



STATE BANK OF INDIA

INVITES ONLINE E-TENDER

FOR

PROPOSED CIVIL REPAIRING/RETROFITTINGWORK FOR STATE BANK OF INDIA, **SBILD, GANDHINAGAR**

FROM

THE EMPANELLED FURNISHING CONTRACTORS FOR AHMEDABAD CIRCLE UNDER THE CATEGORY OF
WORKS UP TO Rs. 100.00 LAKHS AND ABOVE (AS PER THE LIST ENCLOSED)

THE LAST DATE OF SUBMISSION OF ONLINE TENDER: **16/12/2025 UP TO 3:00 PM**

NO PHYSICAL SUBMISSION OF DOCUMENTS REQUIRED EXCEPT PROCESS COMPLIANCE FORM.

PART – A: TECHNICAL BID

TENDER SUBMITTED BY:

NAME	:	_____
ADDRESS	:	_____

DATE	:	_____

Architect
AR. DEVDATT M. PANDYA
STUDIO 919 ARCHITECTS
1203-1204, Colonnade-2,
Lane opp. To Infostretch, Behind Rajpath club,
S.G. Highway, GANDHINAGAR-380054
Contact no: 079-49000919
Email: 919studio@gmail.com

NOTICE INVITING TENDERS

STATE BANK OF INDIA, 2nd FLOOR, P & E DEPARTMENT, SBI TOWER, LOCAL HEAD OFFICE GIFT CITY, GANDHINAGAR (GUJARAT) invites item rate e-Tender through its Architect M/s Studio919 Architects under two-bids system (online Technical and online Price Bids) from the Civil contractors empaneled in Ahmedabad circle above 50 lakhs category. **Please note that there will be no e-reverse auction conducted.**

The details of tender are as under:

S.No.	Description	
1.	Name of work	PROPOSED CIVIL REPAIRING/RETROFITTINGWORK FOR SBILD BUILDING, GANDHINAGAR
2.	Nature of Work	CIVIL REPAIRING/RETROFITTINGWORK
3.	Time allowed for completion	90 days from date of acceptance of work order
4.	Tender Fees	NA
5.	Estimated Project Cost	Rs. 86,07,640/-
6.	Earnest Money Deposit	Rs.86,000/- by means of Demand Draft / Pay Order (Valid for a period of 90 Days from the last date of submission of the tender) from any scheduled Nationalized Bank drawn in favour of State Bank of India , payable at GANDHINAGAR . [Those registered with MSME UDYAM need not submitted EMD . Instead, DD, Valid MSME UDHYAM certificate shall be uploaded]
7.	Initial Security Deposit	2% of contract value Including EMD (Non-interest bearing ISD to be submitted by the L1 Bidder)
8.	Total Security Deposit	5% of the final bill amount
9.	Start and end date for downloading of tender documents form Bank's website	01/12/2025 to 16/12/2025 at www.sbi.co.in under<Link><SBI in the news >procurement news.
10.	Last date & time for submission of online technical bid and Online Price Bid	16/12/2025 up to 3:00 pm
11.	Address at which EMD & Process compliance form has to be submitted	The Assistant General Manager, State Bank of India, 2nd Floor, P & E Department, SBI Tower, Local Head Office, Gift City, Gandhinagar (Gujarat)
12.	Date and time of opening of online technical bid & Online Price bid at SBI address mentioned at Sr. No.10	16/12/2025 at 03:30 pm

13.	E-Tendering will be conducted by our approved e-tendering consultant	E-Procurement technologies Limited, Ahmedabad. 1. Salina Motani:- 079-68136843, salina.motani@eptl.in 2. Jaymeet Rathod:- 079-68136829, jaymeet.rathod@eptl.in 3. Kanchan Kumari:- 079-68136820, kanchan.k@eptl.in 4. Vinayak Khambe:- 079-68136835, vinayak.k@eptl.in 5. Anshul Juneja:- 079-68136840, anshul.juneja@eptl.in 6. Nandan Valera:- 079-68136843, nandan.v@eptl.in 7. Hemangi Patel:- 079-68136852, hemangi@eptl.in 8. Nadeem Mansuri:- 079-68136853, nadeem@eptl.in 9. Deepak Narekar:- 079-68136863, deepak@eptl.in 10. Sujith Nair:- 079-68136857, sujith@eptl.in 11. Devang Patel:- 079-68136859, devang@eptl.in Primary Contact Numbers :- +91-9081000427, 9904407997 Name: Mr. Udit Yadav Email: udit@auctiontiger.net Phone: 079 6813 6815 Cell: +91 6354919566 https://etender.sbi/SBI/
14.	Liquidated Damages	0.50% of contract amount per weeks subject to max. 5% of contract value or final bill value.
15.	Rates	Rates quoted shall be inclusive of all existing & future (including variation) taxes, duties, levies, royalties, transportation, other incidental charges, WCT etc. PVA & PVA Clause shall not be applicable. <u>Note: GST will be paid Extra as per Applicable norms.</u> If any tenderer puts any condition/anything/any taxes extra over and above their quoted rates the tender shall be summarily rejected.
16.	Defects Liability Period	12 Months from the date of Virtual Completion
17.	Validity of offer	90 days from the date of opening of Price-bid
18.	Value of Interim Certificate	35 Lacs
19.	Insurance	The contractor shall obtain all necessary insurance policies as per the governing laws applicable at the centre & shall require to produce the original policy of Insurance& receipt of the premium as applicable in the matter to the Architect/Bank.
20.	Water and Electricity	If contractor is permitted to use SBI source of water & electricity, the SBI will recover @ 0.5% of contract amount from the final bill of contractor. However further distribution & extension & light fixtures etc. With required MCB switches, switch boards, lamp, tube etc. shall be arranged by the contractor at their own cost within the accepted tender amount. <u>Bank will recover 0.5% of the final bill amount towards consumption of water & electricity.</u>
21	Tenders can be downloaded from the bank's website www.sbi.co.in (link) <SBI In the news<Procurement News>. It shall be responsibility of the contractor to timely submit the technical and financial bid. SBI, in no case shall be responsible for site issues/ delay in tender submission.	
22	The contractor shall read and understand each page of the tender document thereby ensuring the number and sequence of all pages.	
23	No conditions other than mentioned in the tender will be considered, and if given they will have to be withdrawn before submission of final quote. else their bid will be rejected.	

24	The SBI reserve their rights to accept or reject any or all the tenders, either in whole or in part without assigning any reason(s) for doing so and no claim / correspondence shall be entertained in this regard.
25	Tenders received without EMD and Process Compliance Form shall be summarily rejected and such tenders shall not be allowed to participate in the Price bid process/ rejected/ not considered.
26	In case the date of opening of tenders is declared as a holiday, the tenders will be opened on the next working day at the same time.
27	SBI has the right to accept / reject any / all tenders without assigning any reasons and no correspondence shall be entertained in this regard.
28	The Bank will place order as per its requirement and quoting minimum rate for any category does not provide any guarantee for receiving order for that item by the firm who quotes lowest rates.
29	Bank reserves right to cancel any / all tender sat any stage without assigning any reasons.
30	The Bank reserves the right to accept the tender in full or in part and the tenderer shall have no claim for revision of rates or other condition if his tender is accepted in parts.
31	In case the date of online tendering is declared as a holiday, the online tendering will be conducted on the next working day at the same time.
32	SBI reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever. For any clarification regarding E-Tendering procedure, System requirements etc. please contact M/s E-Procurement technologies Limited, Ahmedabad , whose address is mentioned in the NIT.
33	It is vendor's/supplier's responsibility to be well prepared and get ready with E-Tendering procedures & well equipped with all requirements. SBI will not take any responsibility of delay in submission due to EMD, slow internet connectivity, system failures etc.
34	IT'S NOT A VACANT PREMISES.

Yours Faithfully,

**The Assistant General Manager,
State Bank of India, 2nd Floor,
P & E Department, SBI Tower,
Local Head Office, Gift City,
Gandhinagar (Gujarat)**

FORM TENDER

To,
**The Assistant General Manager,
State Bank of India, 2nd Floor,
P & E Department, SBI Tower,
Local Head Office, Gift City,
Gandhinagar (Gujarat).**

Dear Sir,

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

MEMORANDUM

Description of work	PROPOSED CIVIL REPAIRING/RETROFITTINGWORK FOR SBILD BUILDING, GANDHINAGAR
Earnest Money	The tenderer shall furnish EMD of Rs 86,000/- . in the form of Demand draft or bankers cheque drawn in favour of State Bank of India payable at Gandhinagar. on any Scheduled Bank. No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD. [Those registered with MSMEUDYAM need not submitted EMD. Instead, DD, Valid MSME UDHYAM certificate shall be uploaded].
Percentage, if any, to be deducted from Bills and total amount to be retained	10 % from Running Bills, subject to maximum Total 5% of contract amount or actual Final Bill value.
Time allowed for completion of the Works from fourteenth day after the date of written order or date of handing over of the site (whichever is later) to commence the work	90 days

I/We have deposited a sum of **Rs. 86,000/-** of the total tender amounts as Earnest Money with the State Bank of India which is not to bear any interest. Should I / We fail to execute the Contract when called upon to do so I/ We do hereby agree that suitable action shall be initiated against us by SBI. This may also include debarring of my empanelment for a year or so.

1) Our Bankers are: i)

ii)

The names of partners of our firm are: i)

ii)

Name of the partner of the firm Authorized to sign

Or

(Name of person having Power of Attorney to sign the Contract.)

(Certified true copy of the Power of Attorney should be attached)

Yours faithfully,

Signature of Contractors.

Signature and addresses of Witnesses i)
I, _____ S/o _____ Sole Proprietor/Partner/Director/Authorized
Signatory, M/s. _____ Address

AFFIDAVIT

(On a non-judicial stamp paper duly attested by the Notary Public/Magistrate)

_____, do hereby solemnly affirm and declare as under:-

1. That deponent is a Sole Proprietor/Partner/Director/Authorized Signatory of M/s _____, Address _____ and competent to depose on behalf of the Firm/Company/LLP.
2. That deponent declares that at present our Firm/Company/LLP is not under litigation with any Bank including State Bank of India.
3. That deponent declares that at present our Firm/Company/LLP has not been blacklisted/delisted/dropped/de-panelled by the SBI including erstwhile Associates Banks or any other Government/Semi-Government/Nationalized Public Sector Undertaking (PSUs) / Financial Institution (FIs)/ Corporate Offices.

Deponent

Place:

Date:

VERIFICATION:

Verified that content of my affidavit are true and correct to my knowledge and nothing has been concealed therein.

Place:

Date

Deponent

Business rules for E-tendering:
SAMPLE BUISNESS RULE DOCUMENT

ONLINE E-TENDERING FOR PROPOSED CIVIL WORKS FOR SBI VIRTUAL RELATIONSHIP MODULE, 2nd FLOOR, OLD SBI ZONAL OFFICE AMBAVADI AT AHMEDABAD
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Business rules for E-tendering:

1. Only AHMEDABAD CIRCLE **empaneled Civil contractors** under appropriate category who are invited by the project Architect/SBI shall only be eligible to participate.
2. SBI will engage the services of an E-tendering service provider who will provide necessary training and assistance before commencement of online bidding on Internet.
3. In case of e-tendering, SBI will inform the vendor in writing, the details of service provider to enable them to contact and get trained.
4. Business rules like event date, closing and opening time etc. also will be communicated through service provider for compliance.
5. Contractors have to send by email, the compliance form in the prescribed format (provided by service provider), before start of E-tendering. Without this the vendor will not be eligible to participate in the event.
6. E-tendering will be conducted on schedule date & time.
7. **The e-tendering will be treated as closed only when the bidding process gets closed in all respects for the item listed in the tender.**

(B) Terms & conditions of E-tendering:

SBI shall finalize the Tender through e-tendering mode for which **M/s E-Procurement technologies Limited, Ahmedabad**, has been engaged by SBI an authorized service provider. Please go through the guidelines given below and submit your acceptance to the same along with your Commercial Bid.

E-tendering shall be conducted by SBI through **M/s E-Procurement technologies Limited, Ahmedabad**, on pre-specified date. While the Contractors shall be quoting from their own offices/ place of their choice, Internet connectivity and other paraphernalia requirements shall have to be ensured by Contractors themselves. In the event of failure of their Internet connectivity, (due to any reason whatsoever it may be) it is the bidders' responsibility

In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/alternatives such as back-up power supply whatever required so that they are able to circumvent such situation and still be able to participate in the E-tendering successfully. Failure of power at the premises of Contractors during the E-tendering cannot be the cause for not participating in the E-tendering. On account of this the time for the E-tendering cannot be extended and SBI is not responsible for such eventualities.

M/s E-Procurement technologies Limited, Ahmedabad, shall arrange to train you nominated person(s), without any cost to you. They shall also explain you all the Rules related to the E-tendering. You are required to give your compliance on it before start of bid process.

1. **BIDDING CURRENCY AND UNIT OF MEASUREMENT:** Bidding will be conducted in Indian currency & Unit of Measurement will be displayed in Online E-tendering.
2. **BID PRICE:** The Bidder has to quote the rate as per the Tender Document provided by SBI their appointed Architects.
3. **VALIDITY OF BIDS:** The Bid price shall be firm for a period specified in the tender document and shall not be subjected to any change whatsoever.
4. **Procedure of E-tendering:**

i. Online E-tendering:

- (a) The hard copy of the Technical as well as Price Bid is available on the Bank's website during the period specified in the NIT.
- (b) Online e-tendering is open to the empaneled bidders who receive NIT from the Architect and qualified for participating in the price bidding as provisions mentioned hereinabove through SBI approved Service Provider.
- (c) The Price-Bid shall be made available online by the Service Provider wherein the contractors will be required to fill-in rates
- (d) The Contractors are advised not to wait till the last minute to submit their online item-wise quote in the price bid to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.
- (e) It is mandatory to all the bidders participating in the price bid to quote their rates for each and every item.
- (f) In case, contractor fails to quote their rates for any one or more tender items, their tender shall be treated as **"Incomplete Tender"** and shall be liable for rejection.

LOG IN NAME & PASSWORD: Each Bidder is assigned a Unique User Name & Password by **M/s E-Procurement technologies Limited, Ahmedabad**. The Bidders are requested to change the Password after the receipt of initial Password from **M/s E-Procurement technologies Limited, Ahmedabad**, . All bids made from the Login ID given to the bidder will be deemed to have been made by the bidder.

- 5. **BIDS PLACED BY BIDDER: Bids** will be taken as an offer to execute the work as specified. Bids once made, cannot be cancelled / withdrawn and the Bidder shall be bound to execute the work at the quoted bid price. In case the L1 Bidder backs out or fail to complete the work **as per the rates quoted**, SBI shall have the liberty to take action as deemed necessary including de-paneling such contractors and forfeiting their EMD and imposing heavy penalty to contractor to recover the losses occurred to the Bank.
- 6. At the end of the E-tendering, SBI will decide upon the successful bidder. SBI decision on award of Contract shall be final and binding on all the Bidders.
- 7. SBI shall be at liberty to cancel the E-tendering process/tender at any time, before ordering, without assigning any reason.
- 8. SBI shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause.
- 9. Other terms and conditions shall be as per your techno-commercial offers and other correspondences till date.

