARANTEE)

To

General MANAGER-FM
Bank of Baroda
Baroda Corporate Center
Bandra Kurla Complex
Bandra (E), Mumbai 400 051

WHEREAS M/S …… (Name of Bidder) a Company registered under the Indian Companies Act, 1956 and having its Registered Office at , (Please provide complete address) (hereinafter referred to as "Bidder") was awarded a contract by Bank of Baroda (the Bank) vide their Purchase Order no. …… dated ……. (hereinafter referred to as "PO") for ……. …….

AND WHEREAS, in terms of the conditions as stipulated in the PO and the Request for Proposal document No. ……. Dated …….. for …… ……. (hereinafter referred to as "RFP"), the bidder is required to furnish a Performance Bank Guarantee issued by a Public Sector Bank in India in your favour for Rs……./- towards due performance of the contract in accordance with the specifications, terms and conditions of the purchase order and RFP document (which guarantee is hereinafter called as "BANK GUARANTEE").

AND WHEREAS the Bidder has approached us for providing the BANK GUARANTEE.

AND WHEREAS at the request of the Bidder, WE, ..……...……,a body corporate in terms of the Banking Companies Acquisition and Transfer of Undertakings Act,1970/1980 having it's ..... Office at …….…… and a branch inter alia at..... India have agreed to issue the BANK GUARANTEE.

THEREFORE, WE, (name of Bank and it's address) .....through our local office at ..... India furnish you the BANK GUARANTEE in manner hereinafter contained and agree with you as follows:

1. We ..... do hereby expressly, irrevocably and unconditionally undertake

to pay the amounts due and payable under this Guarantee without any demur, merely on demand from you and undertake to indemnify you and keep you indemnified from time to time and at all times to the extent of Rs. ……...../-(Rupees …….. only) against any loss or damage caused to or suffered by or that may be caused to or suffered by you on account of any breach or breaches on the part of the Bidder of any of the terms and conditions contained in the PO and RFP and in the event of the Bidder committing default or defaults in carrying out any of the work or discharging any obligation under the PO or RFP document or otherwise in the observance and performance of any of the terms and conditions relating thereto in accordance with the true intent and meaning thereof, we shall forthwith on demand pay to you such sum or sums not exceeding the sum of Rs.……/-.(Rupees …… …… only) as may be claimed by you on account of breach on the part of the Bidder of their obligations or default in terms of the PO and RFP.

2. Notwithstanding anything to the contrary contained herein or elsewhere, we agree that your decision as to whether the bidder has committed any such breach/ default or defaults and the amount or amounts to which you are entitled by reasons thereof will be binding on us and we shall not be entitled to ask you to establish your claim or claims under Bank Guarantee, but will pay the same forthwith on your demand without any protest or demur. Any such demand made by Bank of Baroda shall be conclusive as regards the amount due and payable by us to you.

3. This Bank Guarantee shall continue and hold good until it is released by you on the application by the Bidder after expiry of the relative guarantee period provided always that the guarantee shall in no event remain in force after ……..... (date) without prejudice to your claim or claims arisen and demanded from or otherwise notified to us in writing before the expiry of the said date which will be enforceable against us notwithstanding that the same is or are enforced after the said date.

4. You will have the fullest liberty without our consent and without affecting our liabilities under this Bank Guarantee from time to time to vary any of the terms and conditions of the PO and RFP or extend the time of performance of the contract or to postpone for any time or from time to time any of your rights or powers against the bidder and either to enforce or forbear to enforce any of the terms and conditions of the said PO and RFP and we shall not be released from our liability under Bank Guarantee by exercise of your liberty with reference to matters aforesaid or by reason of any time being given to the bidder or any other forbearance, act or omission on your part or any indulgence by you to the bidder or any other act, matter or things whatsoever which under law relating to sureties, would but for the provisions hereof have the effect of so releasing us from our liability hereunder provided always that nothing herein contained will enlarge our liability hereunder beyond the limit of Rs. ……/-( Rupees…… …… only) as aforesaid or extend the period of the guarantee beyond the said ..... (date) unless expressly agreed to by us in writing.

5. The Bank Guarantee shall not in any way be affected by your taking or giving up any securities from the bidder or any other person, firm or company on its behalf or by the winding up, dissolution, insolvency or death as the case may be of the bidder.

6. In order to give full effect to the guarantee herein contained, you shall be entitled to act as if we were your principal debtors in respect of all your claims against the bidder hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of surety ship and other rights, if any, which are in any way inconsistent with any of the provisions of Bank Guarantee.

7. Subject to the maximum limit of our liability as aforesaid, Bank Guarantee will cover all your claim or claims against the bidder from time to time arising out of or in relation to the PO and

RFP and in respect of which your claim in writing is lodged on us before expiry of Bank Guarantee.

8. Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax or registered post to our local address as aforesaid and if sent accordingly it shall be deemed to have been given when the same has been posted.
9. The Bank Guarantee and the powers and provisions herein contained are in addition to and not by way of limitation of or substitution for any other guarantee or guarantees hereto before given to you by us (whether jointly with others or alone) and now existing uncancelled and this Bank Guarantee is not intended to and shall not revoke or limit such guarantee or guarantees.
10. The Bank Guarantee shall not be affected by any change in the constitution of the bidder or us nor shall it be affected by any change in your constitution or by any amalgamation or absorption thereof or therewith but will ensure to the benefit of and be available to and be enforceable by the absorbing or amalgamated company or concern.
11. The Bank Guarantee shall come into force from the date of its execution and shall not be revoked by us any time during its currency without your previous consent in writing.
12. We further agree and undertake to pay you the amount demanded by you in writing irrespective of any dispute or controversy between you and the bidder in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payments so made by us shall be a valid discharge of our liability for payment here under and the bidder shall have no claim against us for making such payment.
13. Notwithstanding anything contained herein above;
    a. our liability under this Guarantee shall not exceed Rs. ……./- (Rupees ……only)
    b. this Bank Guarantee shall be valid and remain in force upto and including the date ..... and
    c. we are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before the expiry of this guarantee.
14. We have the power to issue this Bank Guarantee in your favour under the Memorandum and Articles of Association of our Bank and the undersigned has full power to execute this Bank Guarantee under the Power of Attorney issued by the Bank.

Dated this the …… day of …….., 20…..

For and on behalf of

Branch Manager

Seal and Address

**Annexure L - Bank Guarantee for early release of retention money**

BANK GUARANTEE

(FORMAT OF BANK GUARANTEE)

To

General Manager-FM
Bank of Baroda
Baroda Corporate Centre
BandraKurla Complex
Bandra (E), Mumbai 400 051

Dear Sir,

WHEREAS …..…… (Name of Bidder) a Company registered under the Indian Companies Act, 1956 and having its Registered Office at ……..., (Please provide complete address) (hereinafter referred to as "Bidder") was awarded a contract by Bank of Baroda (BOB) vide their Purchase Order no. …… dated …… (hereinafter referred to as "PO") for …… …….

<details of equipment that supplied to be filled in table>

and it has been agreed that a payment of Rs. ……/- (Rupees …… only) will be made to the bidder representing balance 10% of the consideration amount against the security of a Bank Guarantee from a Scheduled Commercial Bank.

2. Now this deed of guarantee witnesseth that in consideration of BOB agreeing to release a sum of Rs. ……/- (Rupees …… only)representing balance 10% of the consideration amount payable to the bidder in terms of, the said agreement, we ……. (Bank) having our head office at …… and amongst other places, a branch at …….. (hereinafter referred to as the guarantor) do hereby expressly, irrevocably and unreservedly agree and undertake that :

a) In the event of bidder committing breach of any of the undertakings or committing default in fulfilling any obligation arising out of said agreement, we …….…… (bank) shall on demand, pay BOB without any demur Rs. ……/- (Rupees …… only)and notwithstanding any right the bidder may have against BOB or any disputes raised by the bidder or any suit or proceedings pending in any competent Court of Law in India or otherwise or before any arbitrator, and BOB's written demand shall be conclusive evidence to us that such amount is payable by us under the said contract and shall be binding in all respects on the Guarantor.

3. The Guarantor shall not be discharged or released from the aforesaid undertaking and guarantee by any agreement, variations made between BOB and the bidder, indulgence shown to the bidder by BOB, with or without the consent and knowledge of the Guarantor or by any alterations in the obligations of the bidder by any forbearance whether as to payment, time performance or otherwise.

4. (a) This guarantee shall remain valid until (date which is 3 months after expiry of warranty period), or until discharged by BOB in writing.

(b) This guarantee shall be a continuing guarantee and shall not be revocable except with the previous written consent of BOB and save as aforesaid it will be in force until the bidder complies with its obligations hereunder.

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

5. In order to give effect to this guarantee, BOB will be entitled to act as if the guarantor were the principal debtor and the guarantor hereby waives all and any of its rights of suretyship.

6. This guarantee shall continue to be in force notwithstanding the discharge of the bidder by operation of law and shall cease only on payment of the full amount by the guarantor to BOB of the amount hereby secured.

7. This Guarantee shall be in addition to and not in substitution for any other guarantee or security for the bidder given or to be given to BOB in respect of the said contract.

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

9. These presents shall be governed by and construed in accordance with Indian Law. Notwithstanding anything contained herein:

a) Our liability under this Bank Guarantee shall not exceed Rs. ……/- (Rupees …… only)

b) This Bank Guarantee shall be valid up to (date which is 3 months after expiry of warranty period) and

c) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____ (three months after the date of expiry of the warranty).

d) The guarantor has under its constitution powers to give this guarantee and Shri. …… (signatories) Officials / Managers of the Bank who has/have signed this guarantee has/have powers to do so.

Dated this ..... day of..... 201 at .....

For and on behalf of..... (Bank).

Authorised Signatory ..... in favour of the Bank

Designation .....

## SECTION XI

## A. TECHNICAL SPECIFICATION FOR FURNITURE WORK

### SPECIFICATION OF MATERIALS

### HARDWARE METALS

The hardware throughout shall be approved manufacturer and supply well-made and equal in every respect to the samples to be deposited with the Consultant / Employer. The Contractor may, be required to produce samples from many different source before the Consultants / Employer takes a decision and he should allow, in his rates for doing so.

Fittings generally shall have satin chrome or anodized finish, unless otherwise specified and shall be suitable for their intended purpose as per Consultant / Employer's approval.

Screws are to match the finish of the articles to be filed, and to be round or flat-headed or counter sunk as required.

The Contractor should cover up and protect the Brass and Bronze surfaces with a thick grease or other suitable protective material, renewal as necessary and subsequently clean off and clear on completion.

Aluminum and stainless steel shall be of approved manufacturer and suitable for its particular application. Generally, the surface or aluminum shall have an anodized finish and both shall comply with the samples approved by the Consultant. All stainless steel sheets shall be 304 S.S. Japan or equivalent with gauge as specified but not less than 16 GL.

All steel, brass, bronze, aluminum & stainless steel articles, shall be subjected to a reasonable test for strength, if so required the Consultants at the Contractor's expense.

All brazing and welds are to be executed in a clean and smooth manner, rubbed down and left in the flattest and tidiest way particularly where exposed.

Chromium plating shall be in accordance with BS 1224 standard or as per approved specifications for normal outdoor condition shall be on & base material of copper or brass.

### GLAZIER

All glass to be of approved manufacture, complying with IS 3542-1966 as per approved quality and sample to be of the qualities specified and free from bubblers, smoke, wanes, air holes and other defects.

Polished plate glass shall be "Glazing Glass" (G.G.) quality that for mirrors shall be "silvering quality" (S.O.) conforming to IS-3438-1965 or as per approved sample and quality. The

compound for glazing to metal is to be a special non hardening compound manufactured for the purpose and of a brand and quality approved by the Consultant.

While cutting glass, proper allowances to be made for expansion, each square of glazing to be in one whole sheet. On completion of work, clean all glass inside and out, replace all cracked scratched and broken panes and leave in good condition.

**PAINT & POLISHES**

All material required for the works shall be of specified and approved manufacturer delivered to the site in the manufacturer containers with the seals etc. unbroken and clearly marked with the manufacturer's name or trade-mark and description of the contents and colour. All materials are to be stored on the site of the work.

Spray painting with approved machines will be permitted only if written approval has been obtained from the Consultant prior to painting. No spraying will be permitted in the case of priming neither coats nor where the soiling of adjacent surfaces is likely to occur. The nozzle and pressure to be so operated as to give an even shade. The paint used for spraying is to comply generally with the specification concerned and is to be specially prepared by the manufacturer for spraying. Thinning of ready mixed paint made for brushing will not be allowed.

Wood preservatives shall be Solingen or other equal and approved impregnating wood preservative and all concealed wood work shall be treated with wood preservative.

All brushes, tools, pots, kettles etc. used in carrying out the work shall be clean and free from foreign matter and are to be thoroughly cleaned out before being used on a different type of class of material.

All iron or steel surface shall be thoroughly scrapped and rubbed with wire brushes and shall be entirely free from rust will scale etc. before applying the priming coat.

Surfaces of the wood work which is to be painted are to be rubbed down and cleaned down to the approval of the Consultants.

Surfaces of previously painted wood work which are to be painted are cleaned down with soap and water, detergent solution or approved solvent to remove dirt, grease etc. whilst wet, the surface shall be flatted down with a suitable abrasive and then rinsed down and allowed to dry. Minor areas of defective paint shall be removed by scrapping back to a firm edge and exposed surface touched in with primer as described and topped with putty. Where wood work has been previously painted or polished and is to be newly polished, scraping, burning off or rubbing down of the surface shall be satisfactorily done. Surfaces of previously painted metal which is to be painted are to be cleaned down and flatted wood work. Minor areas of defective paint and any rust and loose scale shall be removed completely by chipping scrapping and wire brushing back to the bare metal and touched up with primer as described.

Where glued joinery and carpentry work is likely to come in contact with moisture, the glue shall be waterproof. The use of animal glues will not be permitted.

Timber is to be cut to the required sizes and length as soon as practicable after the works are begun and stored under cover so that the air will circulate freely around it. Joinery is to be prepared immediately after the placing of the contract, framed up but not bounded and stored until required for fixing in position, when it is to be bounded and wedged up. Any portions that warp of develop shakes or other defects are to be replaced before wedging up. The whole work is to be formed and finished in a proper and workmanlike manner, in accordance with the detailed drawings, and fitted with all necessary metal ties, straps belts, screws etc.

Turning bended joints are to be cross tongued with teak tongues and where over 1 ½ thick double cross tongued, joiner work generally is to be finished with fine class prepared surfaces unless otherwise specified.

Templates, boxes and molds shall be accurately set out and rigidly constructed so, as to remain accurate during the time they are in use.

Grounds are to be clean free from large knots, splayed as required plugged and fixed to walls etc. at 150 centers.

Wood plug are to be cut on the twist. Patent plugs or plastic filling may be in lies of wood plugs with the approval of the Architect.

Block board shall be of Mysore, Anchor or P.G. Brand shelves generally shall be constructed of plywood with edging of ½ teak tongued on.

One of the following I.S. specification or such approved adhesives shall be used.

I.S. 851.1957 Synthetic resin adhesive for construction work in wood.
I.S. 849-1957 Cold setting case in glue for wood.

| | | |
|---|---|---|
| 01. | Teak Wood | Means 2nd quality C.P. Teak |
| | Seasoned | Kiln dried, moisture content less than 12% free from worm holes, loose or dead knots or other defects such as warping, splitting, chemically treated with wood preservatives of approved manufacturer. |
| 02. | Plywood | Plywood shall be closed grain weather proof ply. It will be phenol bonded plywood shall be complying to IS-303-1960 |
| 03. | Block Board | Block board to comply with IS-1659. |
| 04. | Particle Board | Complying with IS code No. 1734-1966 |
| | Board (Exterior Grade) | Teak particle board shall have phenol bond and will comply with IS 3478 |
| 05. | Veneer | Veneer to have straight grains and will be selected from matching group. Veneer to comply with IS-1328-1930. Anchor brand of Indian Plywood or equivalent. |
| 06. | Laminate | Laminate should be 1.00mm thick from Formica (Standard Range Deco-lam) Super Range / Formica / Royal Touch / Sunmica / Merino / Century / Archid or equivalent approved by Consultant / Employer |

**PLUMBING WORK**

**SANITARY SYSTEMS**

**1.0 SCOPE**

1.1 Scope of work covers supply, installation, testing and commissioning of:

i) Sanitary ware

ii) Chromium plated (CP) fittings

**2.0 STANDARDS**

2.1 All sanitary ware shall generally conform to IS: 2064 & IS 2556 Ref ISCDR-08 unless stated otherwise.

**3.0 MATERIALS**

3.1 General

3.1.1 All sanitary ware and CP fittings shall be new and of approved make, type and colour. All samples of materials with catalogues, performance data, shall be submitted and got approved before use on the work.

3.1.2 In cases where the materials are supplied by the clients, all such materials shall be inspected and received in good condition and thereafter, it will be totally under the safe custody of the contractor till they are handed over satisfactorily after installation, testing and commissioning.

3.1.3 Wherever multiple choices of fixtures are offered, the client shall have the final choice.

3.1.4 All fixtures shall be complete with all accessories as required for the working of the said fixture as specified.

3.2 Indian W.C / Orissa W.C

3.2.1 Indian W.C / Orissa W.C shall be in glazed vitreous chinaware (colour choice as per client). The W.C shall be provided with a 100 mm white vitreous chinaware P or S trap with or without vents as required.

3.2.2 Each W.C shall be provided with an exposed or concealed type CP brass flush valve or flushing cistern.

3.3 European W.C

3.3.1 European W.C shall be wash down or symphonic, floor or wall mounted in white or colour glazed vitreous chinaware with integral P or S trap as required. Wall hung W.C shall be supported by C.I or G.I floor mounted chair. The W.C shall be provided with an exposed or concealed type brass flush valve or flushing cistern as specified in the schedule of work.

3.3.2 Each W.C shall be provided with a solid plastic seat. The seat shall be fixed to the W.C with acrylic pillar bar hinges. PVC / Rubber buffers shall be provided for the cover.

3.4 Urinals

3.4.1 Urinals shall be lipped type large flat back in white or colour glazed vitreous chinaware of size shown in schedule of work.

3.4.2 Urinals shall be provided with:

i) 15 dia spreader

ii) 32 dia CP dome waste

iii) 32 dia CP P-trap (50 deep) with unions.

iv) CP wall flange and pipe up to the wall

All exposed pipes and fittings shall be of C.P brass. The urinals shall be fixed with C.P brass screws. CP bottle traps may be used only with the approval of the Engineers-in-charge.

3.4.3 Urinal flushing shall be through one of the following methods as specified in the schedule of work: (Sizes as per Ref Specs Vol-2, 17.4).

i) Small urinal flush valve with push button.

ii) Auto flush valve with DC long life battery or AC supply.

Auto flush shall be concealed in wall and flush pipe shall be of copper or G.I except the exposed parts which shall be C.P brass.

3.4.4 Waste pipe for urinals shall be any one of the following: -

a) G.I pipes, heavy quality as per I.S 1239

b) Lead pipes

c) Copper pipes

as specified in the schedule of work or shown on drawings.

3.4.5 <u>Wash Basin</u>

3.5.1 Wash basins shall be white or color glazed vitreous chinaware synthetic or polymarble or any other material and of size, shape and type specified in the schedule of work.

3.5.2 Each basin shall be complete with:

i) C.I or galvanized steel supporting brackets & clips as required.

ii) 32 dia CP waste and overflow.

iii) Pop-up waste or rubber plug with CP chain as specified.

iv) 32 dia CP P-trap with (50 deep) cleanout, unions, CP pipe to wall and wall flange

v) 15 dia CP control angle valve/s with CP connections.

vi) Mixing or CP fittings as specified in the schedule of work.

3.6 <u>Sinks</u>

3.6.1 The sink shall be of size specified in the schedule of work with glazed vitreous chinaware or stainless steel as specified.

3.6.2 Each sink shall be complete with:

i) C.I or galvanized steel brackets & clips as required.

ii) 40 dia waste fitting with brass/rubber plug & chain.

iii) 40 dia P-trap (50 deep) with clean out, unions, CP pipe to wall & wall flange.

iv) 20 dia CP control valve/s with CP connections.

v) Mixing or CP fittings with spout as specified in the schedule of work.

3.7 <u>Bath tub</u>

3.7.1 Bath tub shall be polymarble /synthetic marble or reinforced acrylic or pressed steel stove enameled as specified in the schedule of work.

3.7.2 Each bath tub shall be complete with

i) 40 dia CP waste fitting

ii) Pop-up or CP brass plug with chain.

iii) 40/50 dia P or S trap

iv) Supply fittings shall consist of:

a) One or two CP brass pillar taps with hot & cold mixer diverter and spout with/without hand shower.

b) One single lever mixing fitting and spout with diverters for shower and / or hand shower.

c) A manual shower set with one or two CP brass stop cocks exposed or concealed and a high pressure shower head of approved make.

All as specified in the schedule of work

**4.0 INSTALLATION**

4.1 All sanitary ware and CP fittings shall be installed in accordance with the interior requirements. Neat workmanship and maintaining exact position and level of each fixture shall be the objective of the installation. Care shall be taken to fix inlet and outlet pipes at correct positions. Faulty positioning shall be made good without any damage to the finished floor or wall tiling and any damage to the finished surfaces shall be made good at the contractor's cost.

4.2 In order to ensure quality of workmanship and compliance with interior requirements, one or two mock-up installations shall be done and got approved. Fixtures used in the mock-up may be reused with the approval of the Project Architect / Engineer.

4.3 All fixing accessories like bolts, nuts, brackets etc. may be supplied along with the ware as defined in the mode of measurement and schedule of work. All such accessories shall be CP brass or galvanized or stainless steel as approved by the Project Manager. <u>All exposed pipes, fittings, bolts & nuts shall be of CP brass</u>.

4.4 The Indian W.C shall be fixed to level in a neat workmanlike manner. The W.C and trap shall be set in brick bat 1:2:4 concrete mixes. Joints between W.C and flush pipe shall be made with a putty or white lead and linseed oil and caulked well or with approved rubber joints. The joint between W.C and trap shall be made with 1:1 cement mortar and shall be rendered leak proof.

4.5 The Orissa W.C shall be fixed in level in a neat workmanlike manner. The W.C & trap shall be set in brick bat concrete 1:2:4. Joint between W.C & flush pipe shall be made with putty of white lead in linseed oil and caulked well or with approved rubber joint. Joint between W.C & trap shall be made with 1:1 cement sand mortar and shall be rendered leak proof.

4.6 Wall-hung European W.C shall be mounted on C.I chairs which are fixed to the floor using anchor fasteners. <u>The bolts and nuts used for fixing the chairs shall be stainless steel</u> and the fixing bolts for the W.C and chairs could be CP brass or stainless steel.

Floor-mounted W.C shall be fixed with anchor fasteners using stainless steel CP brass bolts and nuts. The gap between the WC and floor or wall shall be neatly sealed with water proof non-hardening sealant of approved type and colour. The sealant should not protrude beyond the foot print or WC outline.

4.7 All W.C's shall be aligned and leveled with the floor and wall tiles so as to present an integrated look. Utmost care and skill shall be exercised to achieve a good installation in keeping with the interior designs.

4.8 Urinals shall be fixed to the wall using CP brass bolts and nuts. The urinals shall be held in line and level according to the interior designs and tile modules. Partitions, wherever required to be provided, shall also maintain line and level as shown on drawings and as required. Supply spreader and drain piping and P-trap shall be of CP brass and installed in a neat and workman like manner. No unseemly bends or wooden support pieces shall be permitted.

4.9 Wall-mounted wash basins and sinks shall maintain line and level as specified by the interior drawings and also with the tile modules. The supply connections shall be of CP brass from the angle stop valves to the pillar taps or single lever fixture and shall display good workmanship. Drain connections shall have a CP P-trap with unions and exposed CP drain pipe and a wall flange or escueheon. In the case of counter mounted basins and sinks extreme care shall be taken to independently and adequately support the basin and aligning with the opening in the counter slab. Supply and drain connections shall be same as for wall mounted basins. The crevices between basin and wall or counter shall be neatly sealed with a non-hardening sealant of approved.

4.10 Bath tubs shall be fixed true to level and firmly fixed to anchors or supports provided by the manufacturer. Bathtub flanges shall be truly aligned with the wall on all the sides so as to make a watertight joint. Sealants if any used for edge ceiling shall be non-hardening type. Bath tubs shall be sloped 1:30 towards the drain.

4.11 All accessories like the mirror, soap trays etc. shall be neatly fixed as per interior designs. Good workmanship is the essence of all sanitary installation for achieving the interior design objectives.

4.12 During the construction period, the contractor shall protect all the sanitary fixtures from damage due to accidental or even intentional mechanical impact with hard objects and also misuse and vandalism.

## 5.0 TESTING AND ACCEPTANCE

5.1 The sanitary fixtures form the final terminal units of the water supply and drainage system and should meet the performance needs as a terminal unit. Each fixture shall be inspected for scratches or chippings and alignment before acceptance.

5.2 The following design flows shall be verified and validated for acceptance.

| | | | |
|---|---|---|---|
| W.C | Flush valve | | Provide test 32 dia valved connection at the lowest floor & |

| | | | |
|---|---|---|---|
| | | | highest floor. |
| | Flushing cistern | | Fill time between two consecutive flushes.<br><br>2 minutes |
| (5+/-0.5 for 5 liters capacity in 3 sec & 10+/- 0.5 for 10 liters capacity in 6 sec). | | | |
| Lavatory Basin | (CW/HW) Pillar taps)<br><br>or )<br><br>Single lever)<br><br>fixture ) | 15 lpm max. | 10 lpm min |
| | Full basin drain time | 3 min. | To be measured & validated. |
| Sink | (CW/HW) Pillar taps) or )<br><br>Single lever fixture ) | 15 lpm max. | 10 lpm min |
| | Full basin sink time ) | 3 min. | To be measured& validated. |
| Bath tub | Faucet (CW/HW)<br><br>Shower | 20-30 lpm<br><br>20-30 lpm | |
| | Full tub drain time | 10 min. | To be measured& validated. |

All tests shall be conducted at each and every fixture except for flush valves which shall be at the lowest and highest test connections to be made on each riser/down take. The contractor shall make the temporary valve connections which shall be plugged with a brass plug after validation.

## B. WATER SUPPLY SYSTEM

### 1.0 SCOPE

1.1 The scope of work shall cover supply, installation, testing and commissioning of water piping required in but not limited to the following applications wherever they come up and shall meet the intents of these specifications.

i) Cold, hot and Flush Water distribution piping.

ii) Connections to sanitary ware, kitchen and other equipment etc.

iii) Municipal water connection including meter connection.

iv) Secondary storage tanks, if any.

v) All valves, masonry valve chambers etc.

vi) Pipe inserts in walls & storage tanks.

vii) All inserts and vents for underground and overhead storage tanks.

**2.0 STANDARD**

2.1 The following standards shall be applicable as revised upto date:

| | | |
|---|---|---|
| 1) | IS 2065 | Code of practice for water supply in buildings. |
| 2) | IS 1239 Part 1 & Part 2 | Steel tubes & tubular and fittings |
| 3) | IS 778 | Gun metal gate, globe and check valves for water steam and oil. |
| 4) | IS 1703 | High pressure ball valves |
| 5) | IS 781 | Screw down Bib taps and stop cocks |
| 6) | IS 1879 (Part I to X) | Malleable iron C.I. fittings |
| 7) | IS 1536 | Centrifugally cast iron pressure pipes for water, gas and sewage. |
| 8) | IS 1538 | Cast Iron fittings for pressure pipes for water, gas and sewage. |
| 9) | IS 4984 | High density Polyethylene pipes for potable water supplies, sewage. |
| 10) | IS 4985 | Unplasticized PVC pipes for potable water supplies. |
| 11) | IS 7634 | Code of practice for plastic pipe work for portable water supplies. |

**3.0 MATERIALS**

3.1 General

3.1.1 All materials shall be new of the best quality conforming to the specifications. Where different makes are specified, the choice of make shall rest with the client.

3.1.2 All samples of materials with necessary catalogues, performance data shall be submitted and got approved before use on the work.

3.2 Steel Pipes & Fittings

3.2.1 All steel pipes shall be heavy quality galvanized steel tubes conforming to IS 1239 for sizes upto 150 dia.

3.2.2 Fittings shall be malleable cast iron fittings of approved make conforming to IS 1879 (I to X). All fittings shall have manufacturer's trade mark stamped on it. Fittings shall include couplings, bends, tees, reducers, nipples, union, bushes etc. All fittings shall be suitable for the class of pressure of the piping system.

3.2.3 Flanges shall be steel screwed type conforming to IS 6392 and the pressure class of the piping system. Flanges should mate with equipment or valve flanges as the case may be and shall be complete with bolts and nuts and gaskets suitable for the temperature and pressure of water in the system concerned. Gasket selections shall be got approved before use and samples of approved gaskets shall be put on display.

3.3 Cast Iron Pipes & Fittings

3.3.1 Cast iron pipes shall be of 'LA' class conforming to IS 1536 suitable for lead jointing with spigot and socket joints and if flanged they shall be 'A' class conforming to IS 1537. Pipes shall be in maximum lengths available.

3.3.2 Fittings shall be of the class required conforming to IS 1538. If spigot-socket, they shall be suitable for lead jointing.

## 4.0 PIPE INSTALLATION

4.1 General

4.1.1 Shop drawings for the routing of pipes shall be prepared generally on the basis of layout drawings issued. The shop drawings shall reflect the site conditions, structural beams and columns, obstructions by way of any construction elements or any other service pipes, ducts etc. The drawings should clearly indicate openings required in brick or concrete walls, drain valves at low points, air valves at high points, isolating valves, if any, and invert levels at every 15m intervals. The drawings should also indicate typical details of hangers, supports, brackets etc. After approval of the drawings, pipe routes shall be marked with a distinct colour of paint on the site and got it approved by the Project Architect/Bank.

4.1.2 All openings and chases in brick walls shall be made neatly and refilled to a reasonable finish. However, final finishing will be done by the civil contractor. Openings in concrete walls or floors shall, however, be made only with the approval of the Architect/Bank. All such openings for pipe penetrating shall be core-drilled and pipe penetrations, through wall or floor, shall be sealed with an approved non-fire resistant sealant

4.1.3 Good workmanship and neat pipe layout are the prerequisites of these specifications. Horizontal pipes shall be truly horizontal with necessary slopes and hangers or supports as specified and shown on drawings. Vertical pipes shall be truly vertical and shall be laid away from the walls at least by 10mm or as required by the Project

Architect / Bank. All pipe runs shall be parallel to the ceiling or walls for presenting a neat appearance. Pipes buried in wall shall be laid in machine-made chases with galvanized steel anchors and shall be protected with polythene – faced – Hessian tape & bitumen.

4.1.4 All pipes before and after testing shall be protected with wooden or brass plugs to prevent ingress of dust, sand or any extraneous matter.

4.2 Pipe supports; hangers & clamps

4.2.1 Pipe supports, clamps, suspenders shall be pre-fabricated and galvanized (after fabrication). The support systems shall generally follow the types specified under "PIPE SUPPORTING SYSTEMS". Application of support systems shall follow the guidelines in the above specifications. Any other types of support, suspension or clamping to meet the site conditions shall be got approved before use.

4.3 Cast Iron Piping

4.3.1 Cast iron piping shall be used largely for underground piping. Where it is used over ground, the pipe installation shall follow the specifications for galvanized steel piping except that the support spacing shall be as shown in section "PIPE SUPPORTING SYSTEMS".

Supports and suspenders shall be at the joints and shall be robust enough to withstand caulking.

4.3.2 Joints shall be spigot and socket or double flanged. Spigot and socket joints shall be lead filled generally as specified for cast iron underground drainage piping while flanged joints shall have a non-asbestos gasket of approved make and type.

## 5.0 ACCEPTANCE, TESTING & COMMISSIONING

5.1 Before testing and commissioning, water shall be filled and circulated through the piping system and flushed out to ensure clean piping. Entire piping installation with all valves fully open, except the terminal fixture valves shall be subjected to a hydraulically test pressure whichever is higher of the following:

i) 2 times the dynamic head of the pump plus the gravity head of an overhead storage or pressure tank.

ii) 2.5 times the no-delivery head (head developed when the discharge valve is closed) of the pump.

5.2 The test shall be for the entire water supply system and shall hold for a minimum of 3 hours without loss of pressure. During the testing period, the contractor should walk along the entire piping system along with the Project Architect / Engineer and validate that there are no leaks anywhere in the system. Such validation shall be carried out segment by segment and recorded. Should there be any leaks in any segment, the system shall be drained, leaks attended and tested once again as above till the entire piping system is rendered leak-tight and acceptable.

## C. INTERNAL DRAINAGE SYSTEMS

**1.0 SCOPE OF WORK**

1.1 The scope of work shall cover:

i) Soil and waste drainage piping including:

a) soil, waste and vent stacks.

b) connections to sanitary ware

c) waste connections to kitchen, laundry, other appliances, floor traps etc.

d) connections to Sewage Treatment Plant and External Sewerage system

**ii)** Storm water drainage piping including

a) roof drainage

b) storm water down takes & catch basins

c) connections to external storm water drainage system.

d) making water harvesting percolation pits.

**2.0 STANDARDS**

2.1 All materials and the installation shall meet latest of the following standards:

| | | |
|---|---|---|
| 1) | IS : 3989 | Centrifugally cast iron pipes |
| 2) | IS: 6163 | Centrifugally cast low-pressure iron pipes |
| 3) | IS : 1536 | Centrifugally cast iron pressure pipes |
| 4) | IS : 1726 | CI manhole frames & covers |
| 5) | IS : 5329 | Code of Practice for Sanitary pipe work |
| 6) | IS : 3114 | Code of practice for laying of cast iron pipes |
| 7) | IS : 1239 | Steel tubes & tubular |
| 8) | IS : 1879 | Malleable iron CI fittings |
| 9) | IS: 13592 | PVC Pipes |

**3.0 MATERIALS**

3.1 General

3.1.1 All materials shall be new and of the best quality conforming to the specifications. Where different makes are specified, the choice of make shall rest with the consultants.

3.1.2 All samples of materials with necessary catalogues and performance data shall be submitted and got approved before use on the work.

3.2 Cast Iron Pipes & Fittings

3.2.1 Cast iron pipes shall be centrifugally cast low pressure cast iron spigot and socket pipes conforming to Indian Standards specified and generally meeting the following:

| **Nominal Diameter Inch (mm)** | **Thickness (mm)** | **Weight of 1.80m length (Kg)** | **Internal Diameter of socket (mm)** |
|---|---|---|---|
| 50 | 3.5 | 8.4 | 73 |
| 75 | 3.5 | 12.5 | 99 |
| 100 | 4.0 | 18.8 | 126 |
| 150 | 5.0 | 34.9 | 178 |

Acceptable tolerance for pipes to IS 3939 and IS 1729 shall be as follows

a) Wall thickness -15 %

b) Length +/-20 mm

c) Weight -10 %

All joints shall be with lead caulking.

3.2.2 Centrifugally a cast low pressure iron pipe without sockets (socket-less) shall generally follow requirements of IS 6163. Fittings shall be socket-less and all joints shall be with a synthetic rubber sealing collar with a stainless steel clamp with two S.S bolts for application of uniform pressure. All materials shall be from approved manufacturers.

3.2.3 Wherever specified centrifugally cast pressure pipes of 'LA' class shall be used. The pipes and fittings shall conform to IS 1536. Fittings shall be spigot and socket type suitable for molten lead caulking. Where necessary flanged pipes and fittings may be used with a teflon gasket.

3.2.4 Fittings shall be cast iron compatible with the pipes used. Tees, bends, crosses and other specials shall have easy sweep as specified. Cleaning eyes shall be provided wherever required and shall be complete with a sealing gasket and suitable bolts. Cleaning eyes should not be along the flow (such as bends) but behind

(such as Y or T).

3.3 Steel Pipes and Fittings

3.3.1 Steel pipes shall be galvanized heavy quality tubes to IS: 1239. Fittings shall be galvanized malleable iron conforming to IS: 1879 (i to x). Fittings shall include long radius bends, tees, reducers, unions etc.

3.4 PVC Drainage Systems

3.4.1 PVC drainage piping shall be factory made complete systems of any approved makes with all the fittings. The pipes and fittings shall meet with the following specifications:

Pipes : IS: 13592

Fittings: BS: 4574 DIN 19531

3.4.2 All joints shall be snap fit type with rubber ring and shall always produce a 100% water tight joint. Pipe and fittings shall be suitable for the snap fit joint.

3.5 Traps & Seals

3.5.1 All traps shall be self-cleaning and the material and the seal depth shall be as specified below wherever the traps are not integral with the appliances or ware.

| **Appliance or ware** | **Trap** | | |
|---|---|---|---|
| | **Material** | **Type** | **Seal depth (mm)** |
| Lavatory/Wash basin (1) | CP brass | P | 50 |
| Sinks (1) | CP brass | P | 50 |
| Floor drain | Cast Iron built-in | P or S | 50 |
| Kitchen Floor drain or fabricated drain boxes | Fabricated Stainless Steel (built-in) | P | 50 |
| Urinals (1) | C P brass | P | 50 |
| Fan Coil Units | Galvanized steel or PVC | P | 25 |
| Air Handling Units | Galvanized steel or PVC | P | 50 |
| (All P-traps shall have cleaning eye or other cleaning facility) | | | |
| Roof Drain outlet | Cast iron | - | - |
| Plant room floor drains | Cast iron/ fabricated Steel | - | - |

Bottle type traps shall be used only with the approval of the engineer.

Any other appliance shall have an appropriate trap as specified by the Engineer-in-charge or as required.

3.5.2 All floor drains shall be cockroach proof covered with perforated stainless steel grating of size specified or required. Roof drain outlets shall have dome grates unless specified otherwise. Plant room floor drains shall have cast iron or fabricated steel grating.

3.6 Cleanouts

3.6.1 Cleanouts other than those integral with the fitting, shall be of brass and screw down type. Wherever cleanouts are required in cast iron piping, galvanized steel adaptor

shall be provided as part of the cleaning system. Cleanouts shall be accessible from the floor served.

## 4.0 DRAINAGE SYSTEM INSTALLATION

4.1 General

4.1.1 Shop drawings for the routing of pipes shall be prepared generally on the basis of layout drawings issued by the consultants. However, the drawings shall reflect the site conditions, structural beams and columns obstructions by way of any construction elements or any other service pipes, ducts etc. The drawings should clearly indicate openings required in brick or concrete walls and invert levels at every 15m intervals. The drawings should also indicate typical details of hangers, supports, brackets etc. After approval of the drawings, pipe routes shall be marked with a distinct colour of paint on the site and got it approved by the Project Manager / Engineer- in - charge.

4.1.2 All openings and chases in brick walls shall be made neatly and finished with plaster on chicken mesh but the final, finish will be by others. Openings in concrete walls shall, however, be made only with the approval of the Project Architect/Engineer. Pipe penetrations, through wall or floor, shall be sealed with an approved fire resistant sealant.

4.1.3 Good workmanship and neat pipe layout are the prerequisites of these specifications. Horizontal pipes shall be truly horizontal with necessary slopes and hangers or supports as specified and shown on drawings. Vertical pipes shall be truly vertical and shall be laid away from the walls at least by 50mm or as required by the Project Architect/Bank. All pipe runs shall be parallel to the ceiling or walls for presenting a neat appearance. Pipes buried in wall shall be laid in machine-made chases with galvanized steel anchors.

4.1.4 All pipes before and after testing shall be protected with wooden or brass plugs to prevent ingress of dust, sand or any extraneous matter.

4.2 Pipe supports; hangars & clamps

4.2.1 All pipe supports, hangers & clamps shall be standard pre-fabricated galvanized (after fabrication) units. Pipe supports shall generally follow the types specified under "PIPE SUPPORTING SYSTEMS" and the associated drawings. Any other type of support, suspension or clamping to meet site conditions shall be got approved before use.

4.3 Soil & Waste Piping

4.3.1 Horizontal pipes shall be suspended from the structural ceiling slab or wall brackets at centers specified in the section "Pipe Supporting Systems".

Pipes shall be laid to an optimum slope of 1 in 60 as far as possible. A liberal provision of easily accessible cleanouts shall be made on all horizontal pipes. Cleaning facility shall preferably be from the floor above the ceiling slab for all under floor installations. Where horizontal pipes are laid in a sunken floor slab, adequate slopes shall be achieved through galvanized saddles or cement mortar bedding. All such pipes, after testing, shall be covered with and set in cement concrete (1:2:4) so that the pipes are not disturbed during the filling up of the sunken floor.

4.3.2 Vertical stacks shall be truly vertical and parallel to the wall and supported on saddles so that the pipes are at least 50mm away from the finished surface. Branch pipe connections shall be aligned with the bend or tee on the stack. Where the vertical stack meets the horizontal run or a manhole, a 45° tee connection with a cleanout shall be employed to facilitate smooth flow and easy cleanability.

4.3.3 Cast iron spigot and socket pipes and fittings shall be jointed through lead caulking. The annular space between the socket & spigot will be first well packed with bitumen-soaked spun yarn and dried, leaving the required space for lead. The joints may be headed by wrapping a ring of hemp rope covered with clay around the pipes at the end of the socket, with a hole through which molten lead shall be poured in. Lead used shall conform to IS 782. The joint shall be filled in one pour only. Before caulking the overflow of lead shall be removed by chiseling. The joint shall then be caulked all-round with proper caulking chisel and hammer weighing 1 to 1.5 Kg in such a manner as to make the joint neat and flush with the socket and totally water and air tight.

4.3.4 Cast iron socket-less pipes shall be joined by using rubber/neoprene sealing tube and a stainless steel clamp with two bolts. All materials and method of jointing shall strictly conform to manufacturer's standards and recommendations.

4.3.5 Galvanized steel drain piping shall be used except when exposed for appliances, wash basins, sinks, bath tubs etc. using screwed malleable galvanized fittings with approved sealants. Elbows may be avoided as far as possible and long- sweep bends are preferred for smooth flow. Joints between the galvanized steel pipe and cast iron shall be done through appropriate fitting and lead caulking as shown on drawings or as instructed by the Project Manager / Engineer – in charge. Exposed pipes shall be CP brass.

4.3.6 Where specified, lead pipes may be used for waste, vent and WC connections. Pipe size shall be as shown on drawings or as required for the appliance. Lead pipes shall be straightened by wooden mandrels and bent to shape by dry sand filling. Joints of lead pipes shall be wiped solder joints. The pipe ends to be jointed shall be cleaned with a wire brush and freed from oxide if any. Chalk shall then be rubbed to kill the greasy nature of lead. After this plumber's black shall be applied. A fine shaving of lead shall be removed from this with shave hook. Mutton tallow shall then be smeared over the prepared surface. The molten solder, and alloy composed of 3 parts of tin and 7 parts of lead shall be poured in a thin stream from a ladle moved in an elliptical direction over the joint position including a portion of the pipe at each end beyond the mark. When sufficient solder has been poured the joint shall be wiped with pad of wiping cloth with long continuous movements in one direction only so as to leave a neatly formed elliptical shaped joint. Surplus solder remaining on the joint shall be removed. The joint shall be water tight, air tight and shall be free from burrs, strings or droppings and shall be 60 to 90mm in length depending on the pipe diameter.

4.3.7 Joint between lead pipe and cast iron pipe or stone ware pipe shall be made as follows:

One end of a brass thimble shall be slipped into or over the lead pipe and jointed to it by means of a wiped solder joint. The other end of thimble shall then be inserted into the socket of the cast iron or stone ware pipe. In case of cast iron the joint shall be made with molten lead and in case of the stone ware the joint shall be made with cement mortar 1:1.

4.3.8 Where specified, PVC pipes may be used for waste, vent and WC connections. Pipe size shall be as shown on drawings or as required for the appliance. Pipe connection to the cast iron piping shall be through appropriate adapter.

4.3.9 All pipes shall be fixed in a gradient towards the outfalls of drains. Pipes inside a toilet room shall be in chase unless otherwise shown on drawings. Where required, pipes may be run at ceiling level in suitable gradient and supports as shown in the section "PIPE SUPPORTING SYSTEMS".

4.3.10 Cast iron floor drains shall be set in 1:2:4 cement concrete. Kitchen floor drain boxes shall be as shown in drawings and kept flush with the finished floor. The drain boxes shall have a minimum of 50mm water seal and a suitable perforated grating. Drain boxes shall be connected to the cast iron drain piping through a flanged galvanized steel drain connection.

4.3.11 All waste connections shall have the following minimum sizes:

| Appliance | Diameter (mm) |
|---|---|
| Wash basins | 32 |
| Sinks | 50 |
| Urinals | 50 |
| Bidets | 32 |
| Shower trays | 40 |
| Bath tubs | 50 |
| Floor drains | 65/75 |

4.4 Vent Piping

4.4.1 Building vent stacks shall be not less than 75mm dia. Where the vent stack becomes one with the main soil or waste stack the main stack size shall not be reduced. Vent connections on any branch waste drain line shall be at least two thirds the diameter of the branch drain subject to a minimum of 25mm. Vent connection to a soil drain line shall be a minimum of 32mm dia. Vent connections shall be as near to the crown of the trap as possible.

4.4.2 No water shall enter vent lines. Vent lines shall be laid vertically terminated at least 150mm above the open-to-air roof. Vents may be connected back to the waste or soil stack above the highest appliance connection and the said stack extends beyond the roof by at least 150mm into the air.

4.5 Cleaning plugs

4.5.1 Cleaning plugs shall be easily accessible and convenient for rodding. Such plugs shall be liberally provided so that the entire drainage system could be easily cleared of all possible chokes. All clean outs shall be behind the flow and as far as possible,

plug bends may be avoided. In the case of under slung drainage systems, the clean outs should be on top of the floor and NOT under the floor.

## 5.0 ACCEPTANCE, TESTING & COMMISSIONING

5.1 Pre-commissioning checks

5.1.1 A walk-through inspection shall be carried out and the following checks made:

i) Layouts are according to the drawings and identify variations.

ii) Material used are as specified, new and as per approved samples.

iii) All fixtures viz. suspenders, brackets, clamps etc. are adequate and firmly fixed and spaced as specified.

iv) Cleaning eyes are duly plugged and are easily accessible.

v) No visible damages or cases of bad workmanship.

vi) Check water seals in traps by discharging adequate number of appliances.

5.1.2 During construction, the piping shall be tested in sections so that the maximum static head of water is not more than 4.5m. All such sectional tests shall be witnessed and signed by the Engineer-in-charge. Records of these tests shall form the Acceptance Test documentation.

5.1.3 An air test shall be conducted as specified in IS: 5329 with a test pressure of 50mm water gauge. If the pressure is not holding, then a smoke test shall be conducted through a smoke generator to track down the leaking points. After attending to the leaks, the piping shall be air tested again.

5.1.4 Hydraulic Performance Tests shall be conducted on each stack by simultaneous release of water through various appliances like WC's and bathtubs to ensure water sealing of traps.

* * * * *

# FLOORING WORK

## 1.0 GENERAL

1.1 INDIAN STANDARDS

Indian and other international standards followed for this section shall be as listed below. In case any discrepancies or ambiguities noticed it shall be brought to notice of the Bank/ Architect and clarification/confirmation sought. His decision shall be final. However as general rule more stringent specifications shall be followed.

(1) IS 269 Specification for ordinary and low heat Portland cement.

(2) IS 383 Specification for Coarse and fine aggregates from natural sources for concrete.

(3) IS 8042 Specification for white Portland cement

(4) IS 8112 Specification for 43 grade ordinary Portland cement

(5) IS 1489 Specification for Portland pozzolana cement

(6) IS 12118 Specifications for two parts polysulphide based sealants: Part 1 General requirements.