10. OTHER TERMS & CONDITIONS:

- The Bidder shall not involve himself or any of his representatives in Price manipulation of any kind directly or indirectly by communicating with other suppliers/ bidders.
- The Bidder shall not divulge either his Bids or any other exclusive details of SBI to any other party.
- SBI decision on award of Contract shall be final and binding on all the Bidders.
- SBI reserve their rights to extend, reschedule or cancel any E-tendering within its sole discretion.
- SBI or its authorized service provider **M/s E-Procurement technologies Limited, Ahmedabad**, shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause.

SBI or its authorized service provider **M/s E-Procurement technologies Limited, Ahmedabad**, is not responsible for any damages, including damages that result from, but are not limited to negligence.

SBI or its authorized service **M/s E-Procurement technologies Limited, Ahmedabad**, will not be held responsible for consequential damages, including but not limited to systems problems, inability to use the system, loss of electronic information etc.

N.B.

-All the Bidders are required to submit the Process Compliance Statement (Annexure-II) duly signed to **M/s E-Procurement technologies Limited, Ahmedabad**,

- **All the bidders are requested to ensure that they have a valid digital signature certificate well in advance to participate in the online event.**

PROCESS COMPLIANCE STATEMENT (ANNEXURE II)

(The bidders are required to print this on their company's letter head and sign, stamp before e-mailing)

To,
M/s E-Procurement technologies Limited, Ahmedabad.

AGREEMENT TO THE PROCESS RELATED TERMS AND CONDITIONS FOR THE ONLINE E-TENDERING FOR PROPOSED CIVIL REPAIRING/RETROFITTINGWORKS FOR SBILD BUILDING, GANDHINAGAR

Dear Sir,

This has reference to the Terms & Conditions for the E-tendering mentioned in the Tender document
This letter is to confirm that:

- 1) The undersigned is authorized representative of the company.
- 2) We have studied the Commercial Terms and the Business rules governing the E-tendering as mentioned in RFP of SBI as well as this document and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the E-tendering tool and have understood the functionality of the same thoroughly.
- 4) We confirm that SBI and M **M/s E-Procurement technologies Limited, Ahmedabad** shall not be liable & responsible in any manner whatsoever for my/our failure to access & bid on the e-E-tendering platform due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, any other unforeseen circumstances etc. before or during the E- tendering event.
- 5) We confirm that we have a valid digital signature certificate issued by a valid Certifying Authority.
- 6) We, hereby confirm that we will honor the Bids placed by us during the E-tendering process.

With regards, Date:

Signature with company seal Name:

Company / Organization:

Designation within Company / Organization: Address of Company / Organization:

Scan it and send to this Document on -----

SECTION – 1
INSTRUCTIONS TO THE TENDERERS

- 1.0 Scope of Work
Sealed Tenders are invited by M/s Studio919 Architects for and behalf of State Bank of India for the work of **CIVIL REPAIRING/RETROFITTINGWORK for SBILD BUILDING, GANDHINAGAR.**
- 1.1 Site and Its Location
The proposed work is to be carried out at **CIVIL REPAIRING/RETROFITTINGWORK for SBILD BUILDING, GANDHINAGAR..**
- 2.0 Tender Documents
- 2.1 The work has to be carried out strictly according to the conditions stipulated in tender consisting the following documents and the most workman like manner,
- Instructions to tenderers
 - General Conditions of Contract
 - Special Conditions of Contract
 - Additional Conditions for Electrical Installation
 - Technical Specifications
 - Drawings
 - Priced Bid
- 2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below:
- Price Bid
 - Technical Specifications
 - Additional Conditions for Electrical Installation
 - Special Conditions of Contract
 - General Conditions of Contract
 - Instructions to Tenderers
- 2.3 The tender documents are not transferable.
- 3.0 Site Visit
- 3.1 The tenderer must obtain himself on his own responsibility and his own expenses all information and data which may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The Tenderer is requested satisfy himself regarding the availability of water, power, transport and communication facilities, the character quality and quantity of the materials, labour, the law & order situation, climatic conditions local authorities' requirement, traffic regulations etc;
- The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.
- 4.0 Earnest Money
The tenderers are requested to submit the Earnest Money of Rs.in the form of Demand Draft or Banker's Cheque in favour of State Bank of India drawn on any Bank in India.
- 4.1
- 4.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD in accordance with clause 4.1 above shall be rejected.
- 4.3 No interest will be paid on the EMD.
- 4.4 EMD of unsuccessful tenderers will be refunded within 30 days of award of Contract.
- 4.5 EMD of successful tenderer will be retained as a part of security deposit.
- 5.0 Initial Security Deposit

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

6.0 Security Deposit

6.1 Total security deposit shall be 5% of contract value. Out of this 2% of contract value is in the form of initial security deposit which includes the EMD. Balance 3% shall be deducted from the running account bill of the work at the rate of 10% of the respective running account bill i.e. deduction from each running bill account will be 10% till total 3% of contract value is reached. 50% of the total security shall be paid to the contractors on the basis of architect's certifying the virtual completion. The balance 50% would be paid to the contractors after the defects liability period as specified in the contract.

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

6.3 Additional Security deposit (ASD)/Additional performance Guarantee (APG) shall be applicable if the bid price is below 10% of the estimated cost put to tender. The amount of such ASD/ APG shall be the difference between 90% of estimated cost put to tender and the quoted price. ASD in the format of DD / Banker's Cheque / Bank Guarantee shall be submitted within 15 days of intimation of award of work / work order, without which the contractor will not be allowed to start the work and failure of submission of ASD will result in forfeiture of EMD and cancellation of tender. For e.g, if a contractor is quoting 15% below the estimated cost put to tender (i.e. 85% of the estimate), then ASD of 5% of estimated cost is required to be obtained from the contractor (90%-85%).

7.0 Signing of Contract Documents

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

8.0 Completion Period: The time period allowed for completion of the project shall be 30 days / ~~months~~ from the date of commencement of work or 15 days from the date of issuance of work order, whichever is earlier.

9.0 Validity of Tender

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

10.0 Liquidated Damages

The liquidated damages shall be 0.5% per week subject to a maximum of 5% of contract value.

11.0 Rates and Prices

- 11.1 In case of item rate tender
- 11.1.1 The tenderers shall quote their rates for individual items both in words and figures in case of discrepancy between the rates quoted in words and figures the unit rate quoted in words will prevail. If no rate is quoted for a particular item the contractor shall not be paid for that item when it is executed.

The amount of each item shall be calculated, and the requisite total is given. In case of discrepancy between the unit rate and the total amount calculated from multiplication of unit rate and the quantity the unit rate quoted will govern and the amount will be corrected.
- 11.1.2 The tenderers need not quote their rates for which no quantities have been given. In case the tenderers quote their rates for such items those rates will be ignored and will not be considered during execution.
- 11.1.3 The tenderers should not change the units as specified in the tender. If any unit is changed the tenders would be evaluated as per the original unit and the contractor would be paid accordingly.

The tenderer should not change or modify or delete the description of the item. If any discrepancy is observed he should immediately bring to the knowledge of the Architect/ Bank.
- 11.1.4 Each page of the BOQ shall be signed by the authorized person and cutting or overwriting shall be duly attested by him.
- 11.1.5 Each page shall be totaled and the grand total shall be given.
- 11.1.6 The rate quoted shall be firm and shall include all costs, allowances, taxes, VAT, levies, etc.

GENERAL & IMPORTANT NOTES

1 GENERAL NOTES:

- ~~(i)~~ Unless otherwise specified in these tender documents mode of measurements specifications etc. shall be as per relevant IS codes.
- (ii) Source of materials / samples / brands / makes etc. shall be got approved from the Architects / Bank before using. In case of deviations, decision of the Bank shall be final and binding and shall not be open for arbitration.
- (iii) The Architects have their specific role / duties / rights as defined in these tender documents. However, in the event of any dispute arising out of differences between the opinions of the Architects and also their role/ duties/rights, the Banks' decision shall be final & binding on the Architects and the Contractor and shall not be open to arbitration.
- (vi) The Contractor will extend full co-operation, support and all required assistance to Architect /Bank for discharging their duties and responsibilities efficiently and effectively.
- (vii) The contractor has to supply and adhere to the specific makes and specifications of all the items, which are mentioned in the separate list of approved makes. Any work found not as per the tender specifications and list of approved the contractor has to replace the same without any delay. The contractor is instructed of get approval of all the materials to be used on this site before starting the work. He should provide different sample of material for approval, before execution of work.**
- (viii) All quantities indicated in the tender are approximate & are likely to change. The contractor must take actual measurement at site and billing shall be done as per the actual measurement of the work done at site.
- (ix) Work has to be got executed at site in coordination with various agencies working at site.
- (x) The contractor is instructed to get the approval of the materials to be used on this site before starting the work. He shall provide different sample of materials for approval before execution of the work
- (xi) All material has to be used in full size/length only. Joints should be avoided as far as possible.
- (xii) Any item mentioned in the BOQ with "TO THE SHAPE" will have measurement of onsite executed to the shape area only.
- (xiii) Making various levels & line out for total layout on site for the items in scope of the work shall be done by the contractor at his own cost.
- (xiv) MTC (Manufacturer Test certificate) Where ever applicable shall be arranged & submitted by the contractor. Testing of wood for moisture, knot % etc. shall be carried

out by the contractor at his own cost.

2. IMPORTANT NOTES:

- (i) The contractor's qualified & authorized representative shall remain on site during the entire execution process for coordination with various agencies / Architect / Bank & execution of work.
- (ii) If the assigned work is in running/working Branch, the contractor should have executed the site erection work in odd hours, Holidays and Sundays.
- (iii) The contractor shall prepare all loose Electrical items at his workshop only & deliver the same to the site at appropriate time as instructed by the Architect/BMs/Bank Officials.
- (iv) The site shall be cleaned on day-to-day basis & all debris shall be disposed away at the location beyond the limit as approved by the local authority.
- (v) Hidden measurements: - It is contractor's responsibility to get the measurement checked immediately on completion of such items. This shall be done before finishing the same. The Architect shall be provided with such details well in advance so that the other work is not held up due to last moment action.
- (vi) Before starting the work at site, the contractor shall mark out the plan & levels of the false ceiling, partitions etc. in coordination with other agencies on site.
- vii) The rates quoted shall be inclusive of all taxes, Duties, Octroi, Transportation, Delivery, Installation, Testing, Commissioning etc. complete at the site. No extra will be paid for any kind of taxes. However, the GST will be paid extra as applicable as per actual.
- viii) The entire job shall be executed in total coordination with the other agencies working on the project & also with landlord, Branch Manager and Bank officials etc.
- ix) Architect of the project shall be kept informed about the progress of the work at various stages.
- x) The contractor shall arrange on his own for lighting & plug point with socket & electrical wiring, DB's etc. required during entire execution process. However, supply at point shall be provided by the bank / landlord
- (xi) Any Hidden item MUST be photographed and need to be sent via e- mail or CD to Architect / Bank
- xii) **BILLING PROCESS:**
The contractor/Architect should take care of the following while submitting the final Bill

The Final Bill Should Contain: -

- a) Abstract in tender BOQ format only.
- b) Schedules for detailed measurement sheet for all items (in detailed break up).
- c) original insurance policies as per tender terms and conditions.
- d) Completion certificate issued by the concerned Architect.
- e) Inspection & completion certificates for all types of false ceiling.
- f) Test report for Toughened Glass.
- g) Copy of LOA etc.
- h) All documents shall carry contractor's signature & seal with address. - All documents shall be submitted in 1 + 1 copies.
- i) The contractor shall also provide all measurement sheet in soft copy (in Excel format).
- j) The contractor shall submit the purchase bill copy of major items used in the project.
- k) That extension of time, if any, beyond scheduled date of completion has been granted by the Competent Authority.
- l) original receipt of purchase of Corian /plywood/ Gyp board and other major materials used in the work from the original manufacturer/authorized dealers/distributors.
- m) If any advances paid during the execution of the work.
- n) Acceptances form the contractor that "Accepted as full and final settlement of all claims"
- o) The total cost of work should be within the sanction amount, If not, revised sanction taken from the Competent Authority to be attached with the Final Bill

**IMPORTANT: ALL DOCUMENTS SHALL BE SUBMITTED AT ONCE (NOT IN
PIECEMEAL MANNER) ALONG WITH FULL & FINAL BILL & SHALL BE DULY
SIGNED BY PUTTING COMPANY'S ADDRESS SEAL**

GENERAL CONDITIONS OF CONTRACT

1.0 Definitions: -

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

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

1.0.1 ‘SBI shall mean SBI having its Office at State Bank of India and includes the client’s representatives, successors and assigns.

1.0.2 ‘Architects/ Consultants’ shall mean **STUDIO919 ARCHITECTS**, Architects & Interior Designers, Ahmedabad.

1.0.3 ‘Site Engineer’ shall mean an Engineer appointed by the SBI at site as their representative for day-to-day supervision of work and to give instructions to the contractors.

1.0.4 ‘The Contractor’ shall mean the individual or firm or company whether incorporation, undertaking the works and shall include legal personal representative of individual or the composing the firm or company and the permitted assignees of individual or firms of company.

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

1.0.5 ‘Engineer’ shall mean the representative of the Architect/Consultant.

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

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

1.0.8 “Month” means calendar month.

1.0.9 “Week” means seven consecutive days.

1.0.10 “Day” means a calendar day beginning and ending at 00 Hrs and 24 Hrs respectively.

1.1.11 "SBI Engineer" shall mean The Civil/Electrical Engineer in-charge of the Project, as nominated by the AGM (P&E) SBI, , GANDHINAGAR/Ahmedabad/Competent Authority.

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

- i) Assist General Manager – (P &E)
- ii) SBI Engineer (CIVIL and Electrical) in-charge of the Project.
- iii) Concerned partner of the Architects and their Resident Architect Member.

CLAUSE

1.0 Total Security Deposit:

Total security deposit shall be 5.0% of contract value. Deduction from each running bill account (if permitted) will be @ 10% till Total Security Deposit (TSD) reaches to 5% of contract value. The 50% of the Total Security Deposit shall be paid to the contractor on the basis of Architect's certifying the virtual completion. The balance 50% would be paid to the contractors after completion Defects Liability Period as specified in the contract/WORK ORDER.

1.1 Earnest Money Deposit Rs: 86,000/-

However, if the tenderer revokes his tender after acceptance of rate at any time the period when he is required to keep his tender open acceptance by the SBI or after it is accepted by the SBI or the contractor fails to enter into a formal agreement or fails to commence the work within the stipulated time, the bank is liable to initiate necessary action against the bidder. The action may also include debarring of bidders' empanelment for a year or so.

1.2 Initial Security Deposit (ISD): 2% INCLUDING EMD

1.3 ADDITIONAL SECURITY DEPOSIT / PERFORMANCE GUARANTEE

Additional Security deposit (ASD)/Additional performance Guarantee (APG) shall be applicable if the bid price is below 10% of the estimated cost put to tender. The amount of such ASD/ APG shall be the difference between 90% of estimated cost put to tender and the quoted price. ASD in the format of DD / Banker's Cheque / Bank Guarantee shall be submitted within 15 days of intimation of award of work / work order, without which the contractor will not be allowed to start the work and failure of submission of ASD will result in forfeiture of EMD and cancellation of tender. For e.g, if a contractor is quoting 15% below the estimated cost put to tender (i.e. 85% of the estimate), then ASD of 5% of estimated cost is required to be obtained from the contractor (90%-85%).

1.4 Retention Money:

The Retention money shall be deducted from the running account bill at the rate of 10% of the gross value of work done by the contractor and claimed in each bill provided the Total Security Deposit plus Retention Money shall both together not exceeding 5.0% of the contract value. The 50% of the total security deposit shall be refunded to the contractor without any interest on issue of Virtual Completion certificate by the

Architect/consultant. The balance 50% of the total security deposit shall be refunded to the contractors without interest within fifteen days after the end of defects liability period provided the contractor has satisfactorily attended to all defects in accordance with the conditions of contract including site clearance.

2.0 Language:

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

3.0 Errors, omissions and discrepancies:

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

- i) Between scaled and written dimension (or description) on a drawing, the latter shall be adopted.
- ii) Between the written or shown description or dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.
- iii) Between written description of the item in the specifications and descriptions in bills of quantities of the same item, the former shall be adopted:
 - a) In case of difference between rates written in figures and words, the rate in words shall prevail.
 - b) Between the duplicate / subsequent copies of the tender, the original tender shall be taken as correct.

4.0 Scope of Work:

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

5.0 i) Letter of Acceptance:

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

ii) Contract Agreement:

On receipt of intimation of the acceptance of tender from the SBI /Architect the successful tenderer shall be bound to implement the contract and within fifteen days there of shall sign an agreement in a non-judicial stamp paper of appropriate value.

6.0 Ownership of drawings:

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

7.0 Detailed drawings and instructions:

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

The work shall be executed in conformity there with and the contractor prepare a detailed programme schedule indicating therein the date of start and completion of various activities on receipt of the work order and submit the same to the SBI through the architect/consultant

7.1 Copies of agreement:

Two copies of agreement duly signed by both the parties with the drawings shall be handed over to the contractors.

8.0 Liquidated damages:

If the contractor fails to maintain the required progress in terms of clause 6.0 of GOC or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion, without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBI on account of such breach to pay a liquidated damages at the rate of 0.50% of the contract value which subject to a maximum of 5% of the contract value.

9.0 Materials, Appliances and Employees:

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

10.0 Permits, Laws and Regulations:

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

11.0 Setting out Work:

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

12.0 Protection of works and property:

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

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

13.0 Inspection of work:

The SBI / Architect / Consultant or their representatives shall at all reasonable times have free access to the work site and / or to the workshop, factories, or other places where materials are lying or from where they are obtained and the contractor shall give every facility to the SBI/Architect/consultant and their representatives necessary for inspection and examination and test of the materials and workmanship. No person unless authorized by the SBI/ Architect

/Consultant except the representative of public authorities shall be allowed on the work at any time. The proposed work either during its construction stage or its completion can also be inspected by the Chief Technical Examiner's Organization a wing of Central Vigilance commission.

14.0 Assignment and subletting:

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

15.0 Quality of materials, workmanship & Test:

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

ii) Samples:

All samples of adequate numbers, size, shades & pattern as per specifications shall be supplied by the contractor without any extra charges. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at the site detailed literature / test certificate of the same shall be provided to the satisfaction of the Architect/consultant before submitting the sample/literature the contractor shall satisfy himself that the material / equipment for which he is submitting the sample / literature meet with the requirement of tender specification. Only when the samples are approved in writing by the architect/consultant the contractor shall proceed with the procurement and installation of the particular material / equipment. The approved samples shall be the signed by the Architect / Consultant for identification

and shall be kept on record at site office until the completion of the work for inspection / comparison at any time. The Architect/Consultant shall take reasonable time to approve the sample. Any delay that might occur in approving the samples for reasons of its not meeting the specifications or other discrepancies inadequacy in samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials / equipment etc. shall be to the account of the contractor.

iii) Cost of tests:

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

iv) Costs of tests not provided for:

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

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

16.0 Obtaining information related to execution of work:

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

17.0 Contractor's superintendence:

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

18.0 Quantities:

The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements and quantities. The rate quoted shall remain valid for variation of quantity against individual item to any extent. The entire amount paid under Clause 19, 20 hereof as well as amounts of prime cost and provision sums, if any, shall be excluded.

19.0 Works to be measured:

The Architect/Consultant may from time to time intimate to the contractor that he requires the work to be measured and the contractor shall forthwith attend or send a quantity representative to assist the Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detail in the specifications. The representative of the Architect / Consultant shall take measurements with the contractor's representative and the measurements shall be entered in the measurement book. The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All the corrections shall be duly attested by both representatives. No over writings shall be made in the M book should the contractor not attend or neglect or omit to depute his representative to take measurements the measurements recorded by the representative of the Architect/consultant shall be final. All authorized extra work, omissions and all variations made shall be

included such measurement.

20.0 Variations:

No alteration, omission or variation ordered in writing by the Architect/consultant vitiates the contract. In case the SBI/ Architect / Consultant thinks proper at any during the progress of works to make any alteration in, or additions to or omission from the works or any. Alteration in the kind or quality of the materials to be used therein, the Architect / Consultant shall give notice thereof in writing to the contractor shall confirm in writing within seven days of giving such oral instructions the contract shall alter to, add to, or omit from as the case may be in accordance with such but the contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Architect/ Consultant and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect / Consultant and the same shall be added to or deducted from the contract value, as the case maybe.

21.0 Valuation of Variations:

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

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

The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of Works are carried out, otherwise the prices for the same shall be valued under sub- Clause 'c' hereunder.

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

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

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

22.0 Final measurement:

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

23.0 Virtual Completion Certificate (VCC):

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

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

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

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

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

Shall hand over the work in a peaceful manner to the SBI

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

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

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

24.0 Work by other agencies:

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

25.0 Insurance of works:

Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI and the contractor against all loss of damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBI

and contractor are covered for the period stipulated in clause of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

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

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

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

26.0 Damage to persons and property:

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

- a) The permanent use or occupation of land by or any part thereof.
- b) The right of SBI to execute the works or any part thereof on, over, under, in or through any lands.
- c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract.
- d) Injuries or damage to persons or property resulting from any act or neglect of the SBI their agents, employees or other contractors not being employed by the contractor or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the SBI, their employees, or agents or other employees, or agents or other contractors for the damage or injury.

27.0 Contractor to indemnify SBI:

The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 26.0 of this clause.

28.0 Contractor's superintendence:

The contractor shall fully indemnify and keep indemnified the SBI against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect to any article or part thereof included in the contract. In the event of any claim made under or action brought against SBI in respect of such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the SBI if the infringement of the patent or design or any alleged patent or design right

is the direct result of an order passed by the Architect / consultant in this behalf.

29.0 Third Party Insurance:

Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 25.0 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBI, or to any person, including any employee of the SBI, by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 25.0 thereof.

30.0 Minimum amount of Third-Party Insurance:

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

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

31.0 Accident or Injury to workman:

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

32.0 Insurance against accidents etc. to workmen:

The contractor shall insure against such liability with an insurer approved by the SBI During the whole of the time that any persons are employed by him on the works and shall, when required, produce to the architect / consultant such policy of insurance and receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor the contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured against the liability in respect of such persons in such manner that SBI is indemnified under the policy but the contractor shall require such sub-contractor to produce to the Architect /consultant when such policy of insurance and the receipt for the payment of the current premium.

33.0 Remedy on contractor's failure to insure:

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

Without prejudice to the others' rights of the SBI 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 damage's costs,

charges, and other expenses paid by the SBI And which are payable by the contractors under this clause. The contractor shall upon settlement by the Insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the Insurer in respect of such damage shall be paid to the contractor and the Contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

34.0 Commencement of Works:

The date of commencement of the work will be reckoned from the date of award of letter by the SBI

35.0 Time for completion:

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

36.0 Extension of time:

If, in the opinion of the Architect/consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/consultant may submit a recommendation to the SBI to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBI Through the Architect' Consultant in writing at least 30 Days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reason in detail and his justification if an', for the delays. The architect/consultant shall submit their recommendations to the SBI in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the provision of liquidated damages as stated under clause 10.0 shall become applicable. Further the contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

37.0 Rate of progress:

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

38.0 Work during nights and holidays:

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or on holidays without the permission in writing of the Architect/consultant, save when the work is unavoidable or absolutely necessary for the saving of life or

property or for the safety of the work in which case the contractor shall immediately advise the Architect / consultant. However, the provisions of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required / continued with the prior approval of the Architect / consultant at no extra cost to the SBI

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

39.0 No compensation or restrictions of work:

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

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

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

40.0 Suspension of work:

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

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

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

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

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

41.0 Action when the whole security deposit is forfeited:

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

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

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

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

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

42.0 Owner's right to terminate the contract:

If the contractor being an individual or a firm commit any 'Act of insolvency' or shall be adjusted an insolvent or being an incorporated company shall have an order for compulsory winding up voluntarily or subject to the supervision of Govt. and of the Official Assignee of the liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him to do so, to show to the reasonable satisfaction of the Architect / Consultant that he is able to carry out and fulfill the contract, and to dye security therefore if so required by the Architect /Consultant.

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

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

has abandoned the contract; or

has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the SBI through the Architect / consultant written notice to proceed, or has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBI through the Architect / Consultant that the said materials were condemned and rejected by the Architect/ consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBI or Architect's / consultant's instructions to the contrary subject any part of the contract. Then and in any of said cases the SBI and or the Architect / consultant, may not withstanding any previous waiver, after giving seven days' notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect/consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBI through the Architect / consultant their agents or employees may enter upon and take possession of the work and all plants, took scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to the work and the contractor shall not in any was interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for complement and finishing or using the materials and plant for the works.

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

43.0 Certificate of payment:

The contractor shall be entitled under the certificates to be issued by the Architect / consultant to the contractor within 10 working days from the date of certificate to payment from SBI From time-to-time SBI shall recover the statutory recovering other dues including the retention amount from the certificate of payment. Provided always that the issue of any certificate by the Architect / consultant during progress of works or completion shall not have effect as certificate of satisfaction relieve the contractor from his liability under clause.

The Architect / consultant shall have power to withhold the certificate if the work or in part thereof is not carried out to their satisfaction. The Architect/consultant may by any certificate make any corrections required previous certificate. The SBI shall modify the certificate of payment as issued by the architect/ consultant from time to time while making the payment. The contractor shall submit interim bills only after taking actual measurements and properly recorded in the Measurement books. The Contractor shall not submit interim bills when the approximate value of work done by him up to 70%. The final bill may be submitted by contractor within a period of one month from the date of virtual completion and Architect / consultant shall issue the certificate of payment within a period of two months. The SBI Shall pay the amount within a period of three months from the date of issue of certificate provided there is no dispute in respect of rates and quantities.

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

44.0 Settlement of Disputes and Arbitration:

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

- i) If the contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Architect or in case the contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) 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 Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) 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 Assistant General Manager (Premises & Estate) / Dy. General Manager (Premises) in writing in the manner and within the time aforesaid.
- ii) The Assistant General Manager (Premises & Estate) / Dy. General Manager (Premises) shall give his decision in writing on the claims notified by the contractor. The contractor may within 30 days of the receipt of the decision of the Assistant General Manager (Premises & Estate) / Dy. General Manager (Premises) submit his claims to the conciliating authority namely the Circle Development Officer/General Manager (Official Language & Corporate Services) for conciliation along with all details and copies of correspondence exchanged between him and the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises)
- iii) If the conciliation proceedings are terminated without settlement of the disputes, the contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned Chief General Manager/Dy. Managing Director (HR) & Corporate Development Officer of the Bank 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.
- iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chief General Manager at LHO /Dy. Managing Director & Corporate Development Officer at CC/CCEs. It will also be no objection to any such appointment that the Arbitrator so appointed is a

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

- v) It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.
- vi) It is also a term of this contract that no person other than a person appointed by such Chief General Manager aforesaid should act as arbitrator.
- vii) 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.
- viii) 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.
- ix) 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.

45.0 Water supply:

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

- i) That the water used by the contractor shall be fit for construction purposes to the satisfaction of the Architect /consultants.
- ii) The contractor shall make alternative arrangements for the supply of water if the arrangement made by the contractor for procurement of water in the opinion of the Architect / consultant is unsatisfactory.
- iii) In case contractor is permitted to use SBI source of water i.e., Municipal connection, bore well (existing or new) etc., the SBI will recover as per clause **51.0** of this document from the final bill of contractor.

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

46.0 Power supply:

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

In case contractor is permitted to use Bank's source of power supply provided at one point, the SBI will recover as per clause 51.0 of this document from the final bill of contractor.

47.0 Treasure trove etc.

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

48.0 Method of measurement:

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

49.0 Maintenance of registers:

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

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

50.0 Force Majeure:

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

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

From the date of occurrence of a case off or force majeure obligations of the party affected.

51.0 Water power and other facilities:

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

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

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

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

In case contractor is permitted to use Bank's source of water and power supply provided at one point, the SBI will recover @ 0.50% of final bill amount for water and electricity (Combined) from the bill of contractor.

52.0 Facilities for contractor's employees:

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

53.0 Lighting of works:

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

54.0 Firefighting arrangements:

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

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

- a) Proper handling, storage and disposal of combustible materials and waste.
- b) Work operations which can create fire hazards.
- c) Access for fire-fighting equipment.

- d) Type, number and location of containers for the removal of surplus materials and rubbish.
- e) Type, size, number and location of fire extinguishers or other fire fighting equipment.
- f) General housekeeping.

55.0 Site order book:

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

56.0 Temporary fencing/barricading:

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

57.0 Site meetings:

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

58.0 Disposal of refuse:

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

59.0 Contractor to verify site measurement:

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

60.0 Displaying the name of the work:

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

61.0 As built drawings:

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

For the drawings prepared by the contractor:

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

62.0 Approved make:

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

63.0 Procurement of materials:

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

64.0 Excise duty, taxes, levies etc.:

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

65.0 Acceptance of tender:

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

66.0 Photographs:

The Contractor shall at his own expense supply to the Architects with duplicate hard copies of large photographs not less than 25 cm. x 20 cm. (10" x 8") of the works, taken from two approved portions of each building, at intervals of not more than one month during the progress of the work or at every important stage

of construction.