(7) IS 15622 Pressed Ceramic tiles – Specification

(8) IS 3812 Specification for fly ash use as Pozzolona and admixtures

1.2 Quality Assurance

1.2.1 Cement used on site shall be from all leading manufacturers having minimum 5 years of experience of manufacturing and confirming to IS.

1.2.2 Stones received shall be from approved quarries and of approved lot.

1.2.3 Tiles manufacturer shall confirm that material is as per specification and within acceptable tolerances. Tiles shall be of one production run, of consistent quality, appearance and physical properties.

1.2.4 The contractor shall procure mortar, grout etc. of approved quality design and standard and he will not change source of supply without written permission and with revised samples being approved.

1.3 Submittals

1.3.1 The contractor shall submit manufacturer's each product data sheet covering technical literature and test certificates of independent laboratories.

1.3.2 The contractor shall submit comparative statement showing what is specified and what is proposed by him.

1.3.3 The contractor shall prepare shop drawings for layouts based on architectural concept drawings. Drawings shall include

- Detail plan with material & sizes of each element including joint widths.
- Pattern to full scale with assembly details at each location for each type.
- Details shall show expansion, contraction, control and isolation joints in substrate and finished surfaces.
- Method of fixing.

1.3.4 Samples

a) Full size tile samples 3 nos. each with colour, design as specified with manufacturer's catalogue.

b) Also special shade, shop samples if any for tiles and stone shall be submitted

c) Grouting material proposed with technical literature.

d) Sealants if proposed to be used.

e) Edging, expansion etc. special strips to be used.

1.4 Mockups

Prepare and install mockups for floor and wall as per drawings. Mockups may be part of completed work if undistributed.

1.5 Delivery, Storage and Handling

1.5.1 Material received at site shall be with original packing and labeled. It shall be intact till issued for use of site.

1.5.2 Store all material on elevated platform under cover at dry location and safe from damage.

1.5.3 All flooring laid shall be protected till handing over, by POP laid on plastic sheet.

**2.0 MATERIAL**

2.1 Cement

2.1.1 Cement shall be ordinary Portland cement / Portland pozzolana cement (Fly ash or Blast furnace slag blended) conforming to IS and shall be of grade 43 or 33 or as directed by EIC.

2.2 White cement

White cement shall be conforming to IS 8042.

2.3 Lime

2.3.1 Lime shall conform to IS 712. Field slaking shall be done as per IS 1635 code of practice for field slaking of lime and preparation of putty.

2.3.2 Lime shall be filled in bags and stored safely in weather- proof sheds. It shall not be stacked against the walls of the shed. It should be used as soon as possible.

2.4 Sand

Sand shall conform to IS 1542 specification for sand for plaster. For white or coloured renderings, only quartz or silica sand shall be used. For textured finishes produced by treatment of freshly applied final or finishing coat with a tool coarser, particles used shall be screened through 3.35 mm IS sieve or 2.36 mm IS sieve. For torn texture a slightly larger portion of material coarser than 4.75 mm IS sieve shall be used.

2.5 Water

2.5.1 Water used for mixing and curing shall be clean, reasonably clear and free from objectionable quantities of silt, oils, alkalis, acids, salts so as not to weaken mortar.

2.5.2 Water tested shall be in accordance with IS 3025. Maximum permissible limits of deleterious materials in water shall be as given in IS 456 in table “Permissible Limits for Solids (in water).

2.6 Pigments

Coloured cement may be either ready-mixed material or may be obtained by mixing pigments and cement at site. The pigments to be mixed with cement shall conform to IS 2114 code of practice for laying in-situ Terrazzo Floor Finish.

2.7 Vitrified tiles

Tiles shall be of specified size and make or equivalent. Tiles shall be free from cracks, crazes, spots, chipped edges and corners. Variation in size shall be limited to $\pm$ 1.5mm. Thickness shall be as specified in Bills of Quantities, but in no case shall they be less than 6 mm.

2.8. Stone for flooring

The kota/Granite/ Marble or any other stone used shall be as approved by the Bank /Architect and shall be hard, sound, free from cracks, cavities, holes, patches of injurious veins, weathered portions, flaws, etc. For fair representation, 4 Nos. of 300 x 300 mm sized pieces shall be submitted for approval. Material received shall conform to the said approval group of 4 stones and no other type shall be accepted. Colour,

grain, vein, etc. must conform to the approved sample only. Size and thickness shall be as specified. The stone may be ordered in various sizes to suit the pattern selected by the Bank /Architect. Required pattern matching of stone shall be carried out by the contractor while cutting the stone.

2.09 Adhesives

Adhesive shall be cement based and shall conform to IS and/or international standards. These shall be as recommended by the tile manufacturer and as approved by the Bank /Architect.

Use non-flammable carpet adhesives as recommended by approved manufacturer / Bank /Architect.

2.10 Grouts

Readymade approved grouts as specified shall be used. Unsanded grout shall be upto 3mm joints and sanded grouts wide joints. Grouts may be

- Standard cement grout
- Polymer modified grout
- Chemical resistant
- Water cleanable
- Epoxy grout

2.12 Sealants

Sealants shall conform to Indian or International Standards and shall be as specified and approved by the Bank /Architect.

Polysulphide, silicon, urethane, and chemical resistant etc. one part or multi part section shall be of approved manufacturer and shall be used as per direction of manufacturer.

It shall be stored in dry, ventilated store within specified temperature range. Use shall be well within its shelf lift.

2.13 Cleaner

A neutral cleaner capable of removing oil and residue without harming stone, tile, grout surfaces as recommended by manufacturer of tile, grout shall be used.

**3.0** Marble /Granite Stone floor

3.1 Machine cut stone slabs shall be of specified thickness. Colour shall be uniform and the slabs free from all defects. Stone used at site shall be machine-cut.

3.2 In machine-cut tiles, edges shall be protected from any damage in transit. No breakage shall be permitted. All edges shall be sharp, perfectly rectangular. Edges shall be pencil- rounded and polished for exposed corners and faces.

3.3 Laying of stone

Cleaned stone shall be laid over IPS Screeding using approved quality compatible Adhesive of thickness as required and directed by approved manufacturer / Bank /Architect.

Joints shall be as thin as possible and limited to 1-2 mm at the maximum.

Laying shall start after due consideration is given to following points and approved by the EIC.

1) Datum levels of floors in rooms, adjacent rooms, passages, etc.
2) Stones in openings and doors are equally placed.
3) Passage may be laid first to achieve evenness in doors.
4) Stones in room shall be symmetrical and equal cut tiles shall be around the edges.
5) In case of differently coloured stones in passages and rooms, a dividing strip shall be provided and changeover of colour shall be under the shutter.
6) In case there is any other architectural or structural feature, the same shall be considered and the pattern adjusted accordingly.
7) Stones may be allowed to go under plaster or dado about 10 mm.

3.4 After the stones are laid, surplus cement slurry from the joints shall be cleaned. The following day the joints shall again be cleaned, washed and wire brushed.

Grouting of joints shall be carried out with unsanded readymade grouts gray cement that matches the colour of stones. Grout shall be worked into joint. Excessive grouts shall be cleaned off.

3.5 The floor shall be kept wet for a period of 7 days. No traffic shall be allowed on the bedding and bedded tiles for at least 2 days.

3.6 Polishing

Polishing and grinding shall be done only after 7 days. Machine cutting or grinding shall be carried out. At first the grinding shall be with rough stone and grinding shall be uniform. It shall be cleaned with water. All pin-holes and opened out joints shall be grouted with matching coloured cement grouts. It shall be cured for a period of 7 days by keeping it moist.

Second coat cutting/grinding shall be done with carborundum stone of medium grade. The same procedure as for the first coat shall be repeated till curing is completed.

The final cutting/grinding shall be with a fine stone grade and shall be done with ample water.

The floor shall then be washed, cleaned and dried with a soft cloth or linen.

In case of tin oxide polishing, if specified, it shall be carried as per direction of the EIC.

3.7 Homogeneous Vitrified tile floor

3.8 Approved tiles shall be laid on hard rough IPS or waterproof treated sub base ready to receive tiles. Tiles shall be laid in accordance to IS specifications and instructions of approved manufacturer.

3.9 Tiles to be bedded over IPS Screening using approved quality compatible Adhesive of thickness as required and directed by approved manufacturer / Bank /Architect.

3.10 Floor to receive tiles shall be wire brushed cleaned, wetted and mopped. Approved quality compatible tile adhesive shall be applied to the area only where immediate

laying of tiles is carried out. Wetted tiles shall be cleaned and fixed in the thick cement pasted bedding. Tiles shall be positioned by tapping with wooden hammer and level checked with straight edge 2-3 meter long. Joints shall be as specified or as thin as possible. Points to be noted prior to start are as under -

1) Layout of the tiles is checked and approved by the Bank /Architect.
2) End cut tiles are more than half.
3) Floor and wall tiles are in the same line.
4) Change of tiles is below the door shutter.
5) Dividing strip is provided if shown in drawing.
6) Cutouts of floor drains are in line with the tiles. Tiles around cutouts are greater than 50 mm or half the tile whichever is greater.
7) Joints shall be cleaned thoroughly and grouted with approved unsanded readymade grout or as directed by the Architect/Bank. Grout shall be a thick paste and tooled into joints and area of the tile cleaned with a damp cloth. Grouting shall be cured by wet curing for 7 days.
8) After 24 hours of grouting, tiles shall be cleaned with water and after 7 to 10 days or prior to handing over, tiles shall be washed with mild acid. Care shall be taken that grout does not develop any stain mark.
9) All expansion joints shall be carried out right through and finished by sealing with silicon sealant.

3.11 Homogeneous Vitrified tile (wall/dado)

3.12 Approved Vitrified tiles of size design and shape shall be used.

Tiles shall be fixed over plastered surfaces with compatible adhesive of approved make.

Dado tiles shall be fixed as under -

1) Sufficiently hardened backing/undercoat must be damp.
2) Tiles shall be adhered with approved compatible adhesive on the back side as directed.
3) Tiles shall be fixed on the undercoat and tamped with wooden mallet or rubber mallet to achieve full adhesion to the undercoat. Edges shall be tamped to secure line and level.
4) Care shall be taken to achieve pattern of laying with respect to floor or ceiling.
5) Tiles shall be mopped with wet cloth to remove grout coming out from joints.

3.13 Jointing

1) Joints shall be cleaned thoroughly and grouted with unsanded readymade grout as directed by the Architect/Engineer. Grout shall be a thick paste and tooled into joints and area of the tile cleaned with a damp cloth. Grouting shall be cured by wet curing for 7 days.
2) After 24 hours of grouting, tiles shall be cleaned with water and after 7 to 10 days or prior to handing over, tiles shall be washed with mild acid. Care shall be taken that grout does not develop any stain mark.

3) All expansion joints shall be carried out right through and finished by sealing with silicon sealant.

**4.0 STEPS, STONE CLADDING / SKIRTING**

4.1 Material for dado, steps and risers shall be as specified above or as per BOQ.

4.1.1 Surface preparation shall be same as for flooring for each type. Cladding/Dado work shall be done over plastered concrete/masonry surfaces and gypboard partitions. It shall be combed for creating a key and better adhesion with skirting material.

In case of steps, bedding shall be laid exactly as flooring and all operations described therein shall be carried out.

4.1.2 External and Internal facings shall be fixed with adequate provision for expansion and compression joints.

The contractor shall supply and fix all necessary supports, anchor slots, anchor cramps and dowels required for the satisfactory completion of all vertical granite or any other stone cladding work. Fastener/clamps etc. will be made from suitable non-ferrous metal. They shall be in such shape and dimension that they are adequate to carry the loads to be imposed upon them.

Fixing of wall cladding with stone shall be done through experienced masons only. All stones shall be fixed to wall in perfect plumb and level as per design. To keep the stone in position use of gypsum shall be done and all back cavity after fixing of clamps, dowels etc. shall be grouted with non-shrinking grout. Height of cladding shall be raised in a day which is self-supporting.

Joints and surfaces shall be cleaned thoroughly by using coir stringer wire brush. Then joints shall be grouted with approved readymade grout or matching colour grout as directed. Surfaces shall be allowed to care for 7 days.

Notwithstanding the above stipulation, the contractor shall be entirely responsible for the sufficiency of fixings.

All anchors and other fixing shall be concealed when the work is completed.

Great care shall be taken to protect delivered stones from dripping and staining during the course of work.

4.1.3 Skirting or dado tiles shall be fixed as under –

1) Sufficiently hardened backing/undercoat must be damp.
2) Tiles shall be buttered with grey/white or pigmented cement paste on the back side as directed.
3) Tiles shall be fixed on the undercoat and tamped with wooden mallet or rubber mallet to achieve full adhesion to the undercoat. Edges shall be tamped to secure line and level.
4) Care shall be taken to achieve pattern of laying with respect to floor or ceiling.
5) Tiles shall be mopped with wet cloth to remove grout coming out from joints.

4.1.4 Jointing

1) Joints shall be cleaned thoroughly and grouted with unsanded readymade grout as directed by the EIC. Grout shall be a thick paste and tooled into joints and area of the tile cleaned with a damp cloth. Grouting shall be cured by wet curing for 7 days.

2) After 24 hours of grouting, tiles shall be cleaned with water and after 7 to 10 days or prior to handing over, tiles shall be washed with mild acid. Care shall be taken that grout does not develop any stain mark.

3) All expansion joints shall be carried out right through and finished by sealing with silicon sealant.

4.1.5 Polishing and cleaning shall be as described in type of tile referred above, except that the operation shall be manual.

**PANELLING & FURNITURE**

**MDF / PLY / GYPSUM**

**1.0 GENERAL**

1.1 Indian Standards

Work shall be carried out to Indian Standards and Code of practices. In absence International standards shall be followed. These shall be latest issue. List given hereunder is not to be considered as conclusive and is for reference and guidance only. Any discrepancies / conflict noticed shall be directed to the Architect / Bank for his direction / approval. However as a general rule more stringent specification shall take precedence.

| | | |
|---|---|---|
| (1) | IS 287 | Recommendation for maximum permissible moisture content for timber used for different purposes |
| (2) | IS 303 | Specification for plywood for general purposes |
| (3) | IS 401 | Code of practice for preservation of timber. |
| (4) | IS 659 | Specification for block boards |
| (5) | IS 710 | Specification for marine plywood |
| (6) | IS 848 | Specification for synthetic resin adhesives for plywood |
| (7) | IS 851 | Specification for synthetic resin adhesives for construction work (nonstructural) in wood |
| (8) | IS 852 | Specification for animal glue for general wood working purposes. |
| (9) | IS 1328 | Specification for veneered decorative plywood |
| (10) | IS 1508 | Specification for external for use in synthetic resin adhesives (urea-formaldehyde) plywood. |
| (11) | IS 1734 | Methods of test for plywood |
| | Part 2 | Determination of resistance to dry heat |
| | Part 3 | Determination of fire resistance |
| | Part 1 | Determination of density and moisture content |
| | Part 10 | Determination of compressive strength |

| | | |
|---|---|---|
| | Part 5 | Test for adhesion of piles |
| | Part 18 | Impact resistance test on the surface of plywood |
| | Part 19 | Determination of nail and screw holding power |
| | Part 20 | Acidity and alkalinity resistance test |
| | Part 4 | Determination of glue shear strength |
| | Part 6 | Determination of water resistance |
| (12) | IS 2380 | Methods of test for wood particle boards and boards from other lignocellulosic material: |
| | Part 4 | Determination of static bending strength |
| (13) | IS 3087 | Specification for wood particle board for general purpose |
| (14) | IS 3513 | Specification for high and medium density wood laminates (compreg): |
| | Part 4 | Sampling and tests |
| (15) | IS 4962 | Specification for wooden side sliding doors |
| (16) | IS 5509 | Specification for fire retardant plywood |
| (17) | IS 7638 | Method of sampling for plywood, fibre hardboard, insulation boards and particle boards. |
| (18) | IS 9188 | Performance requirements for adhesive for structural laminated wood products for use under exterior exposure condition. |
| (19) | IS 11215 | Methods of determination of moisture content of timber and timber products. |
| (20) | IS 12077 | Code of practice for testing of timbers for plywood manufacture |
| (21) | IS 12120 | Code of practice for preservation of plywood and other panel products. |
| (22) | IS 12823 | Specification for pre-laminated particle boards |
| (23) | IS 2547 | Specification for Gypsum building plaster |
| (24) | IS 2818 | Specification for Indian Hessian |
| (25) | IS 412 | Specification for Expanded metal steel sheets for general purpose. |
| (26) | IS 2095 | Specification for gypsum plaster boards part - 3. Reinforced Gypsum plaster boards (second revision). |
| (27) | IS 2098 | Specification for Asbestos cement building boards |
| (28) | BS 476 | Method for classification of the surface spread of flame of products. |
| (29) | BS 1142 | Specification for fiber building boards |
| (30) | BS 3046 | Specification for adhesives for hanging flexible wall coverings. |

1.2 Quality Assurance

1.2.1 Comply with standards specified for material and workmanship

1.2.2 Supervision and workmen employed shall be experienced in field of carpentry works and shall be able to guarantee workmanship and finish of standards as established and approved by the Architect / Bank.

1.2.3 Items specified from specific manufacturer with code no and of approved manufacturer shall be with quality assurance certificate from manufacturer shall be guaranteed for 5 years.

1.2.4 Installer Qualifications

An experienced installer who has completed architectural woodwork (Furniture) similar in material, design and extent to that indicated for this project and whose work has resulted in construction with a record of successful in service performance.

1.2.5 Fabricators Qualifications

A firm experienced in producing architectural woodwork similar to that indicated for this project and with a record of successful in service performance, as well as sufficient production capacity to produce required units.

1.2.6 Mock-ups

Before fabricating and installing interior architectural woodwork, build mock-ups for each form of construction and finish required to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build comply with the following requirements, using materials indicated for the completed work:

1. Build mock-ups in the location and size indicated or, if not indicated, as directed by Architect
2. Notify Architect seven days in advance of dates and times when mock-ups will be fabricated and installed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mock-ups before starting interior architectural woodwork fabrication
5. Maintain mock-ups during construction in undisturbed conditions as a standard for judging the completed work.
6. Demolish and remove mock-ups when directed.
7. Approved mock-ups may become part of the completed work if undisturbed at time of substantial completion.

1.3.0 Submittals

1.3.1 For approval the contractor shall submit with detail note

a) Literature / Catalogue of product to be used.
b) Test certificates from independent laboratories conforming that product meets standards specified.
c) Manufacturers certification that product meets / exceeds specification for the project.
d) Include data for wood preservative treatment and chemical treatment from manufacturer and certification by treating plant that treated materials comply with requirement.

e) Literature describing each fabric wall covering product and its suitability for the surface intended shall be submitted. List materials composition of fabric materials including backing.

e) Samples

i) Timber piece - 300x100x60 mm 3 Nos.

ii) Veneers - 300x300mm

iii) Laminates - 300x300 with shade samples

iv) Prelaminated board of exterior quality – 300 X 300 mm

v) MDF Board of exterior quality – 300 x 300mm

v) Samples with polish / paint finish as specified.

vi) Fittings and fixtures samples

vii) Gypsum broad of size 300 x 300mm.

viii) GI channels, runners, studs about 300mm long

ix) 600 x 600mm samples for each type of fabric wall covering

**2.0 MATERIAL**

2.1 Timber

2.1.1 Timber shall be of quality as specified in BOQ and well-seasoned. When a kind of timber is not specified, good quality teak wood shall be used. It shall have uniform colour, be free from defects such as cracks, dead knots, soft spongy spots and waves of injurious open shapes. Grains shall be reasonably straight. The individual hard and sound knot shall not be larger than 6 sq. cm. The aggregate area of all knots shall not exceed 0.5% area of a piece. All timber is sawn unless otherwise stated.

Planed timber shall be used for external work, fascia large boards and other similar works to the approval of Architect.

2.1.2 All timber shall be treated with chemical wood preservatives and be kiln seasoned to IS 1141 and conform to IS 287 for moisture content. Maximum permissible limit shall be + 3% for average moisture content of all samples from a given lot and + 5% for individual sample of the given lot. This is applicable when thickness of timber is more than 50 mm. Small size tolerance shall be + 2% and + 3% respectively.

2.1.3 Timber used shall be treated with a 5 years guarantee and approved anti-termite treatment. Wood work in contact with masonry or concrete shall be painted with hot bitumen collator before being placed in position.

2.1.4 Timber received at site shall be marked and stamped for approval prior to being used at site.

2.1.5 Sizes specified are not indicative and shall be correct finished sizes within allowable tolerances.

2.1.6 All timber shall be finished to required dimension and texture prior to being treated for chemical preservation.

2.1.7 Readymade factory finished material shall be as specified and shall comply to IS code. It shall be ant termite treated, kiln seasoned.

2.1.8 Timber shall be treated with preservatives when used.

a) For permanent built-in and subjected to humid / damp conditions.

b) Used in exterior places / locations

c) In contact with masonry, plaster, concrete.

2.2 All Block boards and formed boards shall be of specified thickness, uniform in colour texture, finish. They shall comply to IS code and shall bear IS marking. They shall be pressed with exterior quality phenol formaldehyde resin in hot press.

2.3 Prelaminated Boards

Prelaminated boards / high /medium density Fiber boards shall be conforming to IS and shall be with exterior quality adhesive only. Boards with commercial or interior quality adhesive shall not be used in works. Thickness shall be as specified**.** MDF of exterior grade shall be used. MDF shall be Phenol Formaldehyde bonded and generally conform to IS 3087 – 1965. The laminated board to be of approved colour and shade.

2.4 Lipping and Beading

Lipping and beading of wood particle board shall be done by the conventional method either with a veneer or with wood moulding or plastic moulding. Metal beading shall be done with suitable glue which will hold metal or wood.

2.5 Veneer

3.5 – 4.0mm thick straight grained matching approved veneers shall be used. All the veneer shall be from one lot and shall be group matched so as to be similar in grain and characters. Architect's prior approval of the lots is to be obtained before the same is procured and fixed in position. The veneer shall conform to IS 851 and shall be resin bonded & suitable for the intended use. All veneers shall be with ply back.

2.6 Plastic Laminated Sheets

2.6.1 Plastic laminated sheets shall be 1.0 mm on faces and backing shall be 0.7mm thick with an amino plastic facing, cigarette-proof and shall comply with IS Specification.

2.6.2 Sheets shall be of approved manufacturer from his range in approved colour.

2.7 Gypsum board as manufactured by India Gypsum Ltd. Haryana or equivalent approved. Board shall confirm to CBRI certification. Gypsum board is formed by enclosing and bonding together a core of set Gypsum plaster by two sheets of heavy paper. Board shall be fire resistant, light weight, strong, durable dimensionally stable, smooth surface finished such that ready to receive directly painting, wall papering etc.

2.8 All fittings and fixtures shall be as specified in bills of quantity or on drawing by Architect. Fittings shall be basically of brass or stainless steel and finished as directed. Brass fittings and fixtures may be chrome plated oxidized. Where specified stainless steel / bright finished shall be used. Approved makes only shall be used for respective items.

Fittings shall be guaranteed by the manufacturer for its performance. Woods screws shall be matching and of type as required for each fittings and shall conform to IS.

Nails, screws, pins, dowels, coach screws etc. shall be galvanized or non-ferrous materials when used in exterior locations.

2.9 Adhesives and glue shall be as per IS for exterior quality and water repellent.

2.10 Framing and Rough Lumber shall be of brass, stainless steel as required includes blocking, grounds, furring etc. to be suitable framing members for intended use as approved and specified.

2.11 G.I. sections

Pressed GI sheet metal sections shall be as required for system to be designed for location of its use and to approval of the Bank / Architect.

Pressed GI sheet floor / ceiling channels / runners, Studs, hollow section studs etc. as required shall be of desired designed thickness, size and shape.

2.12 Aluminum

2.12.1 Aluminum Extrusion shall be of fully heat treated aluminum alloy confirming to IS (63400 WP/HE9WP) or equivalent BS standards 6063- T5. Framing material shall comply as under

For extrusion Alloy to BS 6063 - T5 or T6, and ASTM B221

For sheets Alloy to BS 5005 - H16 and ASTM B 209

Other alloys and temper recommended by the manufacturer appropriate for specified finish.