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

67.0 Safety Codes:

1. First aid appliances including adequate supply of sterilized dressing and cotton wool shall be kept in a readily accessible place.
2. An injured person shall be taken to a public hospital without loss of time, in cases when the injury necessitates hospitalization.
3. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from the ground.
4. No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30 cm. (clear) and the distance between two adjacent rungs shall not be more than 30 cm. When a ladder is used an extra labor shall be engaged for holding ladder.
5. The excavated material shall not be placed within 1.5 meters of the edge of the trench half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.
6. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one meter.
7. No floor, roof or other part of the structure shall be so overloaded with debris or material as to render it unsafe.
8. Workers employed on mixing and handling material such as asphalt, cement, mortar, concrete and lime shall be provided with protective footwear and rubber hand gloves.
9. Those engaged in welding works shall be provided with welders' protective eye shield and gloves.
10. (i) No paint containing lead or lead products shall be used except in the form of paste readymade paint.
(ii) Suitable face masks should be supplied for use by the workers when the paint applied in the form of spray or surface having lead paint dry rubbed and scrapped.
11. Overalls shall be supplied by the contractor to the painters and adequate facilities shall be provided to enable the working painters to wash during cessation of work.
12. Hoisting machines and tackle used in the works including their attachments anchor and supports shall be in perfect condition.
13. The ropes used in hoisting or lowering material or as a means of suspension shall be durable quality and adequate strength and free from defects.

BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

Place:

Date.....

(On non-judicial stamp paper of Rs -----/-)

BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

B.G.No. _____ Value Rs. _____

State Bank of India,

(Address)

Sub: Bank Guarantee of Rstowards Security Deposit for the work offer State Bank of India.

(Name of Branch/Office)

Dear Sir,

WHEREAS (Name and address of contractor/ vendor) (hereinafter called the Contractor) have entered into contract for (Name of Work) with State Bank of India (SBI) as mentioned in the letter of SBI's Consultants (Name & address of consultants) vide their letter No..... dated and the correspondence and tender relating thereto which is hereinafter referred to as "the said contract" the Contractor has now agreed to produce a Bank Guarantee amounting to 2% of the contract value less earnest money deposit of Rs (Rupees only), to State Bank of India for performing their part of the contract obligations.

AND WHEREAS in terms of said contract, the contractor is required to furnish to State Bank of India a Guarantee of a Scheduled Bank for a value of Rs... to be valid upto (date).

AND WHEREAS (Name of Bank and its branch) having their office at (address) the Guarantor, at the request of the contractor hereby furnishes a PBG in favour of State Bank of India and Guarantees in the manner hereinafter appearing.

In consideration of the premise, we (name of Bank and its branch) having our office at (address) here after called the "Guarantor" (which expression shall include its successors and assigns) here by expressly, irrevocably &unreservedly undertake and guarantee under that if the Contractor fails to execute the work according to his obligations under the said contract, then notwithstanding any dispute between State Bank of India and the contractor the Guarantor shall, on demand without demur and without reference to the contractor pay to State Bank of India immediately any sum claimed by State Bank of India under the said contract up to a maximum amount of Rs. _____ (Rupees only).

In case the amount demanded by State Bank of India is not paid within 48 hours of receipt of demand, the Guarantor agrees to pay the aforesaid amount of Rs. _____/- (Rupees only).

- (i) Such payment shall be notwithstanding any right the contractor may have directly against State Bank of India or any disputes raised by the Contractor with State Bank of India or any suits or proceedings pending in any competent court or before any arbitrator. State Bank of India's

written demand shall be conclusive evidence to the Guarantor that such payment is payable under the terms of the Contract and shall be binding in all respect on the guarantor.

- (ii) The Guarantor shall not be discharged or released from the the undertaking and Guarantee, by any arrangement, variations made between SBI and the Contractor and or indulgence shown to the contractor by SBI, with or without the consent and knowledge of the guarantor or by alterations in the obligations of the contractor by any forbearance, whether as to payment, time performance or otherwise.
- (iii) This guarantee shall remain valid until or as may be caused to be extended by the contractor or until discharged by SBI in writing whichever is earlier.
- (iv) This guarantee shall be a continuing guarantee and shall not be revocable during its currency except with the previous written consent of SBI.
- (v) This guarantee shall not be affected by any change in the constitution of the contractor, by absorption with any other body or corporation or dissolution or otherwise and this guarantee will be available to or enforceable against such body or corporation.
- (vi) In order to give effect to this guarantee SBI will be entitled to act as if the Guarantor were the principal debtor and the Guarantor hereby waives all and any of its rights or surety ship.
- (vii) This guarantee shall continue to be in force notwithstanding the discharge of the contractor by operation of law and shall cease only on payment of the full amount by the Guarantor to SBI of the amount hereby secured.
- (viii) This guarantee shall be in addition to and not in substitution for any other guarantee or security for the contractor given or to be given to SBI in respect of the said contract.
- (ix) Any notice by way of request and demand or otherwise here under may be sent by post or any other mode or communication to the guarantor addressed as aforesaid and if sent by post it shall be deemed to have been given at the time when it would be delivered in due course of post and in providing such notice when given by post it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of SBI that the envelope was so posted shall be conclusive.
- (x) These presents shall be governed by and constructed in accordance with Indian Law.

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

This guarantee will remain valid up to_____unless a demand or claim under this guarantee is made in writing on or before_____the guarantor shall be discharged from all liability under the guarantee thereafter.

Dated the

For (Name of Bank)

(Signature/s with designation/s of signatory/ies)
(Name and Stamp of Bank)

DETAILS OF INSURANCE POLICIES

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

Remarks:

1. This is only an 'on-account' payment and is not to be interpreted either as approval of work, materials brought or affixed at site or for that matter approval of any sort.
2. The quantum of work done and materials delivered at site have been certified by.....
3. should you wish to audit such work, kindly contact the undersigned and oblige.

Architects _____

SAFETY CODE

SAFETY MEASURES AT SITE:

1. All personnel at site should be provided with Helmets and Safety Boots with some Identification Mark. Visitors also should be provided with Helmets. It should be ensured that these are used properly.
2. First Aid Box should be kept at site with all requisite materials.
3. No one should be allowed to inspect / work at a height without Safety Belt.
4. Suitable scaffolds should be provided for workmen for all Works that cannot safely be done from the ground, or from solid construction except such short period Work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
5. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 Meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
6. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.
7. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 Meter.
8. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 Meters in length while the width between side rails in rung ladder shall in no case be less than 30cms for ladder up to and including Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30 cms. Uniform step spacing shall not exceed 30 cms.
9. Adequate precautions shall be taken to prevent danger from electrical equipment's. For electrical on line works gloves, rubber mats, and rubber shoes shall be used.
10. All trenches 1.2 Meters or more in depth shall at all times be supplied with at least one ladder for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances

undermining or under cutting shall be done.

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

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

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

- a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repairs and in good working order.
- b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffold, winch or give signals to the operator.

- d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.
 - e) Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.
 - g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, sleeves, and boots as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
13. All scaffolds, ladders and other safety devices, mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.

SAMPLE AGREEMENT WITH CONTRACTORS

ARTICLES OF AGREEMENT

This agreement made the day of..... between
AGM/ DGM

(), State Bank of India, -----(hereinafter called the Bank or SBI) which expression shall include

the successors and assigns) of the one part and M/s.
company / partnership for registered under the Indian Companies Act/ Partnership
Act having its registered
office..... (hereinafter
called 'the Contractors' which expression shall include the present directors / partners
and also the directors / partners from time to time as also their respective heirs, legal
representatives, administrators and assigns) of the other part.

WHEREAS the employer is desirous of execution of _____(Name of
work)_____

and has caused drawings and specifications describing the works to be done prepared
by Project **Architects M/s** _____ having their
offices at _____(hereinafter called "the Architect")

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

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

_____ (Rupees _____)

in words _____) as there in arrived at or such other sum as shall become payable
there under (hereinafter referred to as "the said Contract Amount".

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract amount to be paid at the times and the manner set forth in the said Conditions, the Contractors shall upon and subject to the said conditions execute and complete the work shown upon the said drawings and described in the said specifications and the schedule of items and quantities.
2. The employer shall pay the Contractors the amount or such other sum as shall become payable, at the times and in the manner specified in the said conditions.
3. The term "the Architect" in the said condition shall mean the said "M/s_" or in the event of their ceasing to be the Architect for the purpose of this contract for whatever reason,

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

4. The said conditions and appendix thereto shall be read and construed as forming part of this agreement, and the parties hereto shall respectively abide by / submit themselves to the said conditions and perform the agreements on their part respectively in the said conditions contained.
5. The plans, agreement and documents mentioned herein shall form the basis of this contract.
6. This contract is neither a fixed Lump sum contract nor a piece work contract but is a contract to carry out the work in respect of the entire project on item rate basis to be paid for according to actual measured quantities at the rates contained in the schedule of quantities and rates or as provided in the said conditions.
7. The Bank / Employer reserves to itself the rights of altering the specifications and nature of work by adding to or omitting any item of work or having portions of the same carried out without prejudice to the contract.
8. Time shall be considered as the essence of this contract and the contractor hereby agrees to commence the work soon after the site is handed over to him or from the 14th day after date of issue of formal work order as provided for in the said conditions of contract whichever is later and to complete the entire work within ____ (period of contract) months subject never the less to the provisions for extension of time.
9. All payments by the Employer under this contract will be made only at ____.
10. Any dispute arising under this Agreement shall be referred to arbitration in accordance with the stipulations laid down in the tender.
11. That all the parts of this contract have been read by the contractor and fully understood by the contractor. They further agree to complete the said work to fullest satisfaction of architect / Employer.
12. IN WITNESS WHEREOF the Employer and the contractors have set their respective

hands to these present through their duly authorized official and the said two duplicates hereof to be executed on its behalf of the day and year first herein above written.

Signed on behalf of the
STATE BANK OF INDIA

Signed-on behalf of the
CONTRACTORS

In the presence of :

In the presence of :

1. Signature :
Name :
Address :

1. Signature :
Name :
Address :

In the presence of :
2. Signature :
Name :
Address :

In the presence of :
2. Signature :
Name :
Address :

APPENDIX HEREIN BEFORE REFERRED TO

- 1) Name of the organization Offering Contract : **SBI PREMISES & ESTATE DEPARTMENT
LHO GANDHINAGAR.**
- 2) Consultants : **M/s Studio919 Architects**
- 3) Site Address : **SBILD BUILDING, GANDHINAGAR.**
- 4) Scope of Work : **CIVIL REPAIRING/RETROFITTINGWORK
for SBILD BUILDING, GANDHINAGAR.**
- 5) Name of the Contractor :
- 6) Address of the Contractor :
- 7) Period of Completion : within the stipulated period from the
date
of Issue of work order.
- 8) Earnest Money Deposit : **86,000/-**
- 9) Retention Money : As per clause no. 1.4 of
General Conditions
- 10) Defects Liability Period : Twelve Months from the date
of Virtual Completion.
- 11) Insurance to be undertaken by the : 125% of Contract Value
Contractor at his cost
(Contractor's all risk policy)
- 12) Liquidated damages : 0.5% of the Contract amount shown
In the tender per week subject to
max.5%of the contract value or
actual final bill value.
- 13) Value of Interim Bill (Min.) : **35 Lacs**
- 14) Date of Commencement : From the date of work order issued
to the contractor/ or the day on
Which the Contractor is instructed
to take possession of the site
whichever is earlier.
- 15) Period of Final Measurement : 2 Months from the date of Virtual
Completion Certificate (VCC)
issued by the project Architect
- 16) Initial Security Deposit : 2% including EMD
- 17) Total Security Deposit : 5.0% of the final bill amount or contract

value

18) Refund of Total Security Deposit

: 50% of the Security Deposit shall be refunded to the Contractor on completion of the work/along with the final bill and balance refunded only after the Defect Liability Period is over.

19) Period for Honoring Certificate

: **7 days for R.A. Bills**

20) The final bill will be submitted by the Contractor within one month of the date fixed for completion work and the Bill shall be certified within 3 Months from the date of receipt of final bill provided the bills are submitted with all pre-requisite documents/test reports etc. prescribed in the tender.

Signature of Tenderer. _____

Date:

MEMORANDUM

[illegible]

Note:

1.	If part rate is allowed for any items, it should be indicated with reasons for allowing such a rate.	
		Net Value since previous bill
2.	If ad-hoc payment is made, it should be mentioned specifically.	

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 in Excel
format. Excel sheet enclosed

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

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

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

TABLE – XV**MEMORANDUM FOR PAYMENT****R/A BILL NO.**

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

OBJECTIONS:

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

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

Date:-----

Signature of Architect with Seal

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

Date : -----

Signature of Bank's engineer with Seal

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

Date:---

STATUTORY DEDUCTION:

i)	Total Amount due (E)	Rs. -----
ii)	Less I.T. Payable	Rs. -----
iii)	Less S.T. Payable	Rs. -----
	Net Payable	Rs. -----

-----Signature of CM (P&E)

TECHNICAL SPECIFICATION

CIVIL MATERIAL SPECIFICATION

1. General Guidelines

- All materials used shall be new, of approved quality, and conform to relevant standards (e.g., IS/BS/ASTM/ACI).
- Materials shall be tested at approved laboratories before incorporation in the works.
- The contractor must submit manufacturer test certificates, samples, and method statements for approval.

2. Material Specifications

2.1 Cement

- Type: OPC 43/53 Grade or PPC (as per structural requirements)
- Standards:
 - IS: 269 – Ordinary Portland Cement
 - IS: 1489 – Portland Pozzolana Cement
- Fresh, free from lumps, stored in moisture-proof conditions.
- Shall be used within 90 days from the manufacturing date.

2.2 Fine Aggregates (Sand)

- Clean, well-graded, river or crushed sand.
- Free from clay, silt, organic matter, mica, and salt.
- Conforming to IS: 383.
- Zone II preferred unless specified otherwise.

2.3 Coarse Aggregates

- Crushed hard granite or basalt stone, angular in shape.
- Size: 10mm, 20mm, and 40mm graded as required.
- Free from dust, flaky, elongated particles, or organic impurities.
- Conforming to IS: 383.

2.4 Water

- Potable quality, free from harmful salts and contaminants.
- Should pass IS: 456 criteria for concrete mixing and curing.

2.5 Steel Reinforcement

- Type: TMT Bars – Fe 500/500D or higher.
- Standards: IS: 1786
- Clean, free from rust, oil, paint, or scales.
- Laps, bends, and anchorage as per IS: 456 and structural drawings.