Minimum thickness 2.0 mm for framing members and rails, 1.5mm thick for other intermediate supporting members, 1.8 mm for sheets and for glazing stops and similar components. Glazing beads shall be screw less type fitted into the frames.

2.13 Fabric

2.13.1 Fabric shall be of approved make and shade and fixed with approved adhesive as specified by Architect/Bank. Wall fabric shall achieve Class 1 surface spread of flame.

2.13.2 Sheet cork shall be 6mm thick continuous roll type, fire treated, set with adhesive, polyvinyl acetate.

2.13.3 Mineral fiberboard 20mm thick to wall panel size.

**3. Fittings and Fixtures (Ironmongery)**

a) All fittings and fixtures shall be detailed in shop drawings, conforming to specification and shall be fixed as per manufacturer's instructions.

b) Fittings and fixtures shall make assembly sturdy and securely placed.

c) Where finishes are to be done on installation remove fixtures and allow painter / polisher to work and on completion refix them.

3.1 Marine Plywood Partition

Providing, constructing & fixing in place MDF/ Marine Plywood Partitions of overall thickness 75mm thick with 50mm x 38mm recycled aluminum framing at every 450mm c/c with 12mm thk. MDF/ Marine Plywood on both sides. All other salient

features such as bands, grooves, inlay patties & extra frame work and all other features indicated in drawing or as per instructions of architect to be the same as items of paneling. Mode of measurements also to be same as that of mentioned in paneling items. Cost of partition also to include providing, constructing & fixing MDF frame with necessary rebates of 38mm or 50mm as required to enable fixing of doors (on 3 sides of opening produced). Finishing items to be provided only on visually exposed surfaces of partitions and not on areas covered by storages, tables, fabric etc.

3.2 Gypsum board paneling

Pressed GI metal framing sections in combination of GI wire/section fixed with anchor fasteners to wall providing basic frame work. These are readily available or may be specially fabricated to suit site requirement. Frames are provided @ 450mm c/c. Grid shall be adjusted to suit other requirements to approval of the PM.

G.I. metal frame should be of 22 gauges.

3.3 Gypsum board Partition

Providing & constructing and fixing in place gypsum board partition of overall thickness of 75mm. Partition to have 12mm thk. Gypboard covering done from both sides on existing support members of the partition.

## FALSE CEILING

**1.0 GENERAL**

1.1 Indian Standards

Work shall be carried out to Indian Standards and Code of practices. In absence International standards shall be followed. These shall be latest issue. List given hereunder is not to be considered as conclusive and is for reference guidance only. Any discrepancies / conflict noticed shall be directed to the Architect / EIC for his direction / approval. However as a general rule more stringent specification shall take precedence.

| | | |
|---|---|---|
| (1) | IS 2547 | Specification for Gypsum building plaster |
| (2) | IS 2818 | Specification for Indian Hessian |
| (3) | IS 412 | Specification for Expanded metal steel sheets for general purpose. |
| (4) | IS 2095 | Specification for gypsum plaster board's part - 3. Reinforced Gypsum plaster boards (second revision). |
| (5) | IS 2098 | Specification for Asbestos cement building boards |

1.2 Quality Assurance

1.2.1 Materials used shall conform to standards specified.

1.2.2 Material received at site shall be of approved manufacturer and shall certify that material conform to specification or exceeds than those required.

1.2.3 Material is acceptable to local authorities for safety and fire.

1.3 Submittals

1.3.1 The contractor shall submit technical details with test result of manufacturer and of the independent laboratories.

1.3.2 The contractor shall submit shop drawing giving details of

a) Plan and elevation of partition wall

b) Floor, wall, beam, soffit of slab fixing details.

c) Details and type of channels, runners, and studs used to have rigid, secured frame work for fixing boards.

d) Details of fixing boards, jointing details

e) Details of jointing with structural frame work.

f) Position and installation of acoustic / insulation.

1.3.3 Samples of all materials such as GI channels, runners, studs about 300mm long and Gypsum broad of size 300 x 300mm

**2.0 MATERIAL**

**ALL MATERIALS SHOULD BE SATISFYING GREEN BUILDING REQUIREMENTS AND SHALL BE FROM SUGGESTED LIST OF MATERAILS.**

2.1 Plaster of Paris ceiling tiles shall be reinforced with hessian cloth. Maximum size shall be limited to 750 mm x 750 mm. Tiles shall be true and exact shape with clean and regular chamfers and shall give a ringing sound when struck. The exposed face shall be truly plane and smooth.

2.2 Metal lath shall confirm to IS and as specified wire netting for metal laths shall be galvanized.

2.3 Gypboard as manufactured by India Gypsum Ltd. Haryana or equivalent approved. Board shall confirm to CBRI certification. Gypboard are formed by enclosing and bonding together a core of set Gypsum plaster by two sheets of heavy paper. Board shall be fire resistant, light weight, strong, durable dimensionally stable, smooth surface finished such that ready to receive directly painting, wall papering.

2.4 Expanded polystyrene or foamed stomper slab ceiling boards and tiles shall be of approved make in specified sizes, thickness, and finished colour.

2.5 Plywood and veneered decorated plywood confirming to IS and as specified may also be used as ceiling lining. Also other material like insulation block boards, wood particle board etc. confirming to IS and as specified shall be used in work.

2.6 Exposed Grid system

Heavy duty (allowable load $\geq$ 23.8 kg/m at 3.33 mm deflection) module of 600mm x 600mm with main and cross tees. Tees shall be galvanized, cold-rolled steel with 15mm flange width, 38mm height, 0.5mm thick main tee, 0.4mm thick cross tee.

Edge moulding shall be minimum 0.5mm thickness galvanized steel, channel or angle shaped with minimum 15mm flange width.

2.7 Suspension system shall be as specified and approved.

2.7.1 G.I. suspension system manufactured from pressed steel metal sheets shall be used. Angles, channels 'Tee's etc. along with GI wire and rawl plug fasteners shall be of approved size as per false ceiling drawing for desired location.

2.7.2 Approved quality wood battens of about 50 x 50mm to 50mm to 25mm as per design and requirement shall be used. Timber shall be kiln seasoned, ant termite treated and finished with a coat of lacquer. Battens shall be fixed with concrete / Masonry or structural steel by using GI screws, nut bolts etc. as required as per detail approved shop drawing.

2.7.3 Aluminum sections suspension system may also be used as specified and approved by the EIC. 100% recycled aluminum, sealants for aluminum to have VOC limits <250 g/l.

**3.0 WORKMANSHIP**

Wooden battens shall be kiln seasoned, ant termite treated and shall be FSC certified only.

3.1 Suspension system

3.1.1 Pressed GI metal sections in combination of GI wire/section hangers and fixed with anchor fasteners to ceiling providing basic hanging and suspension frame work. These are readily available or may be specially fabricated to suit site requirement. Hangers are provided @1500 mm c/c on both ways. Grid shall be adjusted to suit other requirements to approval of the Bank/ Architect. G.I. metal frame should be of 22 gauge folded strip of 50mm width.

3.2 Use special corner metal studs and special metal trim corner beads at acute and obtuse corners of inter-sectioning wall and partition.

Aluminum angles / Tees and channels suspended in combination of GI/Aluminum hangers are also provided for creating hanging and suspension framework.

3.3 Wooden frame work shall consist of main and cross batten of specified sections in approved shop drawing. The longitudinal and header scanting shall be so arranged that tiles can be fixed to form the panel arrangement. The frame work shall be treated with approved wood preservative lacquer.

3.4 False ceiling panels

3.4.1 False ceiling may be concealed type or with lay in panels as detailed in BOQ. All lay in panels shall be fixed on back with non-uplifting pins. False ceiling shall be finished as with POP or painting or may be pre finished decorative tiles.

3.4.2 Plaster of Paris ceiling tiles shall be fixed with brass screws. Gypboard and other of shall be fixed such that they are rustles and in combination of suspension or panels not going to cause any harmful effect or get deteriorated. Fixing shall be approved by the Engineer.

3.4.3 False ceiling shall be provided to correct line, level with required finishes as specified.

3.5 Metal lathing Plaster

This shall be carried out to create a false ceiling or surface specially to cover up services behind it. Hence, all services must be tested and approved by the EIC prior to this plastering.

3.5.1 The GI metal lath used shall be of a specified gauge. Lath shall be supported and stretched with long way of the mesh across the support before nailing. Support of timber batten depending upon the location shall be spaced but shall not be greater

than 450 mm center to center. Metal lath shall be secured with wooden batten by GI staples or nails and 0.9 mm GI wire. Overlap shall be arranged over intermediate support and not in the corners.

3.5.2 Plastering in lathing shall be carried out in two coats. The first coat shall be with stiff consistency mortar, applied uniformly with a trowel and keyed. It shall be allowed to harden and dry for a minimum period of 3 days. The second coat shall be applied in the usual manner of plastering and finished as specified. Both coats shall be wet cured as detailed earlier.

3.6 Acoustic Suspension system

3.6.1 Tiles shall be tightly butted, all sides of tile supported. Suspension system shall support the ceiling only. All the light fixtures, diffusers, grilles etc. shall be individually supported by supports / hangers. Use one 600 mm tee spline glued with acoustical cement to the back of a 600 mm x 600 mm panel for dimensional stability.

3.6.2 Provide 3.3mm pre-straightened galvanized steel rod hangers 1220 mm o.c. supporting main runners. Where partitions runners are fastened to runners, provide 4.1mm pre-straightened galvanized steel wire hangers to act as stiffeners for ceiling system. Provide clip inserts in structural slab to receive hangers of sufficient strength to support ceiling with a safety factor of 5.

3.7 Points to be checked are

3.7.1 It shall be responsibility of the false ceiling contractor to prepare reflected ceiling layout and get approved prior to start. He shall be responsible to provide and arrange required service doors, cut outs, fixing arrangements to receive light fitting, AC diffusers, Grills, etc.

3.7.2 Prior to start of false ceiling services work above false ceiling is completed.

3.7.3 Edge angle are fixed to correct line and level.

3.7.4 Hangers are located allowing movement of services within false ceiling.

3.7.5 Main and secondary runners are spaced with due care and perfect rigid frame work is achieved to correct line and level.

3.7.6 False ceiling panels shall be fixed with suspension by GI screws/pin etc. Joints shall be well treated and neatly finished as detailed.

## 4.0 RATES

False ceiling rates shall include

- Required suspension system
- Required false ceiling material
- Required arrangement to receive light fittings, fixtures, AC grills, diffusers, etc.
- Required access service door / shutter
- Masking tape
- Required finishing with POP or approved filler or painting or polishing as case may be.

* * * * *

**WOODEN JOINERY**

**1.0 GENERAL**

1.1 INDIAN STANDARDS

Work shall be carried out to Indian Standards and Code of practices. In absence International standards shall be followed. These shall be latest issue. List given hereunder is not to be considered as conclusive and is for reference and guidance only. Any discrepancies / conflict noticed shall be directed to the Bank/Architect for his direction / approval. However as a general rule more stringent specification shall take precedence.

| | | |
|---|---|---|
| 1. | IS 287 | Recommendation for maximum permissible moisture content for timber used for different purposes in different zones. |
| 2. | IS 401 | Code of practice for preservation of timer. |
| 3. | IS 848 | Specification for synthetic resin adhesives for plywood (phenolic and amino plastic). |
| 4. | IS 851 | Specification for synthetic resin adhesive for construction (non-structural) in wood. |
| 5. | IS 852 | Specification for animal glue for general wood working purposes. |
| 6. | IS 1003 | Specification for timber paneled and glazed shutters<br>Part 1 Door shutters |
| 7. | IS 1141 | Code of practice for seasoning of timber |
| 8. | IS 1328 | Specification for veneered decorative plywood |
| 9. | IS 1508 | Specification for external for use in synthetic resin adhesives (urea-formaldehyde) plywood. |
| 10. | IS 2036 | Phenolic laminated sheet |
| 11. | IS 2202 | Specification for wooden flush door shutter (Solid core type)<br>Part I Plywood face panels<br>Part II Particleboard and hard board face panels |
| 12. | IS 2221 | Method of test for amino plastic molding material |
| 13. | IS 4020 | Method of tests for shutters<br>Part 1 to 15 |
| 14. | IS 4021 | Specification for timber doors, window and ventilator frames. |
| 15. | IS 4913 | Code of practice for selection, installation and maintenance of timber doors and windows. |
| 16. | IS 7196 | Specification for hold fast |
| 17. | IS 7638 | Method of sampling for plywood, fiber hardboard, insulation boards and particle boards |
| 18. | IS 9307 | Method of Test for wood based structural sandwich construction. |

Part 2 Edgewise compression test.

Part 3 Flat wise compression test.

Part 4 Shear test

19. IS 12120 Code of practice for preservation of plywood and other panel products.

1.2.0 Quality Assurance

1.2.1 Comply with standards specified for material and workmanship

1.2.2 Supervision and workmen employed shall be experienced in field of carpentry works and shall be able to guarantee workmanship and finish of standards as established and approved by the Bank / Architect.

1.2.3 Shutters manufacturer shall have ISI certification and each shutter received at site shall bear stamp of ISI, manufacturer and type of product, batch no., etc.

1.2.4 Shutter manufacturer shall have minimum 7 (seven) years' experience in this product.

1.3.0 Submittals

1.3.1 For approval the contractor shall submit with detail note

a) Literature / Catalogue of product to be used.

b) Test certificates from independent laboratories conforming that product meets standards specified.

c) Manufacturers certification that product meets / exceeds specification for the project.

d) Samples

i) Timber piece - 300x100x60 mm 3 Nos.

ii) Shutter - corner piers showing detail construction.

iii) Veneers - 300x300mm

iv) Laminates - 300x300 with shade samples

v) Samples with polish / paint finish as specified.

vi) Joinery details

1.3.2 Shop Drawings

The contractor shall prepare joinery detail drawing for site measurement. Drawings shall indicate each material, its installation, fixing details, finishing, etc. all in plan, elevation, section and typical details.

**2.0 MATERIAL**

**ALL MATERIALS SHOULD BE SATISFYING GREEN BUILDING REQUIREMENTS AND SHALL BE FROM SUGGESTED LIST OF MATERAILS.**

2.1 Timber

2.1.1 All wood used to be FSC certified only. Timber shall be of quality as specified in BOQ and well-seasoned. When a kind of timber is not specified, good quality teak wood shall be used. It shall have uniform color, be free from defects such as cracks, dead knots, soft spongy spots and waves of injurious open shapes. Grains shall be reasonably straight. The individual hard and sound knot shall not be larger than 6 sq.

cm. The aggregate area of all knots shall not exceed 0.5% area of a piece. All timber is sawn unless otherwise stated.

2.1.2 All timber shall be treated with chemical wood preservatives and be kiln seasoned to IS 1141 and conform to IS 287 for moisture content. Maximum permissible limit shall be + 3% for average moisture content of all samples from a given lot and + 5% for individual sample of the given lot. This is applicable when thickness of timber is more than 50 mm. Small size tolerance shall be + 2% and + 3% respectively.

2.1.3 Timber used shall be treated with a 10 years guarantee and approved anti-termite treatment. Woodwork in contact with masonry or concrete shall be painted with hot bitumen collator before being placed in position.

2.1.4 Timber received at site shall be marked and stamped for approval prior to being used at site.

2.1.5 Sizes specified are not indicative and shall be correct finished sizes within allowable tolerances.

2.1.6 All timber shall be finished to required dimension and texture prior to being treated for chemical preservation.

2.2 Plywood

2.2.1 Plywood used shall be BWR type, of specified thickness and conforming to IS test as specified. Hardwood will not be accepted in lieu of plywood.

Marine ply shall be used in damp and exposed weather location / conditions.

2.2.2 Veneers of plywood face to be painted or finished with similar treatment or unaccessible needed not be totally free from knots, worm and beetle holes, splits, stains of glue or other acceptable defects.

2.2.3 Plywood face to be natural face finished and shall be totally free from knots, worm and beetle, holes, stains of glue splits or other acceptable defects.

2.3 Shutters

2.3.1 Shutters shall be as specified and shall comply with respective code of practice. Door shutter shall be tested from a laboratory to get confirmation that door shutter comply to IS specifications.

2.3.2 Shutters shall be of specified thickness. They will have natural ply or teak wood veneer finish or 1.2 mm thick melamine sheets as specified. These shall be hot pressed and bonded with water resistant formaldehyde synthetic resin of exterior quality as per IS specifications. The adhesive used for bonding cross band to core and face veneers to cross band shall conform to IS 848 (Phenolic and Amino plastic). Ensure that the adhesives are unaffected by any timber treatment.

2.3.3 Tolerance on width and height shall be + 2 mm. Tolerance on thickness shall be + 1 mm. Thickness of shutter shall be uniform throughout. Variation permissible shall be 0.8 mm.

2.4 All fittings and fixtures shall be as specified in schedule or bills of quantity or as directed by the EIC. It shall be conforming to IS and shall be of Brass of approved make. Fittings shall be guaranteed by the manufacturer for its performance. Woods screws shall be matching and of type as required for each fittings and shall conform to IS.

2.5 Nails / screws

All nails, screws etc. shall be hot dip galvanized or of brass or non-ferrous material.

2.6 Adhesives

Adhesives and glue shall be as per IS for exterior quality and water repellent.

2.7 Approved primer and sealer for the paint shall be used.

**3.0 SCOPE OF WORK**

3.1 Frames

Size of timber shall be specified in the Bills of Quantities. Frames shall be rebated to house the shutter. They may be rebated on both sides, or rounded or moulded, etc. as per drawing if specifically referred in BOQ. For single rebate, depth shall be 15 mm.

Frames shall be finished smooth to receive paint, polish or any other specified finish. Surface abutting against masonry or concrete must be with ant termite treatment and a coat of boiling coal tar or any other approved wood preservative or primer applied prior to placing in the final position.

3.2 Shutters

Provide approved quality shutter of size and thickness with required fire rating if any as specified in BOQ with required fittings and fixtures, and finished as specified in drawing / BOQ. Work shall include testing at independent laboratory supervision submitting guarantee for quality, fire rating if any etc. to EIC for work and executed.

3.3 Providing, preparing, moulding teak wood architraves of details as given by the Bank/Architect. Work shall including preparing, seasoning, moulding, cutting, fixing with headless nail, etc. all complete and approved painted or polished as specified by the Bank/Architect.

**4.0 WORKMANSHIP**

4.1 General

4.1.1 Timber brought at site shall be as approved by the Bank/Architect.

4.1.2 No timber shall be painted, tarred, oiled, etc. before its inspection by the Bank/Architect. Any effort to hide the defects by plugging, painting, etc. shall render the piece to be rejected by the Bank/Architect.

4.1.3 All rejected timber shall be removed at once from the site of work.

4.1.4 All sawing of timber shall be done in straight lines and planes of uniform thickness.

4.1.5 All joints shall be tongued and grooved or of the type shown in the drawings specified in the item or as directed by the Bank/Architect. All joints shall be glued with approved water repellent adhesive.

Joints shall be strong, neat and shall fit without wedging or filling. They shall be pinned with hard wood or bamboo pins of 10- 15 mm dia after the members of the

frame are glued and pressed together in a suitable vice-mechanism. Also jointing concealed pins shall be provided.

4.1.6 Prior to joining, wood members of frame shall be planed smooth and accurate to the full depth. Rebates, rounding's, moldings, etc. as shown in the drawing shall be done before the members are joined.

4.1.7 No defects which reduce the strength of the connection are permitted at joints, bearing or assembly connections.

4.1.8 All timber items shall be subjected to inspection by the Bank/Architect prior to any treatment to be carried out. No item shall be installed unless it is approved by the Bank/Architect.

4.2 Shutters

4.2.1 The timber used in core of door shutters shall be from species specified in Appendix of IS 2202 part I. For styles, rails and lapping timber specified in-group 2 of Appendix A shall be used. Moisture content in the timber shall not be more than 12% when tested according to IS 1708.

4.2.2 Timber shall be seasoned, chemically treated and antitermite treated. It shall be free from decay and insect attack.

4.2.3 Plywood used in shutters shall conform to BWR grade.

4.2.4 Cross band used in door shutters shall conform to the requirements laid down in BWR grade plywood.

4.2.5 Adhesives used shall be phenol formaldehyde synthetic resin conforming to BWR type. All bonding such as core members to one another including core frame, lapping, cross band and plywood to core and face veneers to cross band shall be with phenol formaldehyde or as approved exterior quality.

4.2.6 Construction shall conform to specification given in IS 2202 Part I.

4.2.6.1 A frame constructed of styles and rails shall be provided for holding the core. Width shall not be less than 50 mm and more than 100 mm inclusive of lapping if provided.

4.2.6.2 Core may be of wooden strips, particleboard, combination of block board and particleboard.

4.2.6.3 Styles and rails shall be made of one or more pieces glued together.

4.2.6.4 Levelling by planning of surfaces shall be carried out at each stage of construction to eliminate impressions of the core strips on the outside face.

4.2.6.5 Face panel shall be formed by gluing by hot press process on both faces of the core. Face panels shall be minimum 6 mm ply. Direction of grain on face to be vertical.

4.2.6.6 Lapping may be internal or as edge-band as specified and approved by the Bank/Architect. External lapping shall be solid and minimum 6 mm thick on the face of the door. Edge band lapping shall have a total depth of minimum 25 mm. Joints shall not be permitted in lapping.

4.2.6.7 Double leaved shutters shall be rebated meeting either by splayed or square type. Thickness of lapping shall not be less than 35 mm.

4.2.6.8 Opening for glazing and ventilation shall be provided if specified. Opening of glazing shall be lipped internally with solid timber.

4.2.6.9 Shutters shall be shop-prepared for taking mortise locks or latches as may be ordered. Sizes of block for fixing hardware shall conform to IS 2209.

4.2.7 All four edges of shutters shall be square or free from twist or warp in its plane. Both faces shall be sanded to a smooth even texture.

4.2.8 The shutters shall be sampled as per criteria given in Appendix B of IS 2202 part I and tested as per detail given in clause 9 of IS 2202 part I for

a) End Immersion Test
b) Knife Test
c) Glue Adhesion Test

4.3 Fittings and fixtures

The fittings shall be as specified in BOQ or the drawings for door shutters. All fittings and fixtures shall be new, sound and strong, required screws for fixing shall be in the same colour and included in the pricing. Fittings and fixtures shall be as approved by the EIC and conform to IS. Providing and fixing shall also include making grooves, chases, reinforcing, etc. Any fixtures damaged during fixing shall be removed and replaced with new one.

## MODE OF MEASUREMENT FOR PAYMENT

| | | |
|---|---|---|
| 01. | Counter | :- Running length along center of the depth of the counter. |
| 02. | Cash | :- Running length along center of the depth of the counter. |
| 03. | Wicket Gate | :- Width X Height |
| 04. | Partitions | :- Length X Height up to the soffit of false ceiling including door frames and doors. |
| 05a. | Paneling with Laminate | :- Length X Height up to the soffit of false ceiling. |
| 05b. | Paneling with T.W. Moulding | :- -do- (including cost of T.W. moulding). |
| 06. | Hexagonal surface | :- Overall external periphery X Height. |
| 07. | Round Surface | :- Length of circumference X Height. |
| 08. | Door | :- Main entrance – Glass – Shutter Length X Height. |
| 09. | Tables | :- In No. |
| 10. | Storage | :- Length X Height. |
| 11. | Sofa | :- Length including armrest – externally measured. |

| | | |
|---|---|---|
| 12. | Sofa Chairs | :- Unit |
| 13a. | Galvanized False Ceiling | :- Galvanized bottom surface Length X Breadth |
| 13b. | Plaster of Paris False Ceiling | :- Exposed surface – including moulding (No additional payment will be made for moulding) |
| 13c. | Acrylic False Ceiling | :- Length X Breadth. |
| 14. | Wall Curtain (Window) | :- Finished Length X Finished Height. |
| 15. | Vertical Blinds | :- Actual size of vertical blinds |
| 16. | Notice Boards Etc. | :- Unit / No. |
| 17. | Steel Monogram | :- Unit |
| 18. | Steel letters of various heights | :- No. |
| 19. | Paintings | :- a) Wall surface – Actual length X Height. |
| | | :- b) M.S. Grill / Mesh / Without frame. |
| | | :- c) M.S. Collapsible gate of one side. |
| | | :- d) Cornice – Plain surface of P.O.P. False Ceiling. |
| | | :- e) Fully paneled Door / Windows with frame :- 2.5 times area of one side. |
| | | :- f) Partly Paneled / Partly glazed doors windows, partitions with frame and shutters :- 2 times area of one side. |
| | | :- g) Fully glazed Window / Partition with frame and shutters :- 1 time area of one side. |
| 20. | Granite Flooring | :- Finished Length X Breadth. |
| 21. | Granite in Design | :- Finished Length X Breadth. |
| 22. | Italian Marble | :- Finished Length X Breadth. |
| 23. | P.V.C. Flooring | :- Finished Length X Breadth. |
| 24. | Brick Wall | :- Length X Breadth X Height. |
| 25. | Tiling Dado | :- Length X Breadth. |

| | | |
|---|---|---|
| 26. | Pantry Counter With Sink | :- Finished length in Running Fit including sink and tiling dado. |
| 27. | Step / Riser | :- Square Ft. |
| 28. | Breaking | :- Lump Sum. |
| 29. | Fibre Glass Roof | :- Length X Breadth of bottom surface only.<br>:- (No. Curvature shall be considered) |
| 30. | Water proofing on Terrace, Toilet Blocks. | :- Length X Breadth (Area of slab in plan<br>:- wata will not be separately)<br>:- Water proof plaster – Length X Height. |
| 31. | Name Board | :- Length X Height<br>:- (No extra payments for brackets etc.) |
| 32. | Delivery | :- All delivery on site.<br>:- No extra Transportation, Taxes, Octroi etc. |
| 33. | Payment | :- Made only to the principal Contractor, No Payment shall be made to labour, Contractor, supplier or private financier etc. |
| 34. | TAXES | :- Sales Tax, VAT, Turnover Tax, Central Excise<br>Duty etc will be paid by contracto |

## CONSERVATION SPECIFICATIONS

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1.0 CONSERVATION SPECIFICATIONS

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## CONSERVATION SPECIFICATION

### 1.1 DEMOLITION, DISMANTLING REMOVAL

As this is a prime Heritage Building. Contractors shall take all precautions to see that the demolition is done in such a sequence and manner as to prevent all damage to usable and any damage to nearby property or injury to life. To this effect the Contractor may be required to erect suitable barricades around the works as directed for which no claims for extra payment will be allowed.

A register shall be opened by the contractor on the work site to show a day- to-day account of the turnout of salvaged materials. This register should also show whether dismantled material is properly stacked or wasted, it shall be signed by the representative of the contractor and by the Engineer-in-charge on site.

The structure shall be dismantled carefully, and the materials removed without causing damage to the serviceable materials and the part of the structure to be retained, and any properties or structure nearby. Any damage to nearby property or structure shall be made good by the contractor without extra claims. The' contractor shall be responsible for any injury to the workers or the public. Removal of overlaying adjacent materials if required for dismantling of the structure shall be included in the item.

Before demolishing any part of the structure, the contractor shall provide supports and struts to the existing structure as and when directed by the Consultants. All struts and support shall not be removed by the contractor until written permission is obtained from the architect or structural engineer. No extra claims for such skirting or supports shall be paid for; it shall be included in the tender under respective items for demolishing. All scaffolding will be in steel and will have rubber ends, so as to not damage any part of the structure.

All the materials obtained from the removal of the structure shall be the property of the owner. Serviceable materials shall be stacked neatly in such a manner as to avoid deterioration and in places directed by the Consultant within a distance of 100m. Different categories of materials shall be stacked separately. Materials which are to be reused, shall be numbered before dismantling, carefully dismantled to avoid any damages and stacked in an order which facilitates the re-use.

Unless otherwise provided, excavated materials shall be used in back filling the excavation made in removing the structure, in leveling ground or otherwise disposed off, as directed free of cost. Serviceable materials may be issued to the contractor for use in the new work or elsewhere at the rates and as per conditions provided in the tender. No material shall be disposed off by the contractor without the specific instructions of the Consultants.

Serviceable materials may be issued to the contractor for use in the new work or elsewhere at the rates and as per conditions provided in the tender. No material shall be disposed off by the contractor without the specific instructions of the Consultants.

1.2 ENABLING WORKS — SCAFFOLDINGMOMILE WORE STATIONS PROTECTWE WORKS

NOTE: THE CONTRACTOR IS TO PROVIDE THE SCAFFOLDING AND ENABLING WORKS LISTED BELOW AS PER THE FOLLOWING SPECIFICATIONS TO BE INCLUDED

The contractors have to provide scaffolding for the external and internal works as per the schematic arrangement given by the Architect, based on which he shall prepare detailed fabrication drawings. The total quantity of scaffolding to be deployed at site with repetitive use should take into account the completion period of the work. However, sufficient scaffolding material should be brought to site to cover a minimum of one third of the total work area.

Various precautions to protect the Heritage Structure and finishes from damage as detailed herein shall be taken by the contractor. The cost of scaffolding and various protective measures have to be included in the rates quoted by the contractor. It should be clearly understood that no work will be allowed to be carried out without the approval of the Architect/ Engineer for the scaffolding and other protective arrangement mentioned in these special specifications of work.

**A Safe, (largely free-standing) metal pipe scaffolding with clamp jointing** shall be provided for the operation, with metal sheeting/ timber plank and lifts at 8 feet heights. To ensure safety for inspection of the surfaces by the Site personnel and labor, stiffeners shall be provided at regular intervals, including sturdy metal ladders of the type which are pre-fitted into the scaffolding. The circular pipe sections shall have rubber inserts at the pipe ends at the point of contact with the stone surface, so as to avoid damage to the building. A tarpaulin covering shall be provided to ensure environmental protection and for technical reasons, to prevent inconsistent drying of surfaces during the process. Scaffolding permissions from the Municipal Authorities and the subsequent costs involved will be the responsibility of the Contractor.

The specifications for scaffolding are as follows:

**Providing and erecting two legged metal tubular scaffolding**, of width 1200 to 1500mm largely free standing, using H frames or tubular pipes of minimum 40 mm diameter, with base plates, fixed or adjustable with necessary clamps, couplers, brackets for projections, joint pins, pulleys and other accessories, including steel angle or tubular pipe bracings at adequate intervals, access platforms of metal or timber planks of span not exceeding 2.5 meters, including provision of rubber inserts to pipe ends at points of contact with structure to avoid damage, including access ladders with intermediate platforms. The scaffolding is to be suitably braced and anchored to the building using support systems created temporarily at the openings in the walls using vertical and horizontal adjustable steel props. The rate includes provision of high density plastic sheet covering to protect architectural details on the entire building face, required, and safety platforms at ground level covering the entrances to the building

Note: It should be noted that where scaffolding is taken up over floors, adequate supports are to be provided from below the floors to take the load of the scaffolding.

a) **Providing and erecting exterior scaffolding** as above, including dismantling, shifting and re-erection. The minimum quantity of scaffolding to be deployed shall be at least one third of the total estimated measured area in elevation

b) Providing and erecting high density plastic sheet covering fixed to the exterior face of scaffolding including duck tape with safety signage "work in progress" and "caution" boards at ground level and demarcation of entrances to the building.

c) For interior of lobby providing and erecting scaffolding up to vaulted and domed ceiling soffit using two legged metal tubular arrangement as described in ENB/1 in rows spaced at a distance not exceeding 2.5 meters, including suitable cross and horizontal bracing in both planes to make the entire scaffolding erected over the floor as self supporting, space frame arrangement without anchorage from the building components. The rate includes for providing planks below base plates of tubular scaffolding pipes. Minimum of one third of the quantity of the total measured area in elevation shall be deployed at site. The measurements will be calculated by multiplying the lengths of the two legged units at the

centre line of the 1200-1500mm scaffold unit Widths x heights of the individual rows. The rates will include for the cross bracings between the rows of the scaffold units. Where scaffolding is taken over upper floors or terrace these shall be adequately shored and supported from below.

d) **Supplying and providing mobile working platform fabricated with tubular pipes** of 50/40 mm dia. With solid rubber castor wheels and platforms for working at various heights, overall size of unit to be 5m long x 1.8m wide extendable up to 5m height complete with access stairs, safety railings etc. A minimum of two such mobile units will have to be deployed at site.

e) **Careful Packing of all sculpture details/ decorative grill work/ delicate tracery and statuary in bubble wrap plastic sheeting** with masking tape and duck tape to ensure absolutely no damage to the details during the site works.

f) **Plaster of Paris covering of 30mm thickness over the entire floor area** with a bottom layer of high density plastic sheet over Minton Tiles inside the Lobby and verandah areas to ensure that scaffolding/ movement of machine and tools do not damage the historic flooring.

g) **Providing and erecting a temporary partitions using 6 mm thick commercial plywood** of approved quality and make and with adequate supporting framework to make it largely free standing to provide protection from other works in progress. The partitions shall be such that they can be removed and reused at different locations without damaging the property. Item to include printed duck tape with safety signage and words "Site Works in Progress" and "Caution" printed to cordon off areas of work. Adequate site signage in bold printed signs should be placed as per Architect's instructions for safety instructions. **Providing and fixing temporarily 4mm thick commercial plywood** protection to glazed panels and stained glass, to be removed from site after completion of all work.

h) **Careful removal of cupboards**, loose furniture etc stored in the verandahs, staircases and other areas that need to be removed from the building and unloading at a site identified within the premises. The clearing should be done with utmost care to avoid any breakage or damage to furniture or architectural features of the building.

**Note: Unless the above enabling works are done and approved, the work of restoration in the concerned areas cannot be started.**

1.3 STONE CLEANING OF EXPOSED MASONARY SURFACES

Any old surface dirt or old surface coatings on the masonry surface is to be removed by gently dry dusting using soft nylon bristle brushes or a vacuum cleaner, to allow for removal of loose dirt and waterproof coatings. Stone surfaces must be cleaned from the top to bottom in dry dusting. Other methods for cleaning of stone surfaces may be

There are three different types of stones primarily used to face the building; buff Malad and white Porbunder limestone along with a few columns of grey basalt. The stone surfaces on the external facades exhibit stone staining and accumulation of pollutants and sulphate

skins, in passage of time. The surface hence requires gentle cleaning, using either of the under stated techniques, or in some cases additional cleaning techniques explained in the following passages. It is recommended that for buff basalt gentle water misting and water washing with mild surfactant is to be used and for the limestone stringer courses, cornices, capitals etc., ammoniacal poulticing is to be employed.

### 1.3.1. Mist Spraying & Water Washing

Most of the flat basalt stone surfaces along the external facades shall require only a gentle water washing, using an intermittent fine spray of water to loosen the accumulated dirt. This shall be done using a fine nozzle sprinkling system that is regulated to spray a fine mist along the stone surface, (without actually over-wetting the stone and causing any disastrous side effects like salt migration and consequent efflorescence). The sulphate accretions and pollutants are largely hygroscopic in nature and mist spraying over a period of 2-3 days should be sufficient to loosen the bonding with the stone.

Temporary 'splash' boards of resin bonded plywood sheathed in polyethylene sheet, should be placed to form horizontal catchments to collect and carry off the water flowing down the building face. These should then be periodically emptied.

Water spraying shall be then followed by gentle manual brushing, using soft nylon brushes. In cases of very stubborn staining, a mild, non-ionic detergent solution like ‘Teepol’ shall be used, if necessary. Proportion: 3 - 9 parts water / spirit to 1 part of non-ionic detergent.

The system to be installed for each elevation, shall involve air-compressors, rubber hose pipes, sprinkler nozzles and water supply for the misting. The spraying shall be done at about 1200 mm centers.

However, for some stubborn stains such as iron stains, additional application of some chemical such as glycerin, sodium citrate may be used. For removal of bitumen stains, the application of scrapper of freezing with dry ice and following it up with petrol, paraffin or naphtha washes may be adopted. For oil and grease stains, the application of white spirit or methyl chloroform may be adopted and for other stubborn staining, a very weak solution of HF (2-5 %) at very short dwell times and ensuring maximum safety precautions may be adopted. Any such cleaning undertaken will have to be first approved by the consultants. For removing lime wash and paint a dilute wash of caustic soda (NaOH) may be applied and then washed after nylon brushing.

Pressurized water through regulated lances may only be adopted only on receiving instructions from consultants and under constant supervision.

### 1.3.2. Poulticing for Stringer Courses, Mouldings and Decorative Surfaces

In case of stone cleaning for horizontal bands of stringers ,moulding and other smaller surfaces ,a chemical poulticing treatment shall be adopted .This shall involve an ammonia

paper poultice treatment and shall be carried out under controlled conditions .The process involves the application of the following chemicals:

1. Ammonia carbonate
2. Triton X-100 (iso-octyphenoxy poly ethoxy ethanol)-this is a non ionic surfactant and bio – degradable, thus preventing salt accumulation on the stone surface during or after the process.
3. Paper Pulp, using non acidic blotting paper.
4. Warm water
5. Solvite.(or locally available wall paper adhesive as bonding material

**Method**

For 3 litres of warm water:
10% (300 of gms) Ammonium carbonate
90 gms of Sovite
10 drops pulp of Triton X-100
Paper Pulp

Mix the paper pulp into a container, till a thick consistency of putty like mixture is reached. Cover the mouth of the container with a plastic sheet .the container shall then be transported to the site of application and after gently spraying the stringer/ molding patch with water to remove loose grit and dirt, a 20 mm thick layer of putty shall be applied to the surface. In order to allow for gradual drying of the putty, it should be covered with a "Cling Film" and left in place for 3 days.

After a period of 3 days, the cling-film shall be removed and the poultice gently scraped off, using flat wooden spatulas. The pollutant, which has become soft and pliable by then, shall be scraped off gently, using the wooden spatulas, water sprays and nylon brushes. The application shall be repeated twice for the required cleaning.

**Health & Safety Regulations for Poulticing**

This process shall be conducted using rubber gloves and masks to avoid inhalation of ammonia fumes, or damage to broken or abraded skin surface. The mixing process shall take place in a controlled environment, using a suction hood for speedy removal of ammonia fumes.

Alternatively, a clay poultice of Atapulgite or Sepiolite clay may also be adopted.

**1.3.3. Application of chemical cleaning agents in cleaning & paint removal**

Chemical cleaning works on the principle of some chemicals being reactive with dirt accretions but unreactive with the stone surface underneath. Though chemical cleaning agents are among the most efficient cleaning methods, care must be taken to ensure their compatibility with the given stone and of removal all residual deposits by washing with water, or adequate neutralizing with dilutions of acetic acid in case of Ph alkaline solvents.

In some cases, the application of a chemical treatment is enhanced by application as a poultice or gel since this ensures that the chemical does not penetrate too deep into the stone. Pre wetting is another method of ensuring this. Chemical and surfactants employed in stone cleaning may be as follows:

a) Washing with neutral **Ph balanced surfactant** like Teepol.

b) Other **alkanine solvents** arid branded products used in stone cleaning. Alkaline cleaners help neutralize acidic salts, strip paint and acrylic water repellent coatings and saponify grease. Pottasium hydroxide and Sodium hydroxide are effective in stripping paint, waxes, grease and oil stains. These are normally not diluted and require neutralizing with acetic acid or oxalic acid dilutions and water washing. Ammonium bifluoride is an alkaline surfactant that is an alternative to HF. Ammonia also helps remove grease effectively. Ammonium hydroxide (liquor ammonia) is a gentle alkali and effective in greasy soiling. Most alkali solvents also act as bio-deterrents to prevent algae and lichen growth. Alkali solvents are preferred over acids especially for calcarious marbles and limestone
c) For the **removal of iron rust stains, Phosphoric acid** in dilutions weaker than 10% may be recommended.
d) Though **gluconic, citric and tartaric acids** may also be used as chelating agents to remove iron stains, oxalic acid is used specifically for manganese and rust stains. These may be applied to the stone as a paste and left for 2 days and peeled off.
e) **Acetic acid** has been used as a neutralizer after an alkali cleaning and also used for cleaning limestone and to remove lime wash and lime plaster.
f) Application of **HF (hydro fluoric acid)** in regulated environment under Consultant's directions to be used only for basaltic stones and not limestone areas. The concentrations range from 0.5% to 5%. To avoid the formation of whitish silica stains after this application, water washing and constantly keeping the stone wet, is critical.
g) Paint stripper such as methylene chloride, methanol, toluene, acetone, xylene, dichloro ethane. These should be handled with extreme care and vapors need to be taken into account.
h) Dilute solution of **caustic soda (sodium hydroxide)** or **potassium hydroxide** may be applied with a brush and the stone then scrubbed **to remove paint** and washed thoroughly with water to remove any residues. The water washing aided by the application of a dilute acetic acid (vinegar) solution to neutralize the base should continue till the litmus test shows up a Ph balanced surface This application needs to adopt strict-safety standards, with the personnel wearing protective eye goggles, rubber gloves and helmet during work.
i) For some stubborn stains such as **iron stains**, additional application of some chemical such as glycerin, sodium citrate may be used. For removal of **bitumen stains**, the application of scrapper of freezing with dry ice and following it up with petrol, paraffin or naptha washes may be adopted. For **oil and grease stains**, the application of white spirit or methyl chloroform may be adopted and for other **stubborn staining**, a very weak solution of HF (2-5 %) at very short dwell times and ensuring maximum safety precautions may be adopted.

## 1.4 STONE CONSOLIDATION

In the case of stone that is so severely deteriorated that the fabric and matrix of the stone itself is in danger of disintegrating, consolidant may be used, after appropriate test patches.

This may be accompanied by the use of a water repellent treatment to arrest further water ingress. The critical factor to take note of in the selection of any treatment, is to ensure that the "breathability of the stone is not destroyed and that the treatment is vapour permeable. Also, the stability towards ultra violet radiation is a critical factor in the selection of the consolidant treatment.

**Calcium hydroxide as consolidant**: Lime water may be used as a consolidant for lime stone. Lime water is siphoned from a slaking tank after all the slaking of lime in excess water has ceased and the water has a clear appearance. It is important to protect lime water from air to prevent its carbonation that renders it no effective. For this purpose, the surface of the lime water may be covered with a polystyrene sheet pierced only by a siphon tube fitted with a filter. The lime water is drawn off when required by a hand pump into spray bottles and it is necessary to check from time to time that the water has not accidentally become clouded through the disturbance of lime at the bottom.

**Silanes** : These are binary silicon hydrogen compounds. The presence of salts may slow down the hydrolysis and condensation process. It is important that the consolidation treatment begins after desalination of stone is complete. Freshly treated stone surfaces must be protected from rain for a period of at least 3 days. Treated areas should be protected from direct radiation by setting an awning or veiling the scaffold.

After completing the curing process, (14-28 days), further rehabilitation measures such as repointing, stone replacement or sealant may be undertaken.

Pure alkoxysilanes or alkyl trial koxysilanes are too viscous to penetrate the stone. Solvents are added to reduce their viscosity, and catalysts are added to speed up hydrolysis. The reaction rate, depth of penetration etc. can be controlled with careful selection and application.

The commonly used silicone compound to consolidate stone is tetra ethoxysilane also known as tetraethyl orthosilicate (TEOS) or silici acid ester. Contemporary products contain partially polymerised alkoxysilanes that do not evaporate very rapidly or mixtures of TEOS and other silanes. Aryl Alkyl polysiloxanes may be applied as fairly concentrated solutions.

Methyl trimethoxysilane or mehtyl trienthoxysilane may be used.

Advantages of silane impregnation are that the material has the ability to penetrate stone deeply, it is possible to achieve in situ conslidation, its viscosity is lower than water, permitting excellent penetration and that it produces minimal changes in pore size distribution and water vapour permeability and hence breathability is maintained.

## 1.5 REMOVAL OF BIOLOGICAL GROWTH

### 1.5.1. Removal of Ficus Growth

Ficus plants grow out of joint in the masonry walls. As the root system embeds itself deep into the masonry they cause widening of cracks; and often-greater structural problems within the building.

The process of removal of such growth shall be as follows:

**Uprooting of the plant**

The parasitic plant growth shall be physically pulled out and uprooted, or in case of a very sturdy growth, chopped off above the stone surface. This shall be done at the time of stone cleaning, when the scaffolding is in place, for those plants that are not easily accessible.

**Injecting a suitable biocide**

Biocides that are least damaging to the adjoining stone masonry shall be used. Some recommended chemicals are as follows:

Active ingredient

MCPA Agrozxone/ Agritox /Comox
2, 4-D + dicamba
2, 4-D + dicamba + ioxynil
2, 4-D + dichloroprop
2, 4-D + mecprop
Glyphosate

Note: These are just some recommended chemicals and any suitable alternative may be suggested.

**11.5.3. Application of paste on the cut stem and root of the ficus plant**

After cutting out the ficus, to the stump of the plant may be applied, a paste of 1 part powdered "Hing" (asafoetida) and two parts slaked lime putty. This may be applied as a paste over 2 –3 times and allowed to dry.

**1.5.2. Removal of Algae, Lichens and Other Biological Growth**

Algae, lichen and other biological growth occur at places where there is moisture accumulation due to leakage, poor drainage and damaged plumbing. This shall be attended just prior to intensive stone cleaning at the same lime that the scaffold, is erected for pointing and cleaning of the stone surface. The tasks shall be as follows:

**Scraping of the surface**

The microbiological growth shall be removed by spatula, knife blades or stiff bristles or non-ferrous soft wire brushes.

**Chemical Application**

A chemical solution of quaternary ammonium based biocide shall be applied to the surface, or could be sprayed on to the affected surface and left form few days. Tributyl tin oxide is also a proven biocide. This shall be then followed by gentle scraping and stone cleaning. Branded chemicals such as "Fongifluid" or equivalents may be also used in 2 coats for biocide wash.

1.6 DUTCHMAN REPAIR & RESTORATION OF DAMAGED CARVED/ ASHLER STONE

**1.6.1. Stone to Stone Repair (Dutchman, Repair)**

Limestone repair will commence only after the process of stone cleaning and poulticing is complete and the cleaned areas have sufficiently dried out.

**Cutting of original damaged stone**

Only those areas which have been indicated by the architects on-site will be replaced. On no condition will cutting out of any other unmarked section be permitted. Due care to be taken to ensure that adjacent stones are not damaged during cutting. If the old cut-out portion is to be retained (which will be indicated) the cut will first be made by purpose-made fine saw blade. In case the stone is to be wasted, it may be broken down with vertical saw cuts after the initial cutting or broken up carefully with a hammer and chisel.

**Replacement with new stone 'copy'**

New stone should match the original as closely as possible. Stones must be carefully matched to original sizes and profiles, and where possible, to the original finish. However, on no account should the stone be distressed to match it to original stone.

The 'copy' should accurately match the original and any defect or difference in colour will not be approved. The profiles of original stones and details are to be maintained strictly and on no account would any compromise on lines and quality of workmanship in detailing and render be acceptable.

Finished replacement stones should be clearly marked with a job reference no. and location and packed in packaging material and straw to protect it from damage during 'transit and handling. Damaged, discolored and chipped stones will not be accepted. A temporary protective slurry of lime and stone dust may be applied to the limestone, which will be cleaned before fixing. Synthetic packaging is recommended. Finished stones on-site will be stored adequately and off ground with adequate air spaces between them.

Stones that have discolored after fixing will have to be replaced.

**Fixing**

Stones will be raised in position by lifts, hoists etc.

The cavity or open bed to receive them will have been carefully cleaned out and a lime mortar bed will have been spread onto the wetted old stone. The new stone must be dampened too, to avoid the risk of dewatering the mortar. On no account will cement be used in the mortar composition as this will lead to mortar staining and lack of adhesion. Fixing is to be done by means of non corrosive pins of stainless steel or phosphor bronze

Protective lime slurry should be left on until completion of the work.