2.6 Structural Steel (for fabricated items)

- Grade: Mild Steel IS: 2062 E250 or equivalent.
- Shop fabricated with proper welding, cutting, drilling as per IS codes.
- All steel surfaces to be primed with red oxide primer.

2.7 Bricks / Blocks

- Bricks: Class 1st, machine-molded, table-moulded.
- Compressive Strength: Minimum 75 kg/cm².
- Conforming to IS: 1077.
- AAC Blocks: As per IS: 2185 (if specified).
-

2.8 Concrete

- Nominal Mix: M10, M15 for non-structural works.
- Design Mix: M20, M25, M30+ for structural works as per IS: 456 and IS: 10262.
- All materials for concrete (cement, aggregates, water) to comply with above individual specifications.
- Admixtures (if used): Conforming to IS: 9103; prior approval required.

2.9 Mortar

- Cement mortar in ratio:
 - 1:6 for masonry.
 - 1:4 or 1:3 for plastering.
- Mixing to be done on clean impervious surface or mechanical mixer.

2.10 Waterproofing Materials

- Pre-approved chemical waterproofing compounds.
- Approved brands: Dr. Fixit, Fosroc, Sika, or equivalent.
- Application method per manufacturer's guidelines.

2.11 Bituminous Materials

- Bitumen: VG-30 (as per IS: 73)
- Bitumen Emulsion: For tack coat – IS: 8887
- Premix / Asphalt Concrete: Conforming to MoRTH or IRC Specifications.

2.12 Concrete Blocks / Pavers

- Machine-made paver blocks with minimum compressive strength of 30 MPa.
- Dimensions and thickness as per design.

2.13 Flooring Materials

- Tiles: Vitrified, Ceramic, or Granite – anti-skid for wet areas.
- Standards: IS: 15622 for ceramic and vitrified tiles.
- Adhesives: As recommended by tile manufacturer.

2.14 Paints and Coatings

- Primer: Cement-based or oil-based.
- Emulsion: Interior and exterior-grade (e.g., Asian Paints, Berger).
- Enamel Paint: For metal surfaces.
- All paint systems as per IS: 15489.

2.15 Plumbing and Drainage Materials (if civil includes this scope)

- Pipes: uPVC for internal use, HDPE for external drainage.
- Fittings: Conforming to IS: 13592, IS: 4985.
- Manhole covers: CI or RCC with load class as per usage (light, medium, heavy).

2.16 Timber / Shuttering Material

- Timber: Seasoned, free from cracks or warps.
- Plywood: BWP grade, IS: 4990 for shuttering.
- Form release agents: Non-staining, pre-approved.

2.17 Geotextiles / Filter Media (if applicable)

- Synthetic non-woven geotextiles: Conforming to ASTM D-5261 or IS equivalents.
- Granular filter: Graded sand, gravel.

2.18 Miscellaneous Materials

- Anchor bolts, inserts: Hot-dip galvanized steel.
- Expansion joint filler: Bitumen impregnated fibreboard (IS: 1838).

ANNEXURE-3

Guidelines on the Implementation of Recommended Repairing Schemes as per “CPWD Handbook on Repair and Rehabilitation of RCC Buildings”

Background

The repairing schemes reported in the report primarily involves i) Crack sealing by Injection Grouting and ii) Repairing of damaged by Micro-concrete and Shotcreting. Detailed implementation procedures these schemes along with many others are discussed in the *Handbook on Repair and Rehabilitation of RCC Buildings* published by Central Public Works Department, Government of India, Nirman Bhawan (First published in 2002). Only the procedures pertaining to i) *Crack sealing by Injection Grouting* and ii) *Repairing of damaged by Micro-concrete and Shotcreting* are reproduced here *with minor editing* to enable an independent reading.

PART-1: CRACK /HONEYCOMB AREA REPAIR

1. Specification for Providing Drilling and Inserting Nipples along Crack Lines

Purpose: To fix injection nipples and seal the remaining portion of honey combed or cracked concrete

/masonry for grout injection.

1.1 Materials and T&P

- 12 mm diameter approved aluminium /Galvanised Iron nipples
- Chisel, hammer, power driven tool for chase cutting & drilling
- Hand operated blow out pump
- Sealing putty of polyester/epoxy/polymer modified mortar etc. and all related accessories and materials.

1.2 Testing

- The sealing putty and the nipples shall be tested to conform to the manufacturer's specifications.
- The power driven tools shall be test driven and their drill/cutting bits shall be tested for effectiveness before taking up the repair operation.

1.3 Procedure

Step-1: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Personnel, Supervision, Product delivery, Storage and Handling etc as deemed appropriate.

Step-2: Identify the Cracks and mark the area for injection grouting.

Step-3: Prop & support the structural member, if required, to relieve it of stress

and strains Step-4: Open up cracked surface by making 'V' notch or groove of size 12 mm x 12mm.

Step-5: Remove plaster, if required, to identify and mark the honey

combed area. Step-6: Drill holes at least 25 mm diameter and 40mm deep

- along crack lines at spacing of 300 mm or thickness of the structural member, whichever is less.
- In honey combed area@ 9 nos per sqm. as directed by Engineer-in-Charge and upto 30 mm to 40 mm depth.

Step-7: Remove coarse debris and dust in opened up cracks and drilled holes by blowing oil free compressed air, if available with air compressor, otherwise with hand operated blow out pump. Concrete surfaces required to be grouted shall be free from all loose and unsound materials by means of mechanical abrasion using stiff wire brushes, after removing all loose areas with chisel and hammer. Area shall be made free from any deleterious materials, such as oil dust dirt etc. by means of oil free jet of compressed air.

All prepared concrete surfaces shall be thoroughly inspected and got approved by the contractor.

Step-8: Insert 12mm dia specified injection nipples in holes drilled along crack lines and fix them by sealing only its sides with epoxy or polymer modified mortar.

Step-9: Seal the crack or the honey combed surface between the nipples by means of epoxy mortar after applying epoxy primer or polymer modified mortar as may be approved by Engineer-in charge. The epoxy/polymer used shall be of approved grade and applied as per

specifications. The epoxy mortar shall be air cured for 24 hours, whereas the polymer-modified mortar shall be moist cured for 1-3 days and allowed to gain strength before actual grouting commences.

2. Sealing of Cracks by Injection of Approved

Purpose: To inject the specified grout into honeycombed or cracked concrete/ masonry

2.1 Materials and T&P

A. Specified grout

i) Cementitious Grout shall have following components:

Cement: The cement used shall be ordinary Portland cement of the specified grade and conforming the relevant BIS code of Practice.

Sand: The sand shall be sharp washed well graded generally falling in Zone IV of IS 383

Water: Water used for grout shall conform to the requirements of IS 456.

Admixture: If required, admixture shall be used only after the approval of Engineer-in-Charge, who shall be furnished with all the required literature pertaining to its efficacy. The mixture shall meet the requirement of IS 456 and IS 9103.

Polymer: It shall be as specified and shall conform to ASTM-C-1059.

i. Epoxy Grout shall conform to ASTM C-882 and have following properties:

Viscosity at 25°C maximum	2 Pas
Minimum Gel time	30 minutes
14 days bond strength at 25°C min.	3.5 MPa
Min. compressive strength	60 MPA at 7 days.
Tensile strength 7 days min.	45 MPa

B. Hand/power operated grouting pressure pump/gun with pressure gauge

The grouting equipment shall be capable of supplying, mixing, stirring and pumping grout to the satisfaction of the Engineer-in-Charge. The equipment shall have the capacity to inject grout at a pressure upto 7 kg per square centimetre measured at the grout connections. It shall be capable of mixing and pumping of cement sand grout 1:2 with water cement ratio ranging from 0.5 to 1.

C. Air compressor with all related accessories for carrying compressed air to the required location.

Hand operated blow out pump may be allowed by Engineer-in-Charge for small crack depths/areas.

D. Calibrated Spring Balance (for accurately weighing different components of materials in required proportions)

E. Mechanical blender for mixing

F. Spray equipment/brush for application of epoxy/ polymer modified/ bonding cement slurry

2.2 Execution

Step-I: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Product

delivery, Personnel, Supervision, Storage and Handling as deemed appropriate.

Step-2: Full quantity of manufactured material (e.g. specified resin, hardener, polymer, cement, etc as may be required) shall be received at site in factory sealed containers with labels legible and intact provided that the shelf life so permits. Otherwise, substantial quantity as could be consumed within the storage period shall be received as per quantity approved by Engineer-in- Charge. Full quantity shall be worked out as theoretically required for consumption in the whole work.

Step-3: Collect random samples of materials for test and send to approved laboratories so as to ensure that they satisfy the physical and mechanical properties.

The grout pump and the pressure gauge shall be tested before taking up the repair

operation. Step-4: Identify the Cracks and mark the area for injection grouting.

Step-5: Surface Preparation

The appropriate propping/supporting, surface preparation and crack sealing as per site requirements shall be completed, which may sequentially cover one or more of the following items of work:

- a) Prop & support the structural member to relieve it of stress and strains
- b) Provide grouting nipples

Step-6: Blow the compressed air followed by washing with water through nipples located at the highest level and downwards to ensure removal of even fine dust particles from the cracked surface, which could obstruct the free flow of grout material and impede its bonding with cracked surface (and drying with air blast wherever epoxy injection grout is to be used).

Step-7: Saturate the cracked surface in the vicinity of crack/honeycombed concrete/ masonry with water (but without excess water), only if the cementitious grout is to be injected. Otherwise, this step may be skipped.

Step-8: Prepare the injection grout as under.

A. Epoxy grout

Epoxy component shall be mixed in a clean container free from harmful residue or foreign particles. Epoxy component shall be thoroughly blended in a mechanical mixer to a uniform and homogeneous mixture. Small batches (upto 1 litre) however may be allowed for manual mixing using spatulas, pallattes, knives, etc.

B. Cement slurry

Mixes consisting of cement, water, sand and admixture like fluidifiers (of approved type) in the proportions directed by the Engineer-in-Charge who will, from time to time make changes to suit the conditions encountered in the particular grout work. The water cement ratio shall be varied to meet the characteristics of each hole as revealed by the grouting operations and will range between 0.5 and 1.0.

Shrinkage compensating cement slurry mixed to a lump free creamy consistency shall be made by thoroughly blending in a mechanical mixer and shall be continuously stirred mechanically to keep the cement particles in suspension to retain uniform consistency till the grout is injected. Only small batches (upto 1 litre) be allowed by manual mixing with spatulas, pallattes, knives, etc.

C. SBR / Acrylic polymer cement slurry

Shrinkage compensating cement mixed is with polymer and water, in specified proportion with preparation procedure similar to preparation of cement slurry as given in preceding paragraph above.

Step-9: Inject the approved & specified grout into the cracks by means of suitable gun or pump at a pressure of 1- 2 kg/cm² for epoxy grout and 4-7 kg/cm² for cementitious grout.

In case of vertical cracks injection shall be started at the lowest nipple and continued until the injected grout begins to flow out at the next higher nipple. Whereas in other cases of horizontal locations, the injection shall be started from one nipple and continued until the injected grout begins to flow out at the other nipple.

The first nipple shall then be closed off and injection continued at the second until the grout flows out at the third. The process shall be repeated until the whole of the crack has been sealed. As soon as the system is cured, the nipples shall be cut.

In case of Honeycombed Area, each grout hole shall be grouted individually. Grouting pressures to be used in the work will vary with the conditions encountered and different areas and the pressure used shall be between 1 to 4 kg/cm². The sequence of injection shall be as per the direction of Engineer- in-Charge

Step-10: This step involves Pre and Post Repair Evaluation. This is particularly important for the cracks and honeycomb in concrete. In such a case, Ultrasonic Pulse Velocity Test (UPV) and core test in an approved manner prior to injection grouting and after injection and cure of the grout to ascertain the quality and efficacy of the grouting work are recommended.

Step-11: Re-grout, based on test results, if in the opinion of Engineer-in-Charge the condition of concrete along the path of grouting is not satisfactory, the contractor shall drill more holes at the locations as required by Engineer- in-Charge and re-grout the member according to the procedure laid down as above. The grouting operation shall be followed till the results of ultrasonic pulse velocity test and core test are satisfactory.

PART-2: BONDING COATS

1. Bonding Coat for Hardened Concrete with Repair Concrete/ Shotcrete/ Cement Mortar

Purpose: To provide adequately strong adhesion of parent concrete with applied repair concrete or mortar.

1.1 Materials and T&P

Specified bonding materials e.g. epoxy or polymer and cement, mixing water, necessary T&P for mixing and applying bond coat e.g. brush, spray gun, mixer, mechanical stirrer, etc

Product:

- Epoxy Adhesives shall conform to ASTM C-882.
- Polymer Latex shall conform to ASTM C-1059
- Cement shall be ordinary Portland cement conforming to IS: 269

1.2 Execution

Step-1: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Product delivery, Personnel, Supervision, Storage and Handling, etc as deemed appropriate.

Step-2: Full quantity of manufactured repair materials shall be received at site in factory sealed containers with labels legible and intact, if the shelf life so permits. Otherwise, substantial quantity as could be consumed within the shelf life shall be received as per quantity approved by Engineer in-Charge. Full quantity shall be worked out as theoretically required for consumption in the whole work.

Step-3: Prepare the surface for treatment.

Step-4: Saturate the surface with water but shall be free of excess surface water, debris and dust, where cementitious bond coat is to be applied. Otherwise, surface to remain dry and clean of debris and dust.

Step-5: Thoroughly inspect all the concrete surfaces prior to applications of adhesive and get approved from the Engineer-in-Charge.

Step-6: Test the materials by taking random samples and testing in approved laboratories so as to check whether they satisfy the physical and mechanical properties.

Step-7: Make available at site all necessary mechanical equipment as under:

- Calibrated Spring Balance (for accurately weighing different components of materials in required proportions),
- Mechanical blender for mixing
- Spray equipment/brush for application of epoxy/ polymer modified/ bonding cement slurry

Step-8: This step involves the mixing of Bond Coat. Components of the bonding coat mix shall be weigh-batched and mixed in specified proportions in a clear container free from harmful residue or foreign particles. The components shall be thoroughly blended with a mechanical mixer to a uniform and homogeneous mixture. Small batches (upto 1 litre) may however be allowed by manual mixing using spatulas, palette, knives etc.

Step-9: This step involves the bond coat application for jacket concrete/ shotcrete/ Mortar placement. The specified adhesive shall be applied to concrete surface at atmospheric temperatures below 40°C for epoxy adhesive and below 30°C for polymer modified cement or cement-sand slurry adhesive. Bonding coat shall be applied by spray equipment or stiff nylon bristle brush as approved by Engineer-in- Charge. The bonding material shall be worked well into the surface of the parent body ensuring that no pinholes

are visible. Polymer modified bonding cement slurry shall be applied to a thickness not in excess of 2

mm. If necessary, a second coat shall be applied at right angles to the first to ensure complete coverage and absence of pin holes. All concrete surfaces shall be well protected beyond limits of surface receiving adhesive against spillage.