**1.6.2. Lime Plastic Repair (Restoration of damaged stone profile in lime mortar)**

Limestone repair will commence only after the process of stone cleaning and poulticing is complete and the cleaned areas have sufficiently dried out.Porosity and water absorption properties of mortar are to be verified and test cubes are to be prepared and placed in a water filled test tray before work commences. Samples of mortar matching the various conditions of weathering are to be prepared on a piece of stone, not in a wooden mould, and will be approved on the wet and dry appearance.

Areas which are marked on the drawing will only be prepared with mortar

Cut out the decayed areas and wash and sterilize cavity with water and formalin. Saturate the with water using hand sprays to prevent dewatering of repair mortar. Place the selected repair mortar, compacting in layers net exceeding 10 mm in thickness in any one applicalion. Allow each layer to dry out before rewetting and placing the next. In cavities extending 50 mm in depth and over 50 sq.mm surface area, stainless steel threaded pins should be provided as reinforcements. The fixing detail and type is to be carried out as shown in the drawings. After drilling to receive the reinforcement, the holes are filled with an epoxy mortar before embedding the binding wire. Holes should be flushed out with white spirit and allowed to dry before fixing with epoxy. 20 mm of cover should be allowed for any reinforcement. The repair is to be finished directly to the required profile using a wood or felt covered float, or with a damp sponge or coarse cloth. Steel trowels or dry absorbent pads should not be used for finishing. The required profile may be achieved by working with fine saw blade or purpose-made scrapers.

Mortar repairs are to be protected from direct sunlight by providing damp cotton wool pads and damp sacks as a cover. This would also ensure against shrinkage cracks during drying.

A 'bank' of sand and stone dusts are to be set up to provide the required colors without the use of pigments.

The repair mix is to be matched with the original limestone, tests certificates of whose composition will be provided. However, a tentative mix is recommended below:

<u>Repair mix</u>

White cement: lime putty aggregate

1: 2: 10
Lime and aggregates are prepared first as wet coarse stuff as follows:
1 lime putty: 2 1/2 stone dust: 2 1/2 sharp sand
To 10 parts of this coarse stuff, 1 part of cement is added to-give the required
1:2: 10 cement: lime: aggregate mix.

## 1.7 SPECIFICATIONS FOR LIME (PLASTER/POINTING & LIME WASH)

### 1.7.1. Lime

The lime shall be made of approved limestone or kankar and properly burnt and slaked with fresh water, on site of work or nearby the site. They shall be crushed properly before slaking. These kankar shall be slaked on site for use. Fresh quick lime or kankars should be added to water, (and not the other way around) and stirred to a thick creamy consistency, suitable for running through a sieve of 256 mesh to one square inch and all materials that will not pass through the sieve shall be rejected.. It shall be free from excess of unbumt kankar, ashes, cinders, salt or other impurities and if the lime kankar be considered to be of inferior quality, it shall be rejected. All pieces of unburnt lime or other impurities shall be rejected. All pieces of unbumt lime or other impurities shall be screened or picked out and removed at once from the site.

In case not separately specified by Architect, the lime shall conform to IS-712 (Building limes). The sand shall conform to IS-1542 (sand for plaster). The sand shall not contain any particle larger than 3mm and shall be washed before use.

Lime that has perished by forming lumps in case of slaked lime and that which has become air slaked in case of the unslaked fresh lime, shall be rejected and be removed forthwith from the site.

### 1.7.2. Slaking lime

All impurities, ashes or pieces improperly burnt shall be screened or picked out and then slaked not less than 2 weeks before use. The slaked lime shall be screened through IS 240 sieve for mortars used for first coat or through IS 120 sieve for mortars used in subsequent coats. The slaked lime shall be stored in a weather proof shed with a impervious floor (IS:712). The lime shall be used when fresh. The lime shall be kept wet for at least 6 days in a water tank (or drums) before using.

### 1.7.3. Lime mortar

The lime shall conform to IS-712 (Building limes). The sand shall conform to IS-1542 (sand for plaster). The sand shall not contain any particle larger than 3 mm and shall be washed before use.

The lime mortar shall be made of good fresh lime and clean sand, approved by the Consultants and mixed in the proportion as specified in the Bill of Quantities. The lime and

sand shall be stacked before grinding, in alternate equal layers of about 6" in depth, measured in the stack. The materials shall be carefully mixed in small quantities in a roller pan mixer. The grinding shall be performed with a sufficient quantity of fresh water, twice before the mortar is used in the work.

The lime mortar shall be made of good fresh lime and clean sand, approved by the Consultants and mixed in the proportion as specified in the Bill of Quantities. The lime and sand shall be stacked before grinding, in alternate equal layers of about 6" in depth, measured in the stack. The materials shall be carefully mixed in small quantities in a roller pan mixer. The grinding shall be performed with a sufficient quantity of fresh water, twice before the mortar is used in the work. The grinding shall continue for at least 12 hours each time or for 80 revolutions of the mill and an interval of at least 24 hours shall lapse between each grinding operation. The mortar shall be kept moist and well sheltered from the sun till it is used in the work.

Mix sand well with proper “chakki” and this lime and sand mix in fact may be stored in batches in air tight plastic buckets/ containers with a wet hessian packing over the lime sand mortar. The mix must be left to mature in timber lined pits, so that the excess water can continue to drain from the mortar, and it should be covered up in plastic to prevent excess drying out. Good mature lime putty should have consistency of mature cheese and should retain its shape when turned out of a container. This putty will return to workable state when knocked up. Knocking shall be done just before using for mortar. Small amounts can be knocked by hand, for larger amounts roller pan mixer should be used. After working a good plastic consistency transfer it to a small bucket, cover the bucket so that it does not dry out. Once the pointing is being done, it should be taken out only a small workable quantity of mortar and beat well with spatula, chopping and aerating the mortar well to get it into a workable and malleable shape for application.

### 1.7.4. Lime pointing

The old mortar in the joint should be removed carefully without chipping any part of the adjacent stone. Old mortar should be removed off by a hack saw blade. After flushing out open joints with a jet of clean water. Mortar mix should be same as that specified for repointing in the Bill of Quantities and specifications. Once the pointing is being done, it should be taken out only a small workable quantity of mortar and beat well with spatula, chopping and aerating the mortar well to get it into a workable and malleable shape for application.

The mortar for the pointing shall consist of one part lime and two parts sand and shall be applied to wetted joints uniformly. The joints of the pointed work shall be regular and uniform in breadth. The edges of the pointing shall be cutoff parallel so as to leave well defined lines. The pointing shall be kept well wetted for five days after the pointing is done. Natural stone dust and such powders or chemical colorants and natural colorants such as kattha as approved by the architect may be employed for staining the stone to match the original

mortar and stone. A sample panel must be done and shown to the Consultant for approval before proceeding.

Mortar for repointing should be inserted with the slide of steel blade or edge of a fine spatula/trowel, using a masking tape to ensure clean lines of the pointing, pressing the mortar into the joint with a flexible spatula blade or with the ball of the thumb, To achieve a fine edge, masking tape may be used to get the required sharpness of the pointing. It is necessary to ensure that the depth of the new mortar should be a minimum of 30-40 mm. When the mortar starts to dry up it should be tapped back with a soft wood mallet to eliminate any shrinkage cracks. The exact detail of surface finishing of the joints should match any surviving original weathered mortar.

The joints of the masonry to be flat pointed shall be raked to a depth of about 20mm while the mortar in the joint is still fresh and the joints shall be kept well wetted till the pointing is done. The mortar for the pointing shall consist of one part lime and two parts sand and shall be applied to wetted joints uniformly. The joints of the pointed work shall be regular and uniform in breadth. The edges of the pointing shall be cut off parallel so as to leave well defined lines. The pointing shall be kept well wetted for five days after the pointing is done.

**Measurements**

The quoted rates shall include the- preparation of surfaces, erection and dismantling of scaffolding, materials, labor, curing, all tools and equipment required to complete the piaster work in all respects.

The plastered and pointed surfaces shall be measured and paid on an area basis (m2) for the area actually plastered in accordance with 1S:1200. No separate payment shall be made for coving and finishing around skirting, door and window frames.

**1.7.5. Lime plasters / stucco**

General

All plaster work shall comply with IS-1661 (Application of cement and cement lime plaster finishes). The lime shall conform to IS-712 (Building limes). The sand shall conform to IS-1542 (sand for plaster). The sand shall not contain any particle larger than 3mm and shall be washed before use.

**Preparation of surfaces**

Plastered surfaces shall be roughened by wire brushing, hacking, or bush hammering or chiseling. If the Architect is not satisfied with the roughening achieved by these methods he may order other methods such as washing with acid etc.

Loose layers of dust etc. on surfaces to be plastered shall be washed. The surface shall be cleaned to remove oil, paint or any other material that might interfere with satisfactory bond and saturated with water so as to be damp when the plaster is applied.

**Proportioning**

The materials used in the preparation of plaster may be measured either by volume using gauge boxes or by weight. The mix proportion of lime, unless otherwise stated generally refers to the volume of putty.

**Lime-plaster**: Lime putty and sand shall be mixed dry in the required proportions and kept protected from drying out till the time of use. Water shall be added if necessary but only to the minimum extent required to give a working consistency for the plaster. Mixing shall be done mechanically in "Mortar Mill". If hand mixing is allowed by the Engineer, mixing shall be carried out on a clean, water tight platform protected from sun and rain.

**Application**

Patches of plaster 150mm x 150mm shall be placed about 3m apart as gauge to ensure even plastering. The mortar shall be firmly applied in a thickness slightly more than the required thickness and well pressed into the joints, rubbed and leveled with a flat wooden rule to required thickness. All plastering shall be made good up to metal or wooden frames, skirting's and around pipes or fittings.

For internal plastering, scaffolding shall be erected independent of walls. No members of scaffolding shall he allowed to be housed in the walls being treated with plaster. Scaffolding for external plaster shall also be supported independent of walls as far as possible to avoid patchy appearance.

**General Guidelines for Historic Plaster**

- A skilled professional plasterer is necessary to undertake repairs.
- Small hairline cracks may be filled with lime slurry coat
- For part patching up repair of a damaged patch, cut out a section of the adjoining stucco/ plaster to about 1' of adjoining wall surface to ensure a good anchoring for the new stucco/plaster replacement. Cutting out the stucco at a diagonal angle may help anchor the new stucco well.
- Do not use a portland cement stucco/plaster repair on an old lime stucco/plaster as this will not be physically compatible with the softer lime rich stucco and the differing expansion and contraction rates of lime stucco and portland cement stucco will cause the stucco to crack.

• Score out old stucco/plaster in the patch to be repaired till one hits the base masonry. The area of the patch should be cleaned of all debris with a bristle brush and all plant growth, dirt, loose paint, oil or grease should be removed. If necessary, brick or stone mortar joints should be raked out to a depth of approximately 3/4th of an inch to ensure a good bond. Damp the base wall and begin application of new stucco.

• The first scratch coat is normally 1/4" to 3/8" or that corresponding to the original scratch coat. Upon this, start building the base coats of stucco to build up the thickness of the adjoining stucco and finish with the final surface coat.

• The second coat should be roughened using a wood flat with a nail protruding to provide a key for the final or finish coat. The finish coat normally is about 1/4" thick and is applied after the previous coat has set. The base coat should be thoroughly dampened before the final coat is applied.

• Mix only as much stucco/plaster as can be used in one and one half to 2 hours. This will depend on the weather (mortar will harden faster under hot and dry or sunny conditions) and experience is likely to be the best guidance. Any remaining mortar should be discarded and it should not be retempered.

•Wood lath should be wetted and not metal (expanded G.I. wire mesh).

• To prevent cracking, it is imperative that piaster not dry too fast. Therefore, the area to be stuccoed should be shaded or even covered if possible, particularly in hot weather. It is also a good idea in hot weather to keep the newly stuccoeed area damp at approximately 90% humidity for a period of 48 to 72 hours.

• Sand should be clean and should match the original as close as possible.

• Water should be clean and potable.

• If hair or fiber Bs used, it should be goat or cattle hair or pure manilla fiber of good quality, 1/2"to 2” in length, clean and free of dust, grime, oil and other impurities.

• Too much lime will make the mixture more plastic but stucco mortar with a very large proportion of lime to sand is more likely to crack because of greater shrinkage, it is also weaker and slower to set. More sand of aggregate will minimize shrinkage but make the mixture harder to trowel smooth and will weaken the mortar.

**Recommended composition of soft lime stucco**

Vieux Carre Masonry Maintenance Guidelines

**Base coats (2)**

1 part by volume hydrated lime
3 parts by volume aggregate (sand) – size to match original

6 pounds/ cubic yards hair or fiber
Water to form a workable mix

**Finish Coat**

1 part by volume hydrated lime

3 parts aggregate (sand) – size to match original

Water to form a workable mix

Note: No Portland cement is used in this mix. Even if this is added to increase workability L of the mix and to decrease setting time, the white cement should never exceed 1 part white cement to 12 parts lime and sand.

**In case of using Brick Dust (Surkhi)**

The lime plaster should be made of good fresh lime and clean sand, approved by the consultants and mixed in the proportion of Lime putty, fine quartz sand and brick dust in the proportion of 1: 2 ½":1/2"

Alternately, the proportion of lime and quartz sand could be 1:3 or 1:4 (make two samples on site), using 20% white cement in the lime by volume.

The lime and sand shall be stacked before grinding, in alternate equal layers of about 6" in depth, measured in the stack. The materials shall be carefully mixed in small quantities of fresh water, twice before the mortar is used in the work, the grinding shall continue for at least 12 hours each time or for 80 revolutions of the mill and an interval of at least 24 hours shall lapse between each grinding operation. The mortar shall be kept moist and well sheltered from the sun till it is used in the work.

Additives like natural animal hair or synthetic alkali resistant fibers may be added for strengthening and reinforcing the plaster. The proportion required is 4 kgs of hair / fiber to 1 cubic meter of plaster. In order to build up the plaster thickness, this could be worked in three coats, viz **1) Render Coat**: (1:3) In this coarse stuff is reinforced with hair or synthetic fiber. This coat is laid over the uneven cross keyed wall surface or wire mesh as the primary coat. **2. Floating Coat:** (1:3) Applied as the second coat of plaster just before the first coat has set in. to make up a total thickness of 4/5 of the required plaster thickness and to completely embed the mesh. Adequate time for setting should be allowed for one section before starting on the adjacent section. **3. Setting Coat**: (3:2) this thin coat is applied in three operations a) trowel on with trowel b) trowel and float c) compact by scouring with wood float lubricated with water to avoid shrink crazing of the plaster. For this coat, additives like gypsum that has been gauged along with the lime may be used for a smoother finish to this last coat. (1:1)

In order to build up the requisite thickness of the plaster, galvanized and stainless steel expanded metal wire mesh may be used, that is secured to the wall surface by means of non corrosive nails. Proper wetting and curing is required.

### 1.7.6. Lime wash

**Unbranded Lime Wash**

Lime wash should be prepared by slaking fresh quicklime, sieving the resultant putty and adding sufficient water to make a thin cream. 1 egg white to the proportion of 5 liters of lime wash should be added to give it a good glaze. Pigments shall be used if the color is specified. A range of samples should be put up on the wall for approval from the Architect. When lime is to be used, on the exterior, add tallow (clarified animal fat) to the lime during the slaking process.

All surfaces to be lime washed should be brushed down to remove loose dust and scale using a stiff and then a soft bristle brush. Any organic growths like algae or lichens should be treated with a biocide and brushed or scraped clean. Immediately before painting, the wall surface should be sprayed with water to avoid suction on lime wash. A suitable soft hair brush should be used to apply lime wash.

**Branded Lime Wash**

| Name of Paint | Pack Size | Yield | Application by |
|---|---|---|---|
| LIME PAINT<br><br>Verona / others | 14 Litre | 5 – 8 Sq.Mtr. per litre in 2 Coats | Brush |

**Technical qualities**: LIME PAINT VERONA is mineral finish paint for exterior and interior. The product, based on mature lime putty, has a smooth matt finish. The product is ideally used in refurbishment of prestigious buildings and whenever antique kinds of decoration with lime shall be maintained or re-created. Dilution: 20 - 30% with water. Yield: 5 - 8 sq.mtr. per litre in two coats, according to the absorbency of the support.

**Application**: The surface must be dry; the plaster must have matured at least 30 days. Detaching and flaking parts must be removed; a paint stripper shall be used in case of unstable old coats of paint. Walls under refurbishment shall not present water leaks or significant areas of strong humidity. Optionally SEALER FOR LIME CYCLES could be applied if the surfaces have old flaking or powdery plasters. On new surfaces or well painted old surfaces one coat of PRIMER for LIME CYCLES is recommended.

The application can be conducted by brush: the first coat diluted 20 - 25%, the second coat diluted 25 - 30%, waiting approximately 4 hours between coats.

During the first 24 – 48 hours from the application the surface shall be protected from the rain. In exterior application it is optionally recommended to protect the product with WATERPROOFING COATING.

1.8 SPECIFICATION FOR METAL WORK –CLEANING ,COATING AND PAINTING

**1.8.1 Note for surface coating of cast iron /decorative metal work**

The preparation of a sound surface usually involves removal of old paint. Rust, loose mill scale and soluble corrosion salt from the surface. It may be considered that paint removal may reveal cracks, corrosion and casting defects that are not previously visible and allowances may be kept for dealing with this with minor in Situ welding and repair.

All paint that is loose, flaking or delaminated must be removed. Sound paint surfaces may be simply rubbed down and refinished with one or two suitable coats if directed by Architect. Only wet hand processes should be used because of the risk from dust from lead pigments. Rubbing down should remove residual gloss, surface deposits and blemishes. Chipped areas of paintwork can be similarly rubbed down; ensuring that the surface under the paint to which corrosion has spread is also cleaned. Locally damaged paint areas should receive a shallow feathered edge and new paint coatings should overlap at least 50 mm on to existing sound surrounding paint coatings, and must be compatible with the existing coatings.

**De greasing**

Any oil or grease should be removed by gentle scraping followed by warm water and non ionic detergent thoroughly rinsed off with water. Non caustic based degreasing agents re also available, although a wipe over with white spirit and a succession of clean swabs is also sufficient.

**Mechanical Cleaning**

Mechanical processes may involve rotary wire brushes. A marginal improvement with this can be achieved over manual processes. An oxyacetylene or oxy propane flame may be used to remove old rust marks and paints but .must be handled very carefully so as to quickly go over the surface without overheating or causing fire threats, especially since the adjoining ceiling is in timber. The thermal differential caused by the flame torches results in the rust and loose mill scales to de laminate.

As an alternative to flame torches, mechanical dry abrasive cleaning may be adopted under supervision by a trained conservator, using the right grits and supply of air pressure. Test areas should be done to check the efficacy of this method before embarking on the entire surface. Start at a pressure of 40 Psi with a fine copper slag grit and never exceed 60-70 Psi.

Wet abrasive cleaning is preferable to dry where lead based paints are to be removed. It is also useful in washing from the surface soluble iron salts such as chlorides and sulphates that form within the corrosion pits. Cleaning should be done with a nozzle which has independent control over air, water and abrasive particulates. This should be done with utmost care to prevent any leakages/ over wetting of surrounding areas.

**Chemical Cleaning**

Orthophosphoric acid is the basis of many rust remover solutions. Methylene chloride is also one such paint stripper for small areas and their residues removed with white spirit or water, as directed. Solutions which are described as neutral are based on a combination of acid and alkali materials. Though best results are obtained by immersion, application may be tried out in trials. Rust convertors may be applied to sections that indicate symptoms of rusting.

Acid pickling

In case of an entire panel being carefully removed, it may be immersed in a bath of a suitable acid (normally warm dilute sulphuric acid or phosphoric acid with adequate health and safety precautions) which dissolves mill scale and rust. On removal from the bath, the iron must be thoroughly rinsed with clean water.

**1.8.2. Paint Coatings and Protective primers**

**Primers**

Red lead is traditionally uses; as a primer and though lead abatement is an increasing issue for health reasons, if applied with suitable precautions of masks, etc., toxicity can be kept to an acceptable level. Iron oxide is also a primer, with a minimum of 2 primer coats.

Zinc rich coatings are considered among the best protective treatments. Zinc phosphate is a more recent and more used inhibiting pigment which is non toxic. A zinc dust primer may require a sealing coat and subsequent coatings need to be non saponifiable (non solvent in soaps) such as epoxies, chlorinated rubbers or vinyl paints. A second coat of primer rather than an extra finish coat increases the life of the paint system.

**Binders**

These are basic film forming materials. Paint binders may range from drying oil based (containing traditional raw, boiled or heat treated linseed oils dried by oxidation with air). These include alkyd resin paints; polymers such as chlorinated rubber and vinyl in solvent or what is most advisable, two pack epoxy and polyurethane coatings for corrosive environments. The performance of the drying oil can be improved by using micaceous iron oxide (MI0) pigmentation in undercoats and finishes (not in the primer).

**Methods of Applying Paint**

Brush application is the traditional method of applying paint and results in good adhesion of the dry paint film. Before painting, the metal surface should be free of dust, dirt or debris. Lead based paint should be applied by brush. One pack and two pack chemical resistant binders are however not suited to brush application.

Paints should never be applied to damp surfaces, unless manufacturer's specifications recommend that. For a good protection, a paint system should provide a total film thickness of 125 microns to 250 microns. This normally means at least four coats of air drying paint. 2 coats of primer are recommended. Final protective coatings over painted surfaces may include beeswax or varnish/ shellac.

**Pigments**

Pigments are used to make the paint opaque and to give it a colouration. White lead, a whitish corrosion product of lead, was historically used as a hiding pigment. Since the early 20th century, Titanium oxide was introduced. Zinc oxide was used briefly in after 1850 and may be employed for this Victorian structure.

Tinting pigments include earth pigments (ochres, siennas, umbers from iron oxide, greens from copper compounds and a few systhesized colourants such as Prussian blue or mercuric sulfide (crimson).

1.9 SPECIFICATION FOR TREATMENT & CONSOLIDATION OF TIMBER

**1.91. Timber**

Timber shall be fully matured. well seasoned 1st quality Burma Teak or as specified for the particular job (the Contractor shall furnish from a recognized timber merchant a certificate as to its seasoned condition and the date of its cutting into scantlings) free from all knots, shakes, cracks, dry and wet rots or defects of any other kind. Only the heart wood of a sound tree, from which the sap has been entirely removed; sap wood or the wood that is found to be soft or of a spongy nature at any portion of the scantling under consideration will be rejected and only which is uniform in substance, straight in fiber and of uniform hardness shall be used on the works. The color should be uniform throughout.

The Consultant or his representative may inspect all logs and scantlings previous to use and reject any which he considers defective in the requirements of the specification. The Consultant shall have the power to reject at any stage any work which may be found defective in quality or workmanship and he shall not be debarred from rejecting wrought timber by reason of his having previously passed the same in the log or other un-worked state: Rejected timber and woodwork shall be removed from the site of the work within 24 hours of rejection at the Contractors expense.

No wood work shall be placed in position, covered in the ground or walls, unless and until it has been approved by the Consultant his representative; otherwise, it is to be removed or

payment proportionately deducted, at the discretion of the Consultant. The Contractor shall, therefore, give due notice to Consultant or his representative for inspection. The preliminary passing by the Consultants\Clients representative will be done in systematic manner with the blue chalk or light stamp supplied, by the Contractor.

**1.9.2 Wood work, carpentry and joinery**

The whole of the timber used to be of best Burma Teak first quality or second hand (for non structural members) of the dimensions and forms shown in the drawing or as described by the Consultants. The wood to be in every case, of the best description, full grown, sound, free from large and loose or dead knots twists, shakers, sun cracks, flaws or other defects and to be of hard wood and well seasoned,

The tolerance permissible in teak wood shall be as follows

i) Sap wood to the extent of 20%

ii) Warp to the extent of 10mm in 3 meter length.

iii) Live knots of 2 knots per meter the diameter of each knot not exceeding 20mm.