Step- 10: This step involves the application of Repair Material. Fresh plastic concrete/ shotcrete/ mortar shall be applied while adhesive is still tacky and well within the pot-life/ setting period. If adhesive cures to the extent of losing its tack or has set before plastic concrete/shotcrete/mortar is placed, the same shall be removed or slightly abraded and second coat of adhesive applied. Freshly placed plastic concrete shall be thoroughly consolidated to ensure full bonding of new concrete with the substrate.

Step-11: This step involves the testing of bond of repair to assess the Field Quality Performance Requirement as discussed below.

- a) Evaluate bonding of fresh concrete/ shotcrete/ mortar to existing concrete after the fresh material has cured for not less than 7 days by sounding and tapping fresh concrete with a blunt metal instrument to the satisfaction of Engineer-in-charge. Suspect inadequate bonding, if a hollow sound is detected in any area. In case of conflicted location contractor shall extract one core from the repaired surface area at the end of 28 days.
- b) Conduct one core test at random for checking the bond, for every 100 square metre or part thereof. The contractor shall core each area after 28 days of application of concreting/ shotcreting / repair mortar application for determination of bonding adequacy.
- c) Core drilling shall be done through applied repair material and into the existing concrete. Core diameter shall be not less than three times the nominal size of the coarse aggregate used in repair material or as required by the Engineer-in-Charge. Length of cylindrical cores shall preferably be twice the core diameter or twice the thickness of applied repair material or as instructed by Engineer-in-Charge but in any case, not less than the dia of the core.
- d) Cores shall be visually inspected by Engineer-in-Charge for evidence of poor workmanship.
- e) Cores shall be tested in tension to evaluate the quality of bond between new concrete/shotcrete/mortar and the parent concrete. If the failure is in the parent concrete the bond of new repair material shall be deemed to be satisfactory.
- f) Failure at the bond line or in the repair material shall be concluded as lack of proper bond or inadequate strength of repair mortar
- g) Dismantle such areas of work failed in bond or repair material and re-prepare the surface after chipping off new concrete/mortar work and abrading the epoxy/ polymer/cement slurry interface. Nothing for testing concrete for bond between old and new concrete shall be paid separately.

2. Alkaline Passivating Bond Coat Over Reinforcement

Purpose: To protect steel reinforcement with a passivating alkaline layer provided all around its circumference along the length with strong adhesive to bond with applied repair concrete or mortar.

2.1 Materials and T&P

- Specified alkaline passivating & bonding materials e.g. CPCC material, epoxy, epoxy phenolic IPN-RB or specified polymer and cement
- Mixing water
- Necessary T&P for mixing and applying bond coat e.g. brush, mechanical mixer, mechanical stirrer, etc.

Product:

- Epoxy Adhesives shall conform to ASTM C-882.
- Polymer Latex shall conform to ASTM C-1059
- Cement shall be ordinary Portland cement conforming to IS: 269
- Patented materials e.g. CPCC or epoxy-phenolic IPN-RB as per licensee's specifications

2.2 Execution

Step-1: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Product delivery, Personnel, Supervision, Storage and Handling, etc as deemed appropriate.

Step-2: Full quantity of manufactured repair materials shall be received at site in factory sealed containers with labels legible and intact, if the shelf life so permits. Full quantity shall be worked out as theoretically required for consumption in the whole work.

Step-3: Prepare the surface for treatment.

Step-4: Thoroughly inspect all the concrete surfaces prior to applications of passivating / bond coat and get approved from the Engineer-in-Charge.

Step-5: Test the materials by taking random samples and testing in approved laboratories so as to check whether they satisfy the physical and mechanical properties.

Step-6: Make available at site all necessary mechanical equipment as under.

- Calibrated Spring Balance (for accurately weighing different components of materials in required proportions)
- Mechanical blender for mixing
- Brush for application of specified and approved passivating/bond coat

Step-7: This step involves the maxing of materials. Components of the passivating/ bond coat mix shall be weigh-batched and mixed in specified proportions in a clear container free from harmful residue or foreign particles. The components shall be thoroughly blended with a mechanical mixer to a uniform and homogeneous mixture. Small batches (upto 1 litre) may however be allowed by manual mixing using spatulas, palette, knives etc.

Step-8: This step involves the application of the material. The alkaline passivating & bonding material shall be applied to prepared reinforcement substrate after tying in new reinforcement wherever specified in the form of bars or welded wire fabric. It shall be applied to reinforcement surfaces by stiff nylon bristle brush. The coating material shall be worked well all round the periphery and along its exposed length using a stiff brush ensuring that no pinholes are remaining. The second coat, if required, the same shall be applied as per manufacturer's recommendation after the first coat is touch dry.

PART-3: Two Commonly used Repair Items to Address Minor Damages

1. Specification for Micro-Concrete

Purpose: A manufactured cementitious concrete mix for use in constricted locations, which is received in pre-batched, prepackaged, single component dry mix of specified grade. When mixed with specified quantity of water, it is to have free flowing and self-compacting characteristics in plastic state and on hardening it shall have non-shrink and impervious characteristics.

1.1 Materials and T&P

- Specified grade of micro-concrete
- Mixing water
- Mechanical mixer
- Transportation and handling equipment
- All necessary T&P for surface preparation
- Reinforcement bars and shear key bars
- Epoxy
- Power drilling equipment
- Props & supports
- Waterproof shuttering
- Specified passivating & bond coats for reinforcement and concrete
- Ingredients as per design of concrete mix including super-plasticiser, micro-silica, other mineral admixtures to achieve concrete of specified grade and workability

1.2 Procedure

Step-1: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Product delivery, Personnel, Supervision, Storage and Handling, etc. as deemed appropriate.

Step-2: Full quantity of manufactured repair materials shall be received at site in factory sealed containers with labels legible and intact provided that the shelf life so permits. Otherwise, substantial quantity as could be consumed within the shelf-life shall be received as per quantity approved by Engineer-in-Charge. Full quantity shall be worked out as theoretically required for consumption in the whole work.

Step-3: This step involves the testing of material. The requisite number of test specimens of micro-concrete shall be cast from each batch of manufacture or supply received (whichever is less) for these to be tested for conformance to the specified requirements of 7 and 28-day cube crushing strength, surface absorption of water, permissible limits of shrinkage, etc before use on the work.

Step-4: This step involves the surface preparation: The appropriate surface preparation and crack sealing as per site requirements shall be completed, which may sequentially cover one or more of the following items of work.

- Prop & support the structural member to relieve it of stress and strains
- Removal of existing surface plaster
- Chipping unsound/weak concrete material
- Removing concrete all around embedded rusted reinforcement
- Removing and cleaning reinforcement of rust from its surface to give it a shining bright metal
- Sealing the cracked or honeycombed concrete with injection grouting
- Providing and inserting mild steel shear keys
- Cleaning of lightly sticking materials and foreign matter from the exposed concrete surface and steel reinforcement by suitable means

Step-5: Additional reinforcement, if required, shall be tied with required overlaps or

welded Step-6: Apply passivating & bonding coat over the cleaned reinforcement

Step-7: Apply bond coat on the cleaned concrete substrate

Step-8: Erect pre-fabricated watertight shuttering, if required, while the bond coat is still tacky to receive the self-compacting free flowing micro concrete

Step-9: Prepare self-compacting, free flowing micro-concrete simultaneously along with step-8 so as to have a uniform consistency and texture in a mechanical concrete mixer by adding a specified proportion of water in the pre-weighed dry mix of pre-batched, prepackaged, single component micro concrete.

Step-10: Pour the fresh micro-concrete in the shuttering mould or over the surface prepared to receive it, while the bond coat is still tacky.

Step-11: Wet cure the micro-concrete.

Step-12: Field Quality Performance shall be calculated as follows.

- a) Evaluate bonding of fresh concrete/ shotcrete/ mortar to existing concrete after the fresh material has cured for not less than 7 days by sounding and tapping fresh concrete with a blunt metal instrument to the satisfaction of Engineer-in-charge. Suspect inadequate bonding, if a hollow sound is detected in any area. In case of conflicted location contractor shall extract one core from the repaired surface area at the end of 28 days.
- b) Conduct one core test at random for checking the bond, for every 100 square metre or part thereof. The contractor shall core each area after 28 days of application of concreting/ shotcreting / repair mortar application for determination of bonding adequacy.
- c) Core drilling shall be done through applied repair material and into the existing concrete. Core diameter shall be not less than three times the nominal size of the coarse aggregate used in repair material or as required by the Engineer-in-Charge. Length of cylindrical cores shall preferably be twice the core diameter or twice the thickness of applied repair material or as instructed by Engineer-in-Charge but in any case, not less than the dia of the core.
- d) Cores shall be visually inspected by Engineer-in-Charge for evidence of poor workmanship.
- e) Cores shall be tested in tension to evaluate the quality of bond between new concrete/shotcrete/mortar and the parent concrete. If the failure is in the parent concrete the bond of new repair material shall be deemed to be satisfactory.
- f) Failure at the bond line or in the repair material shall be concluded as lack of proper bond or inadequate strength of repair mortar
- g) Dismantle such areas of work failed in bond or repair material and re-prepare the surface after chipping off new concrete/mortar work and abrading the epoxy/ polymer/ cement slurry interface. Nothing for testing concrete for bond between old and new concrete shall be paid separately.

2. Specification for Shotcrete

Purpose: Application of repair concrete of specified mix proportions by spraying it under pressure in layers over prepared substrate.

2.1 Materials and T&P

2.1.1 Materials

Cement: The cement shall be ordinary Portland cement of 43 grade conforming to relevant B.I.S. Code of Practice.

Aggregates: Sand for shotcrete shall comply with the requirements given in IS 383 and graded evenly from fine to coarse as per Zone-II and Zone III grading. Sand failing to satisfy this grading may, however, be used only if pre-construction testing establishes that it gives good results.

Coarse aggregate when used shall comply with the requirements of IS 383. It shall, generally conform to the grading given below:

Grading of coarse aggregates	
IS Sieve Designation, mm	Percentage Passing by mass for aggregate of nominal maximum size
10	100
4.75	10-30
2.36	0-10
1.18	0-5

All over sized pieces of aggregate shall be rejected by screening.

Gradation of the combined coarse and fine aggregate mixture used for shotcrete shall generally lie between the following limits.

IS Sieve	Percent passing by Weight Gradation
10 mm	100-100
4.75 mm	72-85
2.36 mm	52-73
1.18 mm	36-55
600 microns	28-38
300 microns	7-20
150 microns	0-8

Water: Water used for shotcrete shall conform to the requirement of IS 456-2000

Admixture: Admixture shall only be used if approved by the Engineer-in-Charge who shall be furnished with all required literature pertaining to its efficacy. Guniting admixtures & quick setting agents may be used to minimise the rebound loss and increase the bond & enable thicker layers per coat. The admixture shall meet the requirement of IS 456 and IS 9103.

Reinforcement: Reinforcement bars if used shall conform to IS. 432 (Part-I) or IS 1786. Welded wire fabric where used shall conform to IS 1566.

Concrete: The grade of concrete shall be as specified i.e. the characteristic compressive strength of 15 cm cube at 28 days should be as specified. The water cement ratio for shotcrete shall be within the range 0.45- 0.50 by mass.

2.1.2 Equipment for Dry Mix Process

Batching and Mixing Equipment

Batching shall be done by mass. The moisture content of the sand shall be such that the sand cement mixture will flow at a uniform rate through the delivery hose. The sand shall be moistened or dried as required to bring the moisture content to a satisfactory level. Fluctuations in moisture content shall be avoided.

The mixing equipment shall be capable of thoroughly mixing the sand and cement in sufficient quantity to maintain continuity of placing. The mixing time shall be not less than 1 minute in a drum type mixer, where other mixers are proposed, satisfactory evidence shall be presented to the Engineer-in-Charge that they are capable of thorough mixing. The mixer shall be self-cleaning capable of discharging all mix material without any carry over from one batch to the next. It shall be inspected and thoroughly cleaned at least once in a day and more often if instructed by Engineer-in-Charge to prevent accumulations of batched material.

Delivery Equipment or Guniting Equipment

The delivery equipment shall comply with requirements given in IS 6433.

Air Supply

The compressor shall be fitted with a moisture extractor to keep up a supply of clean, dry air adequate for maintaining a sufficient nozzle velocity for all parts of the work while simultaneously operating a blow pipe for clearing away rebound material.

A gauge near the material outlet of the gun shall measure the operating pressure. The air pressure shall be uniformly steady (non-pulsating).

For lengths of hose upto 30m, air pressure at the gun shall be 0.3 N/Sq.mm or more. Where length exceeds 30m the pressure shall be increased by 0.035 N/Sq.mm for each additional 15 m of hose required & by 0.035 N/sq.mm for each 7.5 M that the nozzle is raised above the gun.

Water supply

The water pressure at the discharge nozzle shall be sufficiently greater than the operating air pressure to ensure that the water is intimately mixed with the other materials. If the line water pressure is inadequate, a water pump shall be introduced into the line. The water pressure shall be uniformly steady (non-pulsating).

2.2 Procedure

Step-1: Follow the guidelines for Safety, Quality Assurance, Environmental Protection, Product delivery, Personnel, Supervision, Storage and Handling, etc. as deemed appropriate.

Step-2: Full quantity of manufactured repair materials shall be received at site in factory sealed containers with labels legible and intact provided that the shelf life so permits. Otherwise, substantial quantity as could be consumed within the storage period shall be received as per quantity approved by Engineer-in- Charge. Full quantity shall be worked out as theoretically required for consumption in the whole work.

Step-3: This step involves the mix design: The shotcrete mix design shall be developed by laboratory tests and field trials and got approved from Engineer-in-charge.

Step-4: This step involves the pre-construction testing. A laboratory trial and testing shall be carried out prior to the commencement of the work in order to check the operation of the equipment, the skill of

the operating staff and also to verify that the specified quality of shotcrete would be expected in the structure. The procedure for pre-construction testing shall be as below:

- A. The operating staff, using the equipment, materials and mix proportions proposed for the job, shall fabricate test panels simulating actual job conditions.
- B. For the dry mix process, the amount of water added at the nozzle shall be adjusted so that in place shotcrete shall be adequately compacted and will neither sag nor show excessive rebound. At least, two mixes shall be tested before deciding on the final mix proportion.
- C. The panels shall be fabricated by gunning on to a back form of plywood. A separate panel shall be fabricated for each gunning position to be encountered in the structure. At least part of the panel shall contain the same reinforcement as the structure to show whether sound shotcrete is obtained behind the reinforcing rods. The panel shall be large enough to obtain all the tests specimen needed, and also to indicate quality and uniformity that may be expected in the structure. Generally, the size of panel shall be not less than 75cm x 75 cm. The thickness shall be the same as in the structure except that it shall be not less than 50mm.
- D. Cores shall be taken from the panels for testing. The cores shall preferably have a diameter of 7.5 cm but not less than 50 mm and a length to diameter ratio of at least 1. The specimen shall be tested in compression at the age of 7 or 28 days or both as directed by Engineer-in-Charge. The result of the tests shall be compared with the cube strength taken earlier.
- E. The cut surface of the specimen shall be carefully examined and additional surfaces shall be exposed by sawing or breaking the panel, if it is considered necessary by Engineer-in-Charge to check soundness and uniformity of the material. All cut and broken surfaces shall be dense and free from laminations and sand pockets.

Step-5: This step involves the surface preparation: The appropriate surface preparation and crack sealing as per site requirements shall be completed, which may sequentially cover one or more of the following items of work:

- Prop & support the structural member to relieve it of stress and strains
- Scaffolding & working platforms for the exterior members, if not already done and if necessary, shall be erected for working upon the area.
- Working Platforms for interior members, if not already done and if necessary, shall be erected suitably or provided as mobile.
- Provide Protective Screen, if not already done and if necessary.
- Removal of existing surface plaster
- Chipping unsound / weak concrete material
- Removing concrete all around embedded rusted reinforcement
- Removing and cleaning reinforcement of rust from its surface to give it a shining bright metal
- Sealing the cracked or honeycombed concrete with injection grouting
- Providing and inserting mild steel shear keys, also to act as depth gauge for controlling thickness of gunite/shotcrete
- Cleaning of lightly sticking materials and foreign matter from the exposed concrete surface and steel reinforcement by suitable means followed by an oil free dry air blast

Step-6: Additional reinforcement, if required, and welded wire fabric shall be tied with required overlaps or welded.

Step-7: Adequate and safe working platform shall be provided so that the gunite / shotcrete operator can hold the nozzle at optimum angle and distance from the surface for all parts of work.

Step-8: Suitable formwork of plywood sheeting or other suitable material shall be fixed true to lines and dimension to get finished sides and edges of the gunited / shotcreted surface. They shall be adequately braced to protect against excessive vibration and shall be constructed

so as to permit the

escape of air and rebound during the gunning operation. Forms shall be oiled or dampened, and they shall be cleaned just before gunning. Formwork shall be necessarily required for first stage application of shotcrete / gunite on two opposite faces of rectangular columns and beams, whereas in second stage of application of repair material on the remaining faces, gunited/ shotcreted surface at edges/comers shall serve the purpose without requiring further formwork. The minimum clearance between the reinforcement and the formwork or other back up material shall be provided as per detailed drawing.

Step-9: This step is to take care of the Alignment & thickness Control. Adequate ground wires shall be installed to establish thickness and surface planes of the shotcrete build up. Both horizontal and vertical ground wires shall be installed at the comers and offsets not clearly fixed by the formwork, i.e. at exterior comers of columns and beams and other such locations. Ground wires shall be tight and true to line and placed in such a manner that they may be further tightened.

Step-10: Passivating / bond coat shall be applied to the reinforcement and the welded wire fabric. Step-11: Bond coat over the prepared concrete and reinforcement substrate as above shall be applied. Step-12: This step is to control the Gunite / Shotcrete Application.

- Fresh gunite / shotcrete shall be applied at the earliest possible, when bond coat, as applied in Step-11 above, is still tacky.
- Maximum thickness to be applied in one pass will be, in general, limited to 25 mm for overhead application and 50 mm on sides. Where gunite is to be placed to a thickness of more than 50 mm on sides or 25 mm overhead, it is preferable for it to be built up in more than one application.
- Each layer of shotcrete shall be built-up by making several passes or loops of the nozzle over the working area. This will be done by moving the nozzle rhythmically in series of loops from side to side and up and down. The shotcrete shall emerge from the nozzle in a steady, uninterrupted flow. If the flow becomes intermittent due to any cause, the Operator shall direct it away from the work until it again becomes constant. The distance of nozzle from work (usually between 0.5 and 1.5 m) shall be such as to give the best results for the working conditions. The nozzle shall be held perpendicular to the surface of application. However, when gunning through and encasing reinforcing bars the nozzle shall be held closer and at a slight angle to the perpendicular. Also, the mix shall be little wetter than normal but not so wet as to cause sloughing behind the bars.
- Application shall begin at the bottom for columns and beams and for slabs, the nozzle shall be held at a slight angle to the perpendicular so that the rebound is blown on to complete portion from where it shall be removed.
- Embed reinforcement at least adjacent to the form in the first layer completely. The thickness of layers shall be adjusted so that shotcrete does not sag. Where thick layers are applied, top surface shall be maintained at a 45 degree slope.
- Rebound material, ricocheting off the surface, shall not be worked back into the construction. If it does not fall clear of the work, it shall be removed. Rebound shall not be salvaged and included in later batches.
- Construction joints shall generally be tapered to a thin edge over a width of 300 mm. However, in case of joints, which in the opinion of the Engineer-in-Charge, are likely to be subjected to compressive stresses, square joints shall be provided by temporarily fixing the batten formwork of required thickness. In case of square joints, steps shall be taken by the Contractor to avoid or remove trapped rebound in the joint. The entire joint shall be thoroughly cleaned and the approved bonding coat applied prior to the application of additional shotcrete.
- When a layer of shotcrete is to be covered by a succeeding layer, it shall first be allowed

to take its initial set. Then all laitance, loose materials and rebound shall be removed by brooming.

- Any laitance that has attained final set shall be removed by sand blasting and the surface cleaned with an air jet. In addition, the surface shall be thoroughly sounded with a hammer for drummy areas, sags or any other defects, which shall be carefully cut out and replaced with succeeding layer as instructed by Engineer-in-Charge. Succeeding layers shall be shot within 4 to 8 hours to attain the required thickness. In case application of succeeding layer is delayed beyond 24 hours, then the bond coat shall be applied at the interface.
- The application of shotcrete shall be suspended in condition of likely exposure to high winds, freezing or rain.
- At the end of each day of work, or on stopping work for any other reason, the shotcrete shall be sloped off to a thin edge and then the work shall be resumed on next day after cleaning the surface of joint and applying a bond coat of approved formulation.
- The shotcreting shall be continuously inspected by a qualified supervisor, who shall check material, forms, reinforcement, ground wires, delivery equipment, application of material, curing, protection against high or low temperatures. Each layer of concrete shall be systematically sounded with a hammer to check for drummy areas.
- The permissible tolerance on the thickness of work executed by shotcrete shall be (-) 3 mm to (+) 8 mm.
- Small unreinforced test panels, at least 30 cm square and 75 mm thick shall be periodically gunned, and cores shall be extracted and compressive tests shall be performed periodically in the same manner as at step-4 above. The frequency of samples shall be one sample for every 10 cum of gunite/shotcrete.
- In addition, concrete cubes prepared by directly gunning into 15 cm cube mould, shall also be used for day-to-day quality control tests. One sample comprising of three test specimens for testing at 28 days, shall be taken for every 5.0 cubic metre of concrete. Additional cubes if instructed by Engineer-in-Charge shall also be taken for each sample to determine the strength of gunite/ shotcrete at seven days.
- All the specimens shall be tested as described in IS 516.
- The gunite shall be deemed to comply with the strength requirements if the test results satisfies the acceptance criteria as per IS 456

Step-13: Wet cure the shotcreted / gunited surface.

Step-14: Field Quality Performance shall be evaluated as follows.

- a) Evaluate bonding of fresh concrete/ shotcrete/ mortar to existing concrete after the fresh material has cured for not less than 7 days by sounding and tapping fresh concrete with a blunt metal instrument to the satisfaction of Engineer-in-charge. Suspect inadequate bonding, if a hollow sound is detected in any area. In case of conflicted location contractor shall extract one core from the repaired surface area at the end of 28 days.
- b) Conduct one core test at random for checking the bond, for every 100 square metre or part thereof. The contractor shall core each area after 28 days of application of concreting/ shotcreting / repair mortar application for determination of bonding adequacy.
- c) Core drilling shall be done through applied repair material and into the existing concrete. Core diameter shall be not less than three times the nominal size of the coarse aggregate used in repair material or as required by the Engineer-in-Charge. Length of cylindrical cores shall preferably be twice the core diameter or twice the thickness of applied repair material or as instructed by Engineer-in-Charge but in any case, not less than the dia of the core.
- d) Cores shall be visually inspected by Engineer-in-Charge for evidence of poor workmanship.
- e) Cores shall be tested in tension to evaluate the quality of bond between new concrete/shotcrete/mortar and the parent concrete. If the failure is in the parent concrete

the bond of new repair material shall be deemed to be satisfactory.

- f) Failure at the bond line or in the repair material shall be concluded as lack of proper bond or inadequate strength of repair mortar
- g) Dismantle such areas of work failed in bond or repair material and re-prepare the surface after chipping off new concrete/mortar work and abrading the epoxy/ polymer/cement slurry interface. Nothing for testing concrete for bond between old and new concrete shall be paid separately.

Specification of Workmanship in Civil Work

1. General Requirements

- All workmanship shall be of the highest standards, performed by skilled and experienced personnel.
- Work must comply with the project drawings, technical specifications, relevant IS/BS/ASTM codes, and instructions from the Engineer-in-Charge.
- Work areas must be kept clean and orderly at all times.
- Any substandard or defective workmanship shall be demolished, removed, and redone at the contractor's cost.

2. Earthworks

2.1 Excavation

- Excavation shall be done to the correct lines, levels, and dimensions.
- Side slopes and shoring shall be safe and stable.
- Excavated material to be stacked neatly and away from trench edges.
- Bottom of excavation shall be trimmed and leveled, free of loose materials.

2.2 Backfilling & Compaction

- Backfilling shall be in layers of max 200 mm thickness.
- Each layer shall be compacted to 95% Modified Proctor Density (MDD) under foundations and pavement areas.
- Only approved backfill material shall be used.
- Field compaction tests shall be carried out as required.

3. Concrete Works

3.1 Mixing and Placing

- Concrete shall be mixed in mechanical mixers or ready-mix as specified.
- Workability and consistency shall be maintained with slump control.
- Concrete shall be placed within 30 minutes of mixing.

3.2 Placing

- Concrete shall be placed in horizontal layers, avoiding segregation.
- Vibrators shall be used to eliminate air pockets and ensure full compaction.
- Construction joints to be cleaned and roughened before placing the next pour.

3.3 Curing

- Curing shall start immediately after the surface is hard enough.
- Wet curing using gunny bags or water ponding for minimum 7 days (OPC) or 10 days (PPC).
- Curing compounds may be used with approval.

3.4 Formwork

- Formwork shall be rigid, well-supported, leak-proof, and provide a smooth finish.
- Release agents shall be non-staining and applied uniformly.
- Forms shall not be struck until concrete has reached the required strength.

4. Reinforcement Work

- Bars to be cut, bent, and placed as per drawings and bar bending schedules.
- Binding with 16 gauge soft annealed wire at all intersections.
- Proper cover blocks to maintain specified concrete cover.
- All laps and anchorage lengths as per IS:456.

5. Masonry Work

- Bricks or blocks shall be properly soaked and laid with full bedding in mortar.
- Joints shall be 10 mm thick, uniform, and properly raked for plastering.
- Walls to be raised in uniform layers, not more than 1 meter per day.
- Plumb and level must be checked with spirit level and plumb bob regularly.

6. Plastering

- Surface shall be clean, roughened, and wetted before plastering.
- Plaster mix to be uniform and prepared fresh.

- Applied in two coats (if thickness >15 mm).
- Final surface to be smooth, free of cracks, undulations, and blemishes.

7. Flooring and Tiling

- Sub-base shall be clean, compacted, and level.
- Tiles to be laid in straight lines using spacers or as per design.
- Joint widths to be uniform; filled with matching grout.
- Surfaces to be protected from foot traffic until setting is complete.

8. Painting and Finishing

- All surfaces shall be properly cleaned and primed before application.
- Paint shall be applied in 2 or more coats, with proper drying time between coats.
- No brush marks, stains, or peeling allowed.
- Final coat shall have a uniform color, tone, and texture.

9. Roadwork and Paving

- Subgrade and base to be well-compacted and graded.
- Pavers or bitumen layers to be placed uniformly.
- Joints to be tight and straight.
- Final surface must be free from dips, waves, and loose spots.

10. Waterproofing

- Surface preparation must be thorough — cleaned, chipped, and primed.
- Waterproofing compound to be applied as per manufacturer's specs.
- Application to be done in multiple coats, ensuring no gaps or bubbles.
- Curing and protection of treated surfaces as required.

11. Site Cleanliness and Safety

- Work areas to be kept free from construction debris.
- Waste to be removed regularly.
- Adequate safety measures like PPE, barricading, signage, and fire safety shall be maintained.
- Temporary protection to finishes (e.g., tiles, paint) until handover.

12. Tolerances

- Levels, alignment, and dimensions must be within acceptable tolerances:
 - Concrete surface level: ± 5 mm
 - Masonry wall plumb: ± 6 mm in 3 meters height
 - Floor slope: 1:100 (min) towards drain

CIVIL WORK ITEM SPECIFICATIONS

1. Earthwork

Scope:

Includes excavation, filling, backfilling, compaction, and disposal of surplus material.

Specification:

- Excavation shall be carried out to the dimensions, lines, and levels shown in the drawings.
- Excavated material shall be stacked at designated areas without contamination.
- Backfilling shall be done in layers not exceeding 200 mm thickness, each layer compacted to at least 95% Modified Proctor Density (MDD) under structural areas and 90% in non-structural areas.
- Suitable moisture content shall be maintained during compaction.
- Surplus excavated material shall be removed and disposed of as per site instructions.

Measurement:

Measured by volume (m^3) based on actual excavation or filling.

2. Concrete Work

Scope:

Includes mixing, placing, compacting, curing, and finishing of concrete for foundations, slabs, beams, columns, etc.

Specification:

- Cement, aggregates, and water shall conform to relevant standards.
- Concrete shall be mixed mechanically or ready-mix concrete as specified.
- Minimum compressive strength as per design (e.g., M20, M25).
- Concrete shall be placed in layers, avoiding segregation, and compacted using mechanical vibrators.
- Formwork shall be properly designed, leak-proof, and removed only after concrete attains adequate strength.
- Curing shall begin immediately after surface finishing and continue for at least 7 days (OPC) or 10 days (PPC).

Measurement:

Measured in cubic meters (m^3) of concrete placed.

3. Masonry

Scope:

Construction of walls and partitions using bricks, blocks, or stones.

Specification:

- Bricks/blocks shall be clean, soaked if necessary, and free from defects.
- Mortar shall be mixed in specified ratios (typically 1:6 cement-sand for masonry).
- Masonry units shall be laid in uniform courses with proper joint thickness (usually 10mm).
- Walls shall be plumb and true to line and level.
- Joints shall be raked to receive plaster.

Measurement:

Measured in cubic meters (m^3) or square meters (m^2) for walls.

4. Plastering

Scope:

Applying cement mortar plaster to walls, ceilings, or other surfaces.

Specification:

- Surfaces to be plastered shall be clean, dampened, and free of dust.
- Mortar mix typically 1:4 cement-sand for internal and 1:6 for external plastering.
- Thickness per coat as specified, generally 12-15mm for internal plaster.
- Plaster to be applied in one or two coats with a smooth, even finish.
- Surface to be cured for minimum 7 days after plastering.

Measurement:

Measured in square meters (m^2) of plastered surface.

5. Flooring

Scope:

Laying of floor finishes such as tiles, concrete toppings, or stone flooring.

Specification:

- Sub-base to be clean, leveled, and compacted.
- Tiles/vitrified/stone to be of approved quality and shade.
- Adhesives and grouts to be as recommended by manufacturer.
- Floors to be laid with uniform joints, even surface, and proper alignment.
- Finished floor to be cleaned and protected until handed over.

Measurement:

Measured in square meters (m²) of finished flooring.

7. Painting & Polishing

Already provided in detail previously.

8. Steel Reinforcement

Scope:

Supply, cutting, bending, placing, and binding of steel reinforcement for concrete works.

Specification:

- Reinforcement bars shall conform to IS:1786 or equivalent.
- Bars to be free from rust, oil, or paint before placing.
- Cutting and bending as per approved bar bending schedules.
- Bars to be tied firmly using 16 gauge binding wire at all intersections.
- Adequate cover to be maintained with cover blocks or spacers.

Measurement:

Measured in kilograms (kg) of steel reinforcement placed.

9. Formwork

Scope:

Providing, erecting, supporting, and removing formwork for concrete casting.

Specification:

- Formwork shall be strong, leak-proof, and rigid enough to support wet concrete without deformation.
- Internal surfaces shall be treated with approved release agents.
- Formwork shall be aligned accurately and maintained until concrete gains sufficient strength.
- Removal of formwork as per the curing and strength of concrete specified.

Measurement:

Measured in square meters (m²) of formwork area.

10. Drainage / Plumbing (Civil Portion)

Scope:

Provision and installation of underground drainage pipes, manholes, and related civil works.

Specification:

- Pipes shall be uPVC/HDPE/RCC as per drawings and standards.
- Trenches excavated as per required depth, bedding, and backfilled properly with compaction.
- Manholes constructed with RCC as per design with proper benching and channeling.
- All joints to be watertight and leak-proof.

Measurement:

Measured in linear meters (m) for pipes and per item for manholes.

11. Roadwork / Paving

Scope:

Construction of road subgrade, base, and wearing course including bituminous or concrete pavements.

Specification:

- Subgrade prepared and compacted to 95% MDD.

- Granular sub-base and base courses constructed with approved materials and thickness.
- Wearing course of bituminous concrete or PCC as per design.
- Surface shall be even, free of ruts and properly sloped for drainage.

Measurement:

Measured in square meters (m²) for paved area and cubic meters (m³) for earthworks.

SPECIFICATIONS (MAKES/MODELS)

LIST OF APPROVED BRANDS AND / OR MANUFACTURER FOR INTERIOR FURNISHING WORK

SN	Particulars and Specifications	Approved Make/ model
1	Gypsum Board	Gyproc (saint gobain)/ USG BORAL
	Framing with complete system	Gyp steel ultra (saint gobain)/Gyp serra /USG BORAL
2	Locks	
	Auto latch Lock	P-ALL1-22 (Ebco)/EG
	Multipurpose group Lock	E-MPL1-22 / E-MPL1C-22 (Ebco)/EG/Godrej
	Night latch	8812 (Godrej)/Doorset-NL 180 s/s / Europa 8010 NS of SS brush Finished
	Cylindrical lock (SS matt finish)	3792-with key and 3786-keyless (Godrej) / C120SS (Europa)
	Mortise dead lock (two way)	8815(Godrej)/ Door set -ML 102 S/ Dorma Make
	Mortise lock with door handle	Matiz 8083(Godrej) / Door set- HL 170 S/S / Dorma Make
3	Drawer channels	
	Telescopic channels (zink plated)	STDS35(i)35/ STDS45(i)35/ STDS50(i)35/ STDS60(i)35 (Ebco)/ EFG/Everite/
	Bottom channels (powder coated)	BMDS 35/ BMDS 37/ BMDS 55/ BMDS 60 (Ebco)
4	General hardware	SS matt finish
	Door stopper	i) Black/ivory/brown/silver color Powder coated DS1 (Ebco) ii) Spring type black/brown/ivory color powder coated (ECGL's sterling)
	'D' bracket	50x12 mm (Oswal)
	Hinges	i) 3"/4"/5"/6" 1.8mm th. SS matt finish (Suzu) ii) 75x12x19 1.2 mm th. SS matt finish for storage (Suzu) iii) Auto close hinges – slip on hinge- euro / click on hinge-I (Ebco) for storage
	Handles 'D' or 'C' type	1) 3"/4"/6"10mm dia SS 202 matt finish (Anjali)
	Tower bolt	3"/4"/6"/8" brass extruded SS matt finish (Oswal)
5	Floor spring	
	60 kg	7477 (Godrej) / M-74 (Hardwyn)/Dorma /Everite
	80 kg	8293 (Godrej) / M-74 (Hardwyn)/Dorma/Everite
	100 kg	8294 (Godrej) / M-76 (Hardwyn)/Dorma/Everite

6	Door closer	
	60 kg	Double speed 8292-silver, 7345- golden (Godrej) / scorpio (Hardwyn)/Dorma/Ebco/Ozone
	Fire rated 60 kg	1938 (Godrej) / Triton (Hardwyn)
7	Patch fittings for door and fixed glass partition (top/bottom patch, pivot, patch lock, L arm, L connect, connector, floor spring, handle, plastic profile)	Godrej / XL C series(Dorma) / OPF series (Ozone)
8	Particle boards	Novapan / Deco board
9	Computer accessories	
	Keyboard tray with mouse tray	KTE-1-45M (Ebco) / Hettich/Innofit/Featherlite
	CPU hanger/ shelf	Side mounted IS CPU HL SM (Innofitt) /CPUSM(Ebco) , 4/2-SMCS (Zipco)
	cable manager (60mm)	i) metal - CO60ZN1(Ebco) ii) PVC - CO 60 (Ebco) black/ivory/grey color
10	Foam	Sleepwell / Feather foam
11	Glass film	3M INDIA /AVERY DENNISON
12	Wood For Partition and Paneling Frame	Marandi wood or Equivalent
13	Wooden for Visible surface (ieBeading,jambs, etc.	Steam Beach or Equivalent
A	<u>INTERIOR WORK</u>	
1	Vitrified floor tiles(600mm x 600mm)	Johnson / Somani / AGL
2	Adhesive	Favicol SH / Blue coat / Royel bond / Mevicol
	Sealant	Pidilite / Roaper
3	Paint on Wall & Ceiling	Asian Paint / Nerolac
4	Paint on Wood: Polyurethane systems (PU)	Sirca Paint / Asian paint
5	Ply wood (IS 303 MR)/ water proof ply IS 701 / Block Board IS 1659 / Flush Door IS 2202	Green / Century / Anchor / Archid / Mayur / Kit [IS 303 MR]/Samrat
6	Laminate IS 2046	Green / Formica / Sunmica / Marino / Bloom / Century
7	MDF Exterior Grade ISI Mark	Nuwood / Action tesla / Dura turff / Century/Green
8	Bison board	NCL Industries
9	Timber for lipping, moulding & when CIVIL is to be finished in polish	Superior quality seasoned Ghana teak.
10	Timber for all other type of CIVIL work	First class seasoned C.P. Teak.
11	Decorative laminate (1.0mm)	Marino / Green / Sunmica / Formica
12	Exterior Grade Compact Laminate (5mm,6mm)	Clads (Greenlam) / Staylam
13	Veneer	Green ply nature max / Century / Lignin
14	Hardware	
	a) Latches	Ebco / Hafele / Hettich
	b) Locks	Ebco / Hafele / Hettich / Godrej
	c) Screw	Nettle fold / GKW / Hafele
	d) Floor Spring	Doorset / Dorma / Ozone / Godrej

LIST IF STANDARD MAKE

LIST OF APPROVED MAKE FOR CIVIL WORKS

1) Ordinary Portland Cement	Ultratech, Birla, ACC, Lafarge.
2) White Cement	Birla, J.K.
3) TMT "Fe – 415/ 500 D" Ribbed bars	Tata, JSW, Electrotherm, RINL. (VIZAG). SAIL
4) Structural Rolled Steel sections-beams,	Tata, SAIL, RINL. tee, flats, angles, bars(round,square, hexagonal)
5) Structural Hollow steel sections	(Square & Tata, Asian, Jindal, Surya, Appolo. Rectangular)
6) Structural tubular sections	Tata, Asian, Jindal, Surya, Appolo.
7) Coarse Aggregates (machine cut)	6mm to 40mm sizes Approved quarry from Sevalia. (Hard black trap stone)
8) Stone Rubbles & Gravels	Approved quarry from Sevalia. (Hard black trap stone)
9) Shuttering plywood	Anchor, Green, Archid, Silicon, Century
10) Water proof/Marine grade plywood	as per Anchor, Green, Archid, Silicon, Century – IS – 710 (BWP)
11) Commercial Plywood –	IS – 303 (BWR) Anchor, Green, Archid, Silicon, Century
12) Decorative ply	(Veneer) Anchor, Green, Archid, Silicon, Century
13) MDF	Nuwood, Duratuff (exterior grade only)
14) Prelam particle board	Novapan, Bhutan. (exterior grade only)
15) Laminate sheet	Formica, Greenlam, Archid, Bloom, Aerolam.AICA
16) Cement bonded particle board	Shera ,NCL (Bison board), Everest (Eternite).
17) Calcium silicate board / Gypsum Board.	Saint Gobain (India Gypsum), Hilux ,Lafartz.
18) Flush door – decorative / non decorative	Anchor, Green, Archid, Silicon, Century
19) Compact sheet	Alfiaca, Sundek, Vir, Bloom, Formica, merino.
20) Dead Locks/ Mortise locks/ Narrow stile dead locks/ Tubular locks	Kich, Dorma, Dorset, Yale.
21) Float Glass / wired Glass, Mirror	Modi guard, Saint Gobain, Asai, HNG.
22) Reflective Glass	Saint Gobain, PPG, Asahi, Emirates, Pilkington.
23) Paver block	Vyara, Super eq..
24) MS Rolling shutter	Sona, Sagar, Suryoday, Gandhi.
25) Precast terrazzo tiles & skirting(Mosaic)	Royal(rajkot) ,Alcock, Vyara, Nitco.
26) Glazed tiles	Asian, Johnson, Somani, Kajaria, Nitco,
27) Ceramic tiles	Asian.Johnson, Somani, Nitco, Kajaria,
29) Vitrified tiles	Kajaria, Johnson, Simpolo, Nitco, Somany
30) Non-metallic floor hardener	Ironite
31) Glass mosaia	Bisazza, Palladio
32) Construction chemicals	
Plasticisers, Bonding agents,	
SBRmicro concrete	BASF, Fosroc
Water proofing chemicals	
Chemical Water proofing &	
Integral water proofing compound	
Crystalline water proofing	Cico or Pidilite Penetron or Kryton

33) Silicon sealant/ Silicon paint
 Polysulphide sealant
 P.U sealant/
 34) Pre-coated steel roofing/ walling sheets
 550 Mpa

35) Polypropylene fibers
 36) Paint, primer, putty
 37) Liquor /Melamine /PU polish
 38) PVC Water stop
 39) Door Window Hardware,
 40) Floor spring
 41) Door closer
 42) Adhesives Wooden Adhesives
 Tile adhesives & grouting material
 43) Oil & water finish Double boiled
 44) Fire door
 45) Aluminum sections

46) Aluminum finish
 Interior works

Facade exteriors
 Non visible

47) Aluminum Window locks, handle ,

47a) Rough ground for Aluminium works
 48) Gasket of infill panel for Aluminum

49) Anchor Fasteners

50) Spandrel Insulation
 51) Wool felt/weather strip
 52) Rust Remover/converter

53) Non-shrink general purpose grout
 54) Anchoring chemical for rebar dowell bar
 55) Roll down mosquito curtain
 56) Baker Rod, Expansion joint pre-moulded filler board
 57) SS clamps for cladding
 58) Aluminium operable Louvers
 59) Spacer tape
 60) Anodising
 61) Glass Processor
 For HS/HT, Bulletproof, DGU, Toughness,
 lamination etc.

62) Smoke seal
 63) Elevator Schindler,

Wacker, Dowcorning, GE, Soudal, Bostik

Pidilite, Chawksey, Sika (Exterior grade - UV resistant)

Tata bluescope, Interarch, Nippon Dendro (poly steel)
 ShreePrecoated (Meta color)
 Nina concrete, Reliance
 Asian, Nerolac, ICI, Birla (putty), JK (Putty)
 MRF, Asian, ICI, ICA
 ArtiCables Baroda, Fixopan, Maruti.
 Kich, Dorma, Haffle, Palladium, Magnum
 Dorma. Mab ,Hafle, Godrej, Inox, Ozone
 Dorma. Yale., Hafle, Godrej, Ozone
 Fevicol, Blue coat, Araldite.
 BAL, Laticrete, Kerakoll.
 CAT brand linseed oil & MTO of reliance
 Shaktimat, AGEW, Radiant.
 Jindal, Hindalco (Indal), Banco, Royal touch,
 Bhoruka, Pankaj, Alufit, Gulf extrusion.

Super durable powder coated
 (Akzonobel, Jotun, FullerAG)
 PVDF finish (Valspar, PPG, Akzonobel)
 surface Chromatizing.
 Alualpha, Securestyle, Giessee, Roto, Geze, Savio,
 Frikstay
 IS 710 ply, 6mm to 8mm thick or Ghana teak.
 Amee rubber, gold seal, Osaka rubber, Maharashtra
 polymer, Maharashtra tyre & rubber industries.
 Axel, Hilti, Fischer, Kundan, Mungo, Corroshield,
 Buildex
 Glass wool
 Anand, reddiplex ltd.
 Feovert (Krishna Conchem), Roff Rust Clear
 (Pidilite Industries)
 Fosroc, BASF
 Hilti, Fischer, Axel
 Netmos
 Supreme.
 Hilti, Axel.
 Technal, Domal
 Norton, tremco, bow.
 Bhoruka alum, Alufit alum, Ajit India, Alufin

Impact safety, sejal, Glasstech, GSC, Asahi, FG
 Glass, Goldplus, Emirates
 Intumecent Hilti/3M.
 Otis, Mitsubishi