Any wood found to be not up to the above standards is liable to be rejected by the Consultants/Engineer-in-charge. The Consultants decision in this regard will be final and binding.

All mortise and mitre joints tenons, scarf's etc. to be made and fitted accurately in a workman like manner in accordance with working Drawings or directions and to the satisfaction of the Consultants. All joints shall be properly glued with approved first quality glue. If, after the wood work shall have been erected any undue shrinkage or bad workmanship shows themselves, the Contractor shall forthwith amend the same without any extra change.

The rate of wood work to include all sawing ,planning , joining, framing Labor and material for raising and fixing and all workmanship also the fitting, fixing and supply of all straps, bolts, nuts, nails, spikes, screws etc. necessary for the framing and fixing. All holes for fixing bolts shall be accurately centered and drilled to the exact size of the shank diameter and countersunk when required.

All timber resting on or embedded in masonry to be well tarred with boiling coal tar.

The measurement of all wood work to be for actual visible portion and no allowance will be made for tenons overlaps etc.

All exposed faces of wood work shall be sand papered once before erection for approval of the Consultant. No color or other preservatives shall be applied without prior approval of the Consultants.

The whole of the wood work shall be first treated with two coats of anti-termite wood Preservative chemicals of an approved make and the contractor shall strictly observe the manufacturer's instructions for using the material. All the wood shall thereafter be applied with a primary cost of approved first quality wood primer paint. The application of primary shall not be done within 24 hours of the application of the second cost of anti-termite treatment. The wood work shall be made perfectly clean and smooth before painting. Framed joints must be coated with the wood preservative and the primer before being put together.

The Contractor shall provide to store the timber during construction. Timber that has deteriorated on account of exposure to damp is liable to be rejected.

The rates entered in the Bill of Quantities must be held to include the cost of haulage to the work site, housing and protecting from weather, risks of every kind and all expenses connected with the preparation and use in the work. The cost of primer and wood preservative as specified is to be included in the cost of wood work to which it is applied.

**1.9.3. Timber treatment**

All timber members whether they are part of the original structure or new, should be treated with anti-termite coat and one coat of solignum.

All old timber which is to be reused, but found to have either dry or wet rot, will be shown to the Consultant, in-situ, who will decide whether the existing timber members can be reused after checking the condition of the wood, and give further instructions.

**For old BTC structural members (apply by brush)**

- Apply 1 layer of turpentine oil – let the sample dry
- Apply 2'd layer: 1/3 linseed oil and 2/3 turpentine oil mixed and let sample dry
- Apply 3rd layer: 2/3 linseed oil and 113 turpentine oil and let sample dry
- Apply 4Th layer: full linseed oil and let sample dry.

**1.9.4 Timber repairs**

For any timber repairs, follow a policy of minimum replacement, also the new timber piece should be of the same timber species, and a well seasoned timber. Preferably use old second hand timber for all repairs. Always match the timber grain and maintain joint design, and replicate similar detail as in the original unless the new detail would be a better alternative. When dismantling always mark and record parts. Any jointing or fixing detail which varies from the original should be done only after prior approval from the Architect. Splice repairs should include mechanical fixing as well as glue. All hardware used for jointing should be non-corrosive type, i.e. brass screws and nails, and stainless steel bolts.

### 1.9.5. Indian standard code for use of timber

| Sr. No | Item | IS CODE no. |
|---|---|---|
| 1 | Timber seasoning | 1141 |
| 2 | Key for identification of commercial timber | 4970 |
| 3 | Permissible moisture content for timber | 287 |
| 4 | Permissible moisture content for timber products . | 11215 |
| 5 | Method of measurement and evaluation of defects in timber | 3364 |
| 6 | Structural timber | 2408 |
| 7 | Testing method for specimen | 1708(Part 1 to 18) |

### 1.9.6. Painting & polishing of door and window frames

External doors and windows on ail floors, in the corridors and lobby need to be consolidated, using teak wood infills where necessary and replacing missing or damaged brass hardware to the same specifications as the original work. The paint can be removed using a solvent like acetone, or American turpentine mix and the timber frame, suitably polished. The application of a clear propriety preservative is recommended, such as clarified beeswax dissolved in pure turpentine oil, finally rubbed down by a soft cloth. Microcrystalline waxes may be used, at a suggested loading of 25 cc of wax per litre of preservative.

External doors and windows should also be consolidated using teak wood inserts where necessary, with a view to using second hand teak that has been properly seasoned. Missing or damaged hardware needs to be similarly replaced.

### 1.9.7. Hardware

The hardware used shall be consistent for the entire work and from the approved manufacturer. The Contractor may have to provide a range of samples from different

sources before the decision for the exact material make is arrived at and no extra shall be claimed or delay for work in this regard.

1. Brass hardware of heavy duty gauge of approved grade shall be used

2. Stainless steel to be of grade S.S 304 with gauge not thinner than 16 SWG or as specified in the details.

3. All brazing and welds to be executed in the best possible finish of workmanship rubbed down and completed in the flattest and tidiest manner, especially where exposed.

4. Chromium plating shall be in accordance with IS Standard for general outdoor conditions and shall be on a parent material of copper or brass.

5. Unless otherwise specified, fittings shall be brass oxidized and approval would have to be obtained from the Architects before being used for the project work.

6. The Contractor should adequately protect the brass and bronze surfaces by application of thick grease or other suitable protection layer; reapply as required from time to time and clean away completely on completion.

7. Screws are to perfectly match the finish of the article to be fixed and are to be round or flat headed or counter sunk as per details.

### 1.9.8. Glazier

1. All glass should comply with IS 3548 – 1966 or as directed by Architect as per the approved sample and free from bubbles, smoke, wanes, air holes and any other defects.
2. 'Glazing Glass' (G.G) quality polished plate glass shall be used and mirrors shall be 'Silvering Quality' (S.Q) conforming. to IS 3438 - 1965, as per approved sample and quality.
3. The compound for glazing to metal is to be a special non-hardening compound manufactured for the purpose and of the brand and quality as approved by the Architects.
4. Proper allowance to made for expansion while cutting glass. Each square glazier to be on whole sheet. Glass surfaces should be cleaned on completion and all chipped broken panes should be removed immediately from site.
5. The quoted rates for glass work to include cutting, handling, breakage, transport etc., and any claim for extra shall not be entertained.
6. For stained glass items, glass to be as directed by Stained Glass Conservator Consultant

## 1.10. SPECIFICATIONS FOR FINISHES

## (PAINTS, POLISHES, LAMINATES, VENEERS)

### 1.10.1. Paints

1. All material required for the works shall be of specified and approved manufacturer, delivered to the site in the manufacturer's container with the seals etc., intact and clearly marked with the manufacturer's name or trademark with a description of the contents and color. All materials to be stored on -site.

2. Spray painting with approved machines will be permitted only if written approval has been obtained from the Architects prior to the painting. No spraying would be permitted in the case of priming coats where the soiling of adjacent surfaces is likely to occur. The nozzle and pressure to be adjusted so as to give an even coat uniformly to the satisfaction of the Architects. The paints used for spraying to conform to the specifications and is to be specially prepared by the manufacturer for spraying purposes. Thinning of paint will not be permitted.

3. Solignum or any other equivalent and approved impregnating wood preservative should be used for protection to concealed woodwork. All brushes, tools, pots, etc., used in carrying out the work shall be clean and free from foreign matter and should be thoroughly cleaned before being used with a different type and class of material.

4. All iron and steel surfaces shall be thoroughly scraped and rubbed with wire brushes and shall be made entirely free of rust, mill scale etc., before applying the priming coat. Surfaces of new woodwork which are to be painted are to be rubbed down and 'cleaned to the approval of the Architects. Surfaces of previously painted wood work that are to be repainted should be cleaned down with soap and water detergent solution or approved solvent to remove dirt, grease etc. The wet surface should then be evened out with an appropriate abrasive and then rinsed down and allowed to dry. Minor areas of defective paint shall be removed by scraping back to an even edge and this surface to be then touched up with the primer and an application of putty. Surfaces of previously painted metal surfaces to be repainted shall be cleaned, evened out, any rust, loose scales to be removed by chipping, scraping and wire brushing and the exposed base metal to be touched up with primer.

### 1.10.2. Polish

1. For French Polish the base material shall be shellac dissolved in methylated spirit.The timber shall be well sanded and prepared and the grains to be filled with a grain filler. Staining if prescribed must be done before application of the polish. The equipment consists of the polishing rubber which is to be a wad of cotton wool and a cover of a soft linen or cotton fabric. This rubber must never be soaked into the polish with the cover removed. Polish is to be applied uniformly over the surface with a slow figure-of-eight motion until the timber is coated with a thin layer of polish. A series of thin even coats to be applied allowing only for a few minutes for drying in between application. This layer on achievement of an even surface is then spirited off with methylated spirit to remove the rubber marks and to achieve a smooth finish.

2. For Wax Polish the base material contains silicon and dryers. A good silicon wax is used and not a cream or spray. Before the wax is applied, the timber is sealed first with another finish Ronseal A light coat of sealer is applied by brush or cloth directly to the unfilled timber surface, working it in well and finishing evenly in the direction of the grains. It should be allowed to dry completely and then sanded lightly with fine abrasive paper. A heavy coat of wax is applied next, working in well and it is finished by stroking in the grains before leaving for hardening. This surface is then rubbed up with a soft brush but only after it is left to harden for several hours. The grain is then buffed with a soft cloth.

3. For Melamine Polish the base material consists of Polyurethene. Polyurethene gives touch surface that resists chipping, scratching and boiling water. Clean off all grease and dirt with an abrasive and white spirit. It is advised that it is not done in humid conditions. Apply the same coat, of preferably a clear hard glaze with a cloth pad. It should be allowed to dry for a minimum of 6 hours and then again coated. Subsequent coats should be rubbed down with fine glass paper or medium grade steel wool. A matt finish is then achieved, if specified, by giving a final coat of clear Ronseal Mall coat.

1.11. SPECIFICATIONS FOR CLEANING & RESTORATION OF MINTON: TILES

Minton tiles used in Victorian buildings of the 19th century are encaustic terracotta tiles produced in the Minton works in England. The modem tile industry was advanced by Herbert Minton in 1843 when he revived the lost art of encaustic tile making in England.

1.11.1 **Encaustic tiles** are a type of traditional unglazed yet decorative floor tile manufactured by the dust pressed method. Whereas most ceramic tiles are surface coated or decorated, encaustic tiles are unique in that their decorative designs are not on the surface, but are inlaid patterns created as part of the manufacturing process. First, a thin, approximately 1/4" layer of fine powder dry clay was pressed into a mould with a relief design at the bottom which formed a depression on the face of the tile. A second thicker layer of coarser clay was laid over the first layer, then covered with another layer of fine clay. This sandwich helped prevent warping and ensured that the body of the tile was strong and had a fine smooth surface. The layers of clay dust were compacted by presses, after which the mould was inverted and the die removed, thus producing a tile with an indented pattern on top. After the tile dried, colored slip (liquid white clay colored with dyes) was poured to fill in the intaglio pattern. Each color had to dry before another color of slip was added. The recessed area was overfilled to allow for shrinkage and after drying for several days the excess slop was scraped of the surface by a rotating cutter to create a flat face.

The industry was further revolutionized in the 1840s by the introduction of the 'dust pressing' method which consisted of compressing nearly dry clay between two metal dies. In the1850s encaustic tiles were selected for important structures of the period such as the Palace at Westminster in London, as well as exported to India for many historic Victorian buildings such as the buildings, High Court, Royal Bombay Yacht Club and many other landmarks.

Smaller, single colored versions of encaustic tiles that when assembled toge3ther form a geometric pattern, are called geometric tiles. Based on the geometric segments of a six inch square, they were typically rectangular, square, triangular or hexagonal in shape and about the same thickness as patterned encaustic tiles. By the end of thel9th century, over 60 different shapes and sizes of geometric tiles were available in up to ten colors including buff, beige, or tan, salmon, light grey, dark grey, red, chocolate, blue, white and black.

### 1.11.2. Laying of the tiles

The traditional technique of laying the tiles was as follows:

First, either an even layer of bricks, a 2 IA" bed or concrete of quick lime and gravel and clean sharp sand was laid to prepare a solid foundation for the tiles. Next, the floor design was marked off with mason's string or chalk lines which divided the space into equal quadrants; the first section to be laid out was defined by two parallel strip s of wood or guide pieces, about 4" wide. A level thickness of lime/cement was spread between these strips. The tiles, thoroughly soaked in water, were laid in the mortar bed and leveled with a straight edge. The foundation had to be kept wet while the tiles were being laid. Small strips of wood temporarily placed at right angles to the guide pieces helped keep elaborate patterns straight. When the bed was hard, the joints were filled with pure cement/lime mortar sometimes colored with lamp black, red ochre or other natural pigments — mixed to the consistency of cream. Excess mortar was wiped off the tiles with a piece of flannel or sponge.

A newly laid tile floor cannot be walked on for 4-6 days until the mortar hardens properly, Occasional washing removes the saline scum that appears on the surface of the tiles when they are laid to prevent stains.

### 1.11.3. Cleaning of the tiles

Cleaning should always begin with the gentlest means possible, which may be warm water mopping. Tiles can be cleaned with a non soap based house hold cleaner for ceramic tiles or a non ionic cleaner such as Teepol.

Abrasive cleaners should never be used on ceramic tiles. Pre wetting the tiled floor is a good idea before cleaning. The water saturates the porous tiles and prevents chemicals or other cleaning agents from penetrating into the tile body. Floor tiles should always be rinsed thoroughly after cleaning. Nylon brushes are effective in loosening loose dirt without abrading the surface. Stubborn asphalt or oil stains and soiling can be sometimes be removed with ammoniacal cleaners. If necessary, a solvent may be applied to carefully pre wetted tiles but should not be left for an extended period of time.

### 1.11.4. Protective coats

Traditional coatings are normally wax. Floor wax may be used as a general finishing coat.

In case of damage to surface of tiles, in localized areas, .a penetrating sealer or impregnator may be considered. Two part matt acyclic based coating systems are possible alternatives that may be used in case the surface is being damaged.

### 1.11.5. Mortar Joint Repair

Deteriorated mortar joints and loose mortar or grout can be repaired. First, the entire floor should be checked for loose tiles that may require re-grouting. Damaged mortar should be carefully removed by hand and the joints wetted or a bonding agent applied in preparation of grouting. Grout matching the colour of tile should be used.

### 1.11.6. Tile Repair

Trying to remove one tile can endanger surrounding tiles. Thus, it is sometimes considered a viable option to preserve and retain an original historic tile that is only slightly damaged rather than replace it. Cracks may be repaired or a corner or piece of tile that has broken off may be reattached using an epoxy glue or grout. If the tile is chipped or a small corner is chipped, a carefully executed patch of color matched epoxy mixed with colored enamel or mortar tinted to blend with the tile may be a recommended preservation treatment.

Glaze failure or surface powdering may be treated by a skilled craftsman with a specially formulated solvent based mineral densifying agent (such as silicic acid) followed by a siloxane sub surface repellent applied 24 hours later. Such as treatment can harden and bind the surface, tower the absorbency of the tile and still maintain the vapor transmission.

### 1.11.7. Tile Replacement

When an individual tile or a larger portion of a historic ceramic tile floor is missing, it needs to be replaced. Successful replacement depends on the availability of matching tiles, condition of substrate and thickness of the new tiles. Only the most seriously damaged tiles should be taken for replacement and in some instances, individual historic tiles that are damaged may be replaced with matching tiles salvaged from other less conspicuous areas of the tiled floor. To avoid damaging tiles around the one to be replaced all the grout around the tile should be carefully cut out. A hand tool called a grout saw or a dry cutting diamond blade mounted in an angle grinder or circular saws are recommended tools. If the new and old tiles are different thicknesses, the setting bed in which the new tiles are laid must be at a different height to create a level finished surface.

In some instances, the best approach may be to remove a complete section of damaged original tiles and replace that section of floor in its entirety with new reproduction tile. Advantages of this method include the ability to lay a level setting bed as well as achieving a finished product that is uniform in color and pattern match. Although this approach may involve replacing more original tiles with reproduction than required, original tiles that remain in good condition can be saved to be reused in other sections where only a few tiles are

damaged. This technique is generally most appropriate either when the section being replaced is the most damaged portion of the floor, or is in a relatively inconspicuous location and the tiles that are removed will supply enough salvaged pieces to permit in kind repair or a more visually prominent area.

1.12 CONSERVATION SPECIFICATIONS FOR GILDING IN GOLD LEAF

NOTE: GOLD LEAF QUALITY: l0GMS./SQM IN 23-1/2 CARAT GOLD

**1.12.1. Oil Based Gilding**

Apply oil size thinly and evenly using sable or ox brush. Before applying the gold leaf check the surface. The surface of the fresh size has a wet glossiness, which, when it is ready becomes a little duller. Cut the gold leaf 1/4" '(6mm) larger than the area that will cover.

To apply the gold, take up a piece of leaf by its tissue border, and lay it against the sized surface stroking away from the end, which is being held. Overlap each succeeding piece of gold over -the previous one by 1/8" (3mm). Press the gold down with a ball of cotton wool working in opposite direction to that in which it is laid, so that the overlaps area pressed flat. Repair the faults where the gold has not taken it or it is broken. The gold size takes 24 to 48 hours to harden and then the work can be wiped with a slightly damp lint free cloth, leather or a fine texture sponge.

Use good quality mounting board instead of tip to lift gold leaf and to tuck it into crevices and mouldings. For convex parts of mouldings and carvings press gold with cotton. Sweep the skewings to and fro across the surface to repair the fault. A thin coat of shellac varnish ' ormolu' on unburnished gold for more matted effect.

**1.12.2. Water based Gilding**

Use yellow clay dispersed in water to form a soft paste prepare the bole paste in small batches, put it small container to avoid dust. To make the yellow bole take five to six parts by volume of the size and one part of yellow clay paste. The bole should be about the consistency of milk and should flow readily from the brush.

For applying bole, the brush should be sable watercolor and size should be No. 4 or 5 for

1/2” (12mm) moulding and No. 7 or 8 for larger areas.

After dusting the base apply one or at the most two coats of the bole evenly with smooth strokes. For red bole, take 3or 4 parts of size to one part of bole paste, having consistency of single cream. 4 to 5 coats are applied for finer works. After applying the last coat, leave the bole for 24 hours. Grind off any irregularities with finest grade of flour, emery or garnet paper. Dust the work off with soft and clean bristle brush. Coat the bole with a mixture that consists of a lump of size as large as a hazelnut, 100m water and 25 ml isopropyl alcohol. The surface must be wetted generously when gold is put in place. Lay out a leaf of gold on

cushion, cut it according to the size needed, pass the tip through your hair, pick up a piece of gold and put the tip of gold on it. The gold is laid with smooth down – up movement. Overlap the second piece such that it covers a little more than the wetted area. Flatten air bubbles.

If surfaces are to be burnished, then gilding is required. Apply the second layer of gold leaf without disturbing the first. To rectify the water stains or the spots of uncovered bole, cover it with piece of leaf using a ball of cotton or mop. The surface should be dry enough for burnishing. The burnisher should not stick on the surface. To burnish, run the agate lightly over the surface, then increase the pressure a little with each successive stroke until the agate leave a shining path in the gold.

The mat effect is normally obtained by leaving some of the water gilding unburnished. A thin coat of shellac varnish ormolu' on unburnished gold for more matted effect.

1.13 SPECIAL SPECIFICATIONS & SEQUENCE OF OPERATIONS FOR POLYMER AIDED STRUCTURAL REPAIRS

1. Provide adequate supports to the slab around the columns and beams with props and wooden runners to relieve the load on the structural members before cutting open the loose concrete to expose the steel reinforcement.

2. Clean the reinforcements thoroughly by wire brushes and tapping and remove all rust flakes and powder by dry dusting. Apply a coat of RUSTICIDE with a swab or small brush, and dust off after complete drying and hardening of the coat to render the surface of steel passive.

3. Completely clean the concrete surface after cutting to proper level, with blower, clean the reinforcement of all dust and apply Polymeric protective coat of Acrylic Polymer Latex in proportion 1:1.5 (Polymer : Portland Cement by weight), and allow to dry completely.

4. Additional rings are to be added to columns where corroded and to beams at the two ends by cutting grooves and anchoring from 50mm below the slab soffit upto L/4 of the span on either side. The anchoring is done by drilling holes in the concrete and sealing with Polymer : Cement grout, the bent steel hook at the top of the U shaped stirrup. Additional main steel can be added to the columns or beams within the rings. Also shear connector bars are to be fixed in to the structural member such as columns by drilling holes and fixing the shear connector bar in to the concrete bonded with epoxy or polymer formulation.

5. Apply Polymer modified cementitious mortar by hand and trowel with Acrylic Polymer Latex : Portland Cement : Graded Coarse and fine Quartz Sand in proportion 1:5:15 by weight of each constituent, over bonding coat slurry of 1:1 Acrylic Polymer Latex : Cement by weight, brushed on to the concrete surface and between layers of mortar, to build up the column and beam section to original size, and finished smooth in final layer to line & plumb. Records of weight of all constituents used in different batches should be recorded in site log book with time batch number etc. The mixing of the mortar and bonding coat to be done in plastic trays of adequate size, but each batch should not exceed 21 Kgs. Precautions are to be taken to see that the applicators and batch mixing labor should wear rubber hand gloves,

goggles & masks. For mixing the mortar about 1 to1.5 liters water should suffice to make a highly plastic mix, which should form a ball without disintegrating.

6. For building up cover concrete of the beams, a floating shuttering arrangement over adjustable props has to be provided, with the bottom plank covered with plastic sheet, kept 10mm below the original beam soffit level. The structural Polymer Mortar is pushed inwards over the plank from two sides of the beam bottom and packed properly after applying bonding coat to the cut concrete surface till the entire section is built up. After about 10 to 15 minutes the bottom shuttering plank is jacked up by 10mm by operating the adjustable props below the shuttering, which is brought to proper line and level with a string tied for perfect alignment of the bottom. The sides of the beam, which have been cut are brought to original size with, Polymer mortar and finished, as described in pare 5. The bottom shuttering can be lowered after 24 hours.

7. The Polymer mortar repaired surface is to be air cured for 24 hours and then cured with water mist spray for 7 days.

8. Specially trained and experienced labour and supervisor are necessary for the above Operations — which will be ineffective if not batched, mixed or applied properly with care.

9. The brand of Polymer Latex and chemicals recommended shall be of standard manufacture, purchased preferably directly from manufacturers or their dealers, accompanied with test certificates showing minimum solid content of polymer as 40%.

## SECTION XII

## LIST OF RECOMMENDED MATERIALS – INTERIOR WORKS AS PER BANK

| Sr No | Material | Approved Brand/ Manufacturer | Remark |
|---|---|---|---|
| **A.** | **INTERIOR WORK:** | | |
| | MDF / plywood | NUWUD / Century / Asian / Archid / Green Ply or Equivalent | |
| | Laminated Sheet | Archidlam National / Formica / Greenlam / MERINO | |
| | Veneer | Green / Duro / Century / Timex / Anchor or equivalent | |
| | Particle Board ( only for Modular w/s & storage unit) | Archidply / Greenlam/Century equivalent ISI mark | |
| | Acrylic sheet | ICI, GE or Equivalent ISI make | |
| | Marine grade plywood | Century/ Kitply/ Greenply/ anchor/ Orchid/ Prince | |
| | Adhesive | Fevicol/ Araldite/ Anchor or equivalent | |
| | Solid surfaces ( Curion) | DUPOINT/HI-MAC/STARON OR equivalent | |
| | Marine Grade Block board | Century/ Kitply/Greenply/Anchor/Orchid or equivalent | |
| | Flush Door | Century/ Kitply/Greenply/Anchor/Orchid or equivalent | |
| | Polish | Asian / Dulex or equivalent | |
| | Latex | MM Foam or equivalent BIS make | |
| | High density Foam | U Foam or equivalent BIS make | |

| | | | |
|---|---|---|---|
| | Locks | Godrej/ Haffle/ Hettich/Ebco or equivalent | |
| | Storage Hardware | Godrej/ Haffle/ Hettich/Ebco or equivalent | |
| | Screws / Nails & other accessories | GKW/Nettleford or equivalent | |
| | False Flooring | Kebao/Armstrong/AMF or equivalent | |
| | Vinayl Flooring | Armstrong/gerflor/Eurotex | |
| | Carpet | Unitex/Armstrong / Interface | |
| | Wooden laminated flooring | Pergo/Armstrong/Euro/Squarefeet or equivalent | |
| | Plain/Toughned glass | Saint-Gobin/Indo Asahi/Modi or equivalent | |
| | Hardware for general staff area | Dorma/Euro/Ozone/Enox/Ebco/Hamco or equivalent | |
| | Hardware for main Glass doors (patch fittings) | Dorma/Euro/Ozone/Enox/Ebco/Hamco or equivalent | |
| | Door Closers (general use) | Dorma/Euro/Ozone/Enox/Ebco/Hamco or equivalent | |
| | Floor springs (general use) | Dorma/Euro/Ozone/Enox/Ebco/Hamco or equivalent | |
| | Floor springs for main glass doors | Dorma/Euro/Ozone/Enox/Ebco/Hamco or equivalent | |
| | Aluminium Sections for Partitions | Jindal/Tata Steel or equivalent | |
| | False Ceilings: Gypsum | India Gypsum/Saint Gobin/Asia | |
| | False Ceiling: Grid (As Approved) | Armstrong/AMF or equivalent | |
| | False Ceilings: Grid (Metal Ceiling) | Unimech/AMF/Armstrong/ | |
| | GI Sections | India Gypsum/Saint Gobin/Jindal or equivalent | |

| | | | |
|---|---|---|---|
| | Acoustical False Ceilings: Mineral fiber board | Armstrong/Hunter/Douglas/Peritex or equivalent | |
| | POP Punning | Gyprock/India Gypsum/Birla | |
| | Paint | Asian/Nerolac/Dulex/Berger or equivalent | |
| | Exterior Paint | Asian/Nerolac/Dulex/Berger or equivalent | |
| | ACP (Exterior/Interior) | Aistone/Eurobond/Alucobond | |
| | Cylicon | G E/Dow corning/Wacer | |
| | Rolling/Vertical Blind | Vista/Peritex/Winfab/MAC or equivalent | |
| | Frosted Film | Garware or equivalent | |
| | Aluminium Skirting-50mm | Jindal or equivalent | |
| | Water Proofing | Pidilite or equivalent | |
| | Hardwood | Salewwod/Teakwood/Kapoor | |
| | Automated Rolling Shutter | Gandhi Automation/Toshi Automatic Systems/Akash Rolling Shutter | |
| | Glass | Saint Gobin/equivalent | |
| | Modular Furniture | PSL Eurocoustic, Godrej,Methodex, Durian | |
| | Chairs | Godrej, Methodex,Amardeep,Superq | |
| **2.** | **Plumbing** | | |
| | CP Fitting | Jaquar/Hindware / Kohler / Cera or equivalent | |
| | Sanitary Ware | Hindware/Cera/ Jaquar / Kohler or equivalent | |
| | Sanitary Fittings | Jaquar/Hindware / Kohler / Cera | |

| | | | |
|---|---|---|---|
| | Geyser | Bajaj/Sphere Hot/Crompton/Racold/V Guard/Havells | |
| | Stainless Steel Sink | Nirali/Diamond or equivalent | |
| | C.I. Pipe | Bengal Iron Corporation or equiv. ISI make | |
| | Urinal Partition Glass | Merino/Saint Gobain/Modi/Asai | |
| | GI Pipe | Tata/Jindal/Zenith or equivalent | |
| | CP Fitting | Pince/Astral or equivalent | |
| | PVC & CVPC Pipe | Pince/Astral or equivalent | |
| **3** | **Civil Work** | | |
| | Ceramic Tiles/vitrified homogeneous glazed tiles | HR Johnson/Kajaria/Nitco/ASL / RAK or equivalent | |
| | Cement | Ultratech/ACC/JK Cement/Ambuja | |
| | Chemical Pasting (Tiles) | Pidilite/Forsroc/Eurokart | |
| | Steel | Sail/Tisscon/ispat/Tata | |
| **4** | **Electrical** | | |
| | Light Fittings | Philips/Wipro/Osram/Havells/Crompton G. | |
| | MCCB, MCB, RCCB, DB, ICTPN,TP,HRC Fuse, change over switch, switch fuse unit | L&T/ABB/Legrand/Siemens/Schneider | |
| | FRLS insulated Elec. Wire/cable armourd, unarmourd, Sheathed, unsheathed, flexible LT cable, Multi core, single core cable, flat cable | Finolex/Ploycab/Havells/RR Kabel/KEI | |
| | PVC condult (HEAVY DUTY ONLY) | CAP/Finolex/Polycab | |

| | | | |
|---|---|---|---|
| | PVC insulated copper conductor Wires | Finolex/Polycab/ Havelles RR Kable | |
| | Distribution Box | Legrand/Schneider/ABB/Siemens/L&T | |
| | MCB & MCCB | Legrand/Schneider/ABB/Siemens/L&T | |
| | Light Fixture & Lamps | Philips/Wipro Osram/Havells/Crompton G./ Halonix | |
| | HT Cable | Polycab/Havells | |
| | Modular Switches | ABB/Legrand/MK/ANCHOR/ELLEYS/ROMA | |
| | DLP Trunking | Legrand/Schneider or equivalent | |
| | Power Cable | CCi/skytone/Universal/LAPP/Torrent | |
| | End Termination | Raychem/Mahindra/ELMEX | |
| | PANEL | Crompton/L&T/C&S | |
| | Fan | Crompton/Havells/Bajaj/Usha | |
| | Raceway & Alu. Trunking | Tata/Jindal/Zenith | |
| | Casing Caping | Finolex/Cap or equivalent | |
| | Weather proof socket outlet with MCB | ABB/MDS/LEXIC/Neptune/Elcon-Clipsil/Siemens/Schneider(Merlin Gerin) | |
| | Miniature Circuit Breaker | ABB/MDS/LEXIC/Clipsil/Siemens/HPL | |
| | Earth Leakage Circuit Breaker | MDS/LEXIS/Siemens/HPL | |
| | MCB Distribution Boards in sheet housing (double door) | ABB/MDS/LEXIC/Siemens/HPL | |
| **5** | **Distribution** | | |
| | MV Contractor/Timer/Relays/Starters | Legrand/Schneider (MG)/ABB/Siemens/L&T | |

| | | | |
|---|---|---|---|
| | Moulded case circuit breakers | Legrand/Schneider (MG)/ABB/Siemens/L&T | |
| | SFU/Fuses | HPL/L&T. Siemens/ GE Power/Schneider (MG) | |
| | ACB | Schneider (MG)/ABB/Siemens/L&T | |
| | Single Phase Preventer (Current Base) | L&T/Minilec | |
| | Rasing Mains & Tap Off (Power coated) | Zeta/C&S/Siemens | |
| | MV Switchboards (Powder Coated) | Tricolite Electrical Industries/Conlec Enginners Pvt. Ltd., Vidyut Control Pvt. Ltd., Trinitron Milestone Switchgear, Unilec Ltd., Madhu Electrical Advance Electro Control Pvt Ltd. | |
| **6** | **Low Tension System** | | |
| | Light & Fan Wire | Polycab/Finolex/Havells | |
| | Telephone Wires | Delton/Skyline/Finolex/Rallison/batra Henley | |
| | Telephone Tag Blcoks | Krone/Pouyet/TVS | |
| **7** | **Cables and Accessories** | | |
| | 1100Volts grade Cables | CCI/Universal/Fort Gloster/Polycab/RPG (Asian)/ Nicco | |
| | Cable Lugs | Dowells | |
| | Cable compression Glands | Peeco/Comet | |
| | Cable Trays/Cable ladders | Slotco Bharti/RICCO/Pilco/MM Enterprises | |
| **8** | **Metering & Protection** | | |
| | Cast Resin current transformers | Gilbert Maxwell/Kappa/AE/Precise | |
| | Meters (Digital) | L&T Roshab/Automatic | |

| | | | |
|---|---|---|---|
| | | Electric/Siemens/Socomex | |
| | Selector Switches | HPL/L&T Salzer/ Kaycee | |
| | Indication lamp | L&T Vaisno Teknic | |
| | KWH Electronics Digital Meter | Secure/L&T/Enercon/Socomec-HPL | |
| **9** | **EPABX** | | |
| | Exchange/Consol Panel | Copper connection/Flash Hymax/Accord CG/Tata Telecom/Panasonic | |
| | CVT | Logicstat/Blue Bird/Selvon/Max Power | |
| | UPS | HPL-Socomec/Tata Liebert/APC/Invensys/Copper Copper Connection | |
| | Hand Set | Beetel/Tataphone/Crompton | |
| | Tape off | Cat Vision/Shyam | |
| **10** | **Electrical Items** | | |
| | Panel Switch Gear & related Item | | |
| | LT Panel/Bus Duct | By any Panel manufacturer who process C.P.R.I. certificate for specified fault level & IP level protection | |
| | Fuse Disconnector switch/switch fuse unit | L&T/Siemens/Schneider/ABB/Legrand | |
| | Ammeter Voltmeter | AE/L&T/MECO/Rishab | |
| | Digital Meters/Intelligent Maultifunctional Digital Mater | AE/HPL/CONZERV | |
| | Selector switch/Push button switch/emergency switch | KAY CEE/L&T/Siemens/Schneider | |
| | Indication Lamp | AE/L&T/Siemens/Schneider | |

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|---|---|---|---|
| | CT's | L&T/AE/Kappa | |
| | AT's | L&T/Siemens/Schneider/Legrand | |
| | Voltage stabilizer for air conditioner (4/5 KVA) (170-270V) | V Guard/Microtek | |
| | Air Conditioner-split Inverter AC (5 star)- (0.75 ton-1ton,1.5 ton,1.8ton-2ton) | Daikin/ Mitsubishi / Hitachi / Toshiba | |
| | Air Conditioner-Cassette Inverter AC (5/4/3 star)-2.9 ton-3.5 Ton) | Daikin/ Mitsubishi / Hitachi / Toshiba | |
| | AHU (Air Handling Units) | VTS / ZEECO | |
| **11** | **Transformer** | | |
| | Distribution Transformer | Jindal/Areva/Muskan/Alstrom | |
| | 11 or 33 KV VCB | Crompton/Alstom/ABB | |
| | HT Termination & Jointing kit | Ray Chaem/Mahindra/ELMEX | |
| | Cable Glands | Dowells/Siemens/Braco | |
| | Lugs & Thimbles | Dowells/Johnson | |
| | Upto & including 11KV cables (ISI markers) | CCI/Skytone/Gloster/Havells | |
| | Insulating Mats | ISI Marked | |
| | Capacitor Bank (ISI marked) | GE Power/BHEL/EPCOS/L&T | |
| | Lightening Arrestor | Altas/Alstom/GE Power | |
| | Protection & Other Relay | ABB/Siemens/Schneider/L&T/Allen Bradley | |
| **12** | **Internal Wiring Related Works** | | |

| | | | |
|---|---|---|---|
| | MCB/RCCS/Isolators (ISI) marked MCB DB | L&T Siemens/Schneider/Legrand | |
| | PVC Condult | CAP/BEC/Seiko/AKG | |
| | PVC insulated copper wire (ISI marked) | Skyline/Finolex/Havells/Polycab | |
| | Telephone Cable | Skytone/Delton/NICCO/Polycab/Finolex | |
| | Switch, TV & Telephone socket & boxes (Modular Type) | CPL/Legrand/ABB/Anchor | |
| **13** | **Miscellaneous Items** | | |
| | Lightening Protection Unit | Erico/Pheonix/INDELEC | |
| | Relays | L&T/ABB/Siemens/BCH | |
| | Contractors | L&T/GE Power/BCH/Siemens/ABB | |
| | Changeover Switch | C&S/Havells/L&T/HPL | |
| | KWH/PF Frequency meter | BHEL/AE/Havells/L&T/ALSTOM | |
| | Push Buttons | L&T/Siemens | |
| | Timers | L&T/Legrand/Schneider/Siemens/GE | |
| | Timer Switch | L&T/Legrand/Schneider/Siemens/GE | |
| **14** | **Networking** | | |
| | Switches | Brocade/Cisco/ Digi-Link/3com/Nortel/Foundry/D-link | |
| | Patch Panel, patch cord and I/o | Digi-Link/Tyco (AMP)/Schneider/D-Link | |
| | Cable | Digilink/Clipser/National/Polycab/Lapp/Finolex | |
| | Racks | ComRack/HCL/ValRack/APW President | |

| | | | |
|---|---|---|---|
| **15** | **Modular** | | |
| | Extruded aluminium sections | Hindalco/Sant aluminium/Midi extrusions | |
| | Pre laminated particle board | Action Tesa/Associate Décor/Asis/Century (Interior grade-2) | |
| | PVC lipping | Rehau/Dolkin | |
| | Hinges/storage and pedestal locks/miniflix fittings/sliding channels etc. | Ebco/hafele/Hettich or equivalent | |
| | 8 mm Glass | Modi/Saint Gobain/Asahi | |
| | Door locks for cashier cabin | Godrej/Enox/Doorset/Ultra/Ebco | |
| | Hydraulic door closer | Yele/Enox/Everite/Ebco | |
| | Powder coating | Paramount/Narolac | |
| | Fabric for panel | Response | |
| | MDF | 8mm/10mm/12mm/18mm MDF | |
| 16 | **AIR CONDITIONING** | | |
| | Air-cooled VRF System | Voltas / Carrier / Blue Star / Hitachi | |
| | Fans - | Kruger / Nicotra / Dynair | |
| | Motor - | L&T/ Siemens/ ABB/ Crompton Greave | |
| | Aluminium Grilles - | Cosmos / Air Products/ Dynacraft /Airmaster | |
| | Dampers | Cosmos / Nutech / Air Products/Airmaster/ System air/Ruskin | |
| | GSS Sheets | Jindal /Essar / Zenith/Tata | |
| | Insulation Nitrile Rubber | Armaflex / K-Flex | |
| | Insulation Fiberglas | UP Twiga /Equivalent | |

| | | | |
|---|---|---|---|
| | Drain Pipe | Astral/ Prince | |
| | Copper Pipe | Mandev/Equivalent | |
| | Cables | Polycab | |
| | Exhaust Fans | Nicotra, Kruger | |

**All alternative makes offered shall be clearly spelt out in the offer & shall be subject to our acceptance.**

| **ELECTRICAL – MAKES** | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 1 | Low Tension, 415 Volts AC Air Circuit Breaker, ¾ Pole 50 Hz. 50 KA-STR. Micro Processor Based | SCHNEIDER MASTERPACT NW with 6E with ZSI/ ABB Emax with PR122+Comm Module/ L&T U-POWER UWMTX 3.5+ ZSI module +Power Supply module +Comm Module | |
| 2 | Low Tension, XLPE/PVC, Armoured/Unarmoured, 1.1 KV grade, Aluminium/ Copper conductor cables type A2XFY/YFY. | FINOLEX/RR KABEL/ KEI / RPG | |
| 3 | ELECTRON BEAM CROSS LINKED FRLSZH CABLES | KABELTEC/LAPP GERMANY/LEONI GERMANY | |
| 4 | Low Tension, TPN SFU with HRC fuses, 415 | SCHNEIDER/ ABB/ L&T | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| | Volts, AC, 3 Phase, 50 Hz. | | |
| 5 | Low Tension, TP, Moulded Case Circuit Breaker, 415 Volts AC, 3 Phase 50 Hz., 50 KA-STR. Microprocessor/Thermal Release | SCHNEIDER NSX 6.0/ L&T D Sine MTX3.0 /ABB T Max with PR 222 with communication | |
| 6 | Low Tension, Dry Type Capacitors 440 Volts, 50 Hz., 3 Phase with APFC Panel | POWER MATRIX/ VISA POWERTECH/EPCOS | |
| 7 | Indicating Lamps Holders with LED type lamps. | ALTOS/MIMIC /TECHNIK / SCHNEIDER | |
| 8 | Selector Switches for Ammeter/ Voltmeter. | SALZER/ KAYCEE | |
| 9 | Load Managers, Digital type Ammeters, Voltmeters, PF meters, Frequency Meters. | SCHNEIDER CONZERV / TRINITY | |
| 10 | Digital Energy Meters. | SCHNEIDER CONZERV/TRINITY | |
| 11 | Micro Processor/ Electromechanical | SCHNEIDER /ABB/ AREVA/ALSTHOM | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| | Relays. | | |
| 12 | Panel wires, Gray/Black colour in 660/1100 Volts. grade (FR). | FINOLEX/RR KABEL/ KEI / RPG | |
| 13 | Cable Glands – Siemens Single Compression type. | COMET/ BRACO/DOWELLS | |
| 14 | Lugs, Crimping type, tinned copper heavy duty only. | DOWELL'S/COMET/BRACO | |
| 15 | HRC Control fuses with bakelite/type moulded fuse holders. | L&T/ABB/SCHNEIDER | |
| 16 | Push Button Stations type, in different colour codes. | SCHNEIDER /TECHNIK/ L&T | |
| 17 | Terminal Blocks, Push On type. | WAGO/ ELEMEX / SCHNEIDER | |
| 18 | Under Floor Bus Trunking Copper Type | POWERBAR / STARLINE / SCHNEIDER | |
| 19 | Starters/Contactor/ Timers. | SCHNEIDER/ ABB/L&T | |
| 20 | Miniature Circuit Breakers of 10 kA, RCCB, RCBO, | SCHNEIDER/LEGRAND/ABB | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| | ELCB Breaking Capacity and Distribution Boards. | | |
| 21 | CTs 1100 Volts grade Cast Resin Only | AUTOMATIC ELECTRIC/ KAPPA/RECO | |
| 22 | Automatic Power Factor Panel with Microprocessor Based 3 Phase CT Sensing | ARROW ENGINEERS/ GOEL POWER/MARINE ELECTRICALS | |
| 23 | Load Manager with RS 485 Port & Software | SCHNEIDER/ CONZERV | |
| 24 | All Light Fittings & Fixtures | PHILIPS/ANCHOR-PANASONIC/ WIPRO/ | |
| 25 | GI Conduits. | VIMCO/BEC | |
| 26 | GI Conduit Accessories | VIMCO/P&I | |
| 27 | FRLS Wires in 660/1100 Volts grade for point wiring. | FINOLEX/RR KABEL/ KEI / RPG | |
| 28 | Single Pole Switches and Sockets 6/16 Amps. Modular Type. | Schneider / LEGRAND - ARTEOR/ ANCHOR – WOODS | |
| 29 | Ceiling Fan | CROMPTON/ USHA/ORIENT | |
| 30 | Exhaust Fan. | CROMPTON/ USHA/ORIENT | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 31 | Steel Breaded FR Cables | KABLETECH/HELUKABLE/ LAPP GERMANY | |
| 32 | Lamps/Tubes. | PHILIPS/OSRAM | |
| 33 | Telephone Sockets | Schneider / LEGRAND - ARTEOR/ ANCHOR – WOODS / MK | |
| 34 | Electronic Ballast for Light Fittings as per Technical Specifications | PHILIPS/ATCO/OSRAM | |
| 35 | Telephone Tag Block. | KRONE | |
| 36 | Hand/Face Drier | ASKON/AUTOMATS ASHRA MARKETING | |
| 37 | Inter Lock Switch Sockets/Industrial Plugs & Sockets | SCAME/LEGRAND/PCE | |
| 38 | Speakers for Public Address System | ATEIS/ BOSCH/BOSE | |
| 39 | Amplifiers | ATEIS/BOSCH/BOSE/AHUJA | |
| 40 | 3 CD/DVD Players | SONY/PHILIPS/PANASONIC | |
| 41 | Microphones | PHILIPS/AUDIO TECHNICA/AHUJA | |
| 42 | CRCA Sheets for Panels/Bus Duct/Rising Mains 10 SWG/14 SWG/16 SWG | JINDAL/TATA/ RAYMOND | |
| 43 | MS Welding Rods | ADVANI OERLICON | |
| 44 | All type of Fasteners | HILTI/FISHER | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 45 | Paints & Primers | ASIAN/DUCO | |
| 46 | Mild Steel | TATA/JINDAL | |
| 47 | PIR Sensors | Theben/Legrand/Schneider | |
| 48 | Hot SWAPABLE MODULAR UPS | APC-Schneider/ EMERSON/ABB/EATON/DELTA | |
| 49 | SMF Partial Gel Batteries for UPS | RAYS/AMAR RAJA/C&D/Hoppecke | |
| 50 | Individual Battery Monitoring Software & Systems | *Asset Predict(Schneider), Cell Traque (Midtronics), TMEiC* | |
| 51 | Wood Screws | NITTLE FOLD/HILTI/ FISCHER | |
| 52 | GI Bolted/LADDER Cable Trays & SS Basket Trays | PROFAB/ OBO-BETTERMANN/CABLOFIL | |
| 53 | Rigid PVC/GI Pipes 2.0 mm Wall Thickness And Accessories | PRECISION/ CIRCLE-ARK/BEC | |
| 54 | 11 KV VCB Panels | SCHNEIDER/ABB/MARINE | |
| 55 | 11 KV, 2000 kVA OIL COOLED TRANSFORMER | CROMPTON/ABB/SUDHIR | |
| 56 | OLTC | CTR | |
| 57 | HT CABLES | UNIVERSAL/HAVELLS/ FINOLEX | |
| 58 | HT Termination Kits | MARINE | |
| 59 | LV PANELS | ARROW/MARINE/GOEL POWER | |
| 60 | RACKS FOR PASSIVE Cabling | RITTAL/NETRACK/LEGRAND | |

| ELECTRICAL – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 61 | Static Transfer Switches | EATON / SCHNEIDER / MITSHUBISHI | |
| 62 | Cat 6 Passive cabling AND JACK AND PATCH PANELS | R&M/ Comm scope/ Panduit/Beldon | |
| 63 | Any other Item | SAMPLE FOR APPROVAL OF THE CONSULTANT / BANK | |

| DG – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 1 | Diesel Engine | Cummins/ Caterpillar / Volvo / Perkins | |
| 2 | Alternator | Kirloskar/Stamford/Caterpillar | |
| 3 | Acoustic Enclosure | Conforming to CPCB norms | |
| 4 | All DG Electrical Accessories | As per OEM | |

| IBMS – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 1 | Fire alarm system – UL LISTED | Notifier / Edwards / Mircom | |
| 2 | CCTV Cameras | AXIS/ARECONT VISION/AVIGILON | |

| IBMS – MAKES | | | |
|---|---|---|---|
| **Sr** | **ITEMS** | **MAKES** | **Makes offered by Vendor** |
| 3 | Managed Switches | CISCO/JUNIPER | |
| 4 | VMS | Milestone / Genetec / AVIGILON | |
| 5 | Servers | IBM/HP/DELL | |
| 6 | Public address system | ATIES/BOSCH/Honeywell | |
| 7 | Access control system | CARDEX/DDS/PROWATCH | |
| 8 | Readers | HID | |
| 9 | Rodent repellent system | MASER / RSCAT | |
| 10 | Electro-Magnetic Door Locks | Assa Abloy / EBELCO / | |
| 11 | Building management system | Schneider/Honeywell Webbs/ Distech Controls | |
| 12 | Fire extinguishers | MINIMAX / SAFEX / SUPREMEX | |
| 13 | Fire & BMS Cables | LEONI / KABLE TECH / LAPP Germany / HELU KABLE | |
| 14 | WLD Makes | ELSA/TTK/PENTAIR | |
| 15 | Early Smoke Detection Systems | XTRALIS/HONEYWELL | |

Note: All materials should be purchased from Manufacturers/ authorized dealer and Bank may directly instruct the quality control team of the companies to visit the site to examine the genuineness of materials.

**LIST OF DRAWINGS**

| Sr. No. | Name of Drawing |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |