

Tender ID	SBI/GAO/2024-25/01/03
Date	10.01.2025



# STATE BANK OF INDIA

INVITES ONLINE E-TENDER

FOR

**PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR.**

**FROM THE EMPANELLED CIVIL CONTRACTORS FOR AHMEDABAD CIRCLE UNDER THE CATEGORY OF WORKS UP TO Rs. 50.00 LAKHS AND ABOVE (AS PER THE LIST ENCLOSED)**

THE LAST DATE OF SUBMISSION OF TECHNICAL BID: **31.01.2025 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:**

M/s. Mahesh Desai

10-B, Sumeru,

Nr. Parimal Railway Under Pass & Suvidha Shopping Centre,

Paldi, Ahmedabad - 380 0079.

Email: [maheshdesai47@gmail.com](mailto:maheshdesai47@gmail.com)

## NOTICE INVITING TENDERS

SBI invites E-tender through its Architect M/s.Mahesh Desai "Online e-tenders in two bid system i.e. online technical bid and online price bidding from the SBI Empanelled Civil contractors of Ahmedabad Circle for Proposed Work For Civil Addition/Alteration And Renovation In State Bank Of India, Admn. Office Building, Sector – 10B, Gandhinagar .Please note that there will be E-reverse auction conducted and rates quoted after e-reverse auction will be final.

The details of tender are as under:

S.No.	Description	
1.	Name of work	PROPOSED INTERIOR WORK WITH OTHER ALLIED CIVIL WORK IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR.
2.	Nature of Work	CIVIL Work
3.	Time allowed for completion	90 days from date of acceptance of work order
4.	Tender Fees	NA
	Estimated Project Cost	Rs. 36.21 Lakhs
5.	Earnest Money Deposit	Rs. 36,200/-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 MSMEUDYAM need not submitted EMD. Instead DD, Valid MSME UDHYAMcertificate shall be uploaded]
6.	Initial Security Deposit	2% of contract value Including EMD (Non-interest bearing ISD to be submitted by the L1 Bidder)
7.	Total Security Deposit	5% of the final bill amount
8.	Start and end date for downloading of tender documents form Bank's website	10.01.2025 to 31.01.2025 at <a href="http://www.sbi.co.in">www.sbi.co.in</a> under <Link><SBI in the news >procurement news.
9.	Last date & time for submission of online Technical bid and Online Indicative Price Bid	31.01.2025 up to 3:00 pm
10.	Address at which EMD & Process compliance form has to be submitted	The Deputy General Manager, State Bank of India, 5 <sup>TH</sup> Floor, Admin. Office, Sector – 10B, Gandhinagar.
11.	Date and time of opening of online Technical bid & Online Indicative Price bid at SBI address mentioned at Sr. No.10	31.01.2025 at 03:30 pm

12.	E-Tendering will be conducted by our approved e-tendering consultant	M/s. Antares Systems Limited, Registered Office: #24, Sudha Complex, 3 <sup>rd</sup> Stage, 4 <sup>th</sup> Block, Bangalore – 560079, Mr. Kushal Bose Mobile No.: +91 9674758719 e-Mail: <a href="mailto:kushal.b@antaressystems.com">kushal.b@antaressystems.com</a>  Mr. Pravesh Mobile No.: +91 9044314492 e-Mail: <a href="mailto:praveshmani.t@antaressystems.com">praveshmani.t@antaressystems.com</a>
13.	Date & time for e-reverse auction	Date & time for e-reverse auction will be Informed to qualified contractor separately
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	Rs/- 18.0 lakhs
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 &amp; electricity.</u>
21	Tenders can be downloaded from the bank's website <a href="http://www.sbi.co.in">www.sbi.co.in</a> (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	

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 Antares Systems Limited Bangalore, 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.

Yours Faithfully

The Deputy General Manager,  
State Bank of India, 5<sup>TH</sup> Floor, Admin. Office,  
Sector – 10B, Gandhinagar

LIST OF EMPANELLED CIVIL CONTRACTORS UP TO Rs.50.00 LAKH.

<u>Sl. No.</u>	<u>NameandAddress</u>	<u>ContactDetails</u>
1	<u>FIRM-R.S.ENTERPRISES</u> Head Office - C-74, patelnagar,raisen road, bhopal - 462021.Branch Office - Bhasan Singh,236/6 Shiv Nagar Colony,Gandhidham - Kutch, Gujarat -370201.	9826961063  rsenterprises73@gmail.com
2	<u>FORM - MUKUND</u> <u>FURNITURE</u> 683/1, GANESH TEMPLE ROAD,MOTA THAKOR VAS, OPP.VANKAR VAS, B/h. NIRMANNAGAR SOCIETY,VATVAGAM, AHMEDABAD-382440	9081115137 9081113137 7700005152  mukundfurniture@gmail.com
3	<u>FIRM - M/S DEVI</u> <u>KRUPA</u> <u>CORPORATION</u> 65 KANAN RESIDENCY, B/h, PANCHAYAT OFFICE, NANACHILODA, AHMEDABAD-382330	9825068135 9825068135  devikrupac@yahoo.com
4	<u>FIRM - M/S</u> <u>RAJESH R</u> <u>CHANDARANA,</u> SHIVSHAKTI COMPLEX,HIGH COURT ROAD,BHAVNAGAR.	9825030671, 9825198571  sawanhelly@yahoo.com
5	<u>FIRM - NAGESWAR</u> <u>ENTERPRISE</u> GF-8, ANANNYA COMPLEX,AKSHAR CHOWK, OLD PADRAROAD,VADODARA- 390020	9825801447, 0265-2359973, upadhyay_shaillesh@yahoo.com
6	<u>Devi Krupa</u> 26/A, Jivrajpark Society, B/h Sahjanand Tower,Jivrajpark Cross Road, Vejalpur,Ahmedabad - 380051	9925039223 9925039224  devikrupa9297@yahoo.com

7	Vardhan Construction Narendra Sharma,202, Vanshika Residency, 12, Utkanth Society, Behind Alkapuri Club, Alkapuri, Vadodara -390007	0265-3591656,7990251062, 9825533571  vardhan.construction@yahoo.com
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LIST OF EMPANELLED CIVIL CONTRACTOR UP TO RS.100.00 LAKH

<u>Sr. No.</u>	<u>NameandAddress</u>	<u>ContactDetails</u>
1	<u>Firm-ShreeSaiConstruction.</u> E-402SHIKHAR-1 BEHIND ABHAY NAGAR SOCIETYNEAR ARUNACHAL CHAR RASTABEHINDSANGRILASUBH ANPURA VADODARA-390023	9426007886 9427612103 shyamprasad.kumble@gmail.com
2	<u>FIRM-AKLINGJI CONSTRUCTION</u> 203,REGENCYBUILDING RAVESIA PARK, MORARJI CIRCLE, GIDC- VAPI396195,DISTRICT- VALSAD	9426801431 aklingjiconstruction@gmail.com
3	<u>FIRM-N.K.ASSOCIATES</u> 13,KAMLAPARKSOCIETY,MAINRANDER ROAD, SURAT-9.	91-9824199146 nk_associates@yahoo.com.
4	<u>FIRM - M/S SAMVIT BUILD CARE PVT.</u> <u>LTD.11, NEW ALKAPURI SOCIETY, OPP.</u> <u>GULMORFLATS,GULBAITEKRA,AHMEDABA</u> <u>D-380015</u>	97244525205 info@samvitgroup.net
5	<u>FIRM-UMESHENGINEERINGWORKS</u> GALA NO. A-10, D.M. SINGH COMPOUND,OPP. SHRADDHA TOWER, THAKUR COMPLEX,KANDIVALI(EAST),MUMBAI - 400101.	9821098131 umeshengineering@gmail.com
6	<u>M/S Payal</u> 12/E, Shilpalay Shopping Centre, B/H Old Anjali Cinema, Vasna, Ahmedabad- 280007	9426485544,9825077428 manan.2407@gmail.com
7	<u>Patel ConstructionCo.</u> 18/Sanket Complex, Near Gagan Guest House, N.H.No.08, Naroda-Ahmedabad.	9427007484 patelconstructioncompany99@yahoo.com
8	<u>MS SHAH &amp; ASSOCIATES</u> 111 1ST FLOOR, BALAJI ARCADE, S V ROAD,KANDIVALI(W),MUMBAI -400067	8976001855 EMAIL-msshah_1@rediffmail.com
9	<u>D G CONSTRUCTIONS</u> 2/17, ASHRAYAPARTMENTS,NEXT TO HP PETROL PUMP, JUDGES BUNGLO RAOD, BODAKDEV,AHMEDABAD-380054	9725478888,9898581314EMAIL- dgconstructions291@yahoo.com
10	<u>M/SBHAVESHENTERPRISE</u> BALLAJI SHOPPING ARCADE, SHOP NO 115,1ST FLOOR, S V ROAD, KANDIVALI (W),MUMBAI- 400067	9892030431 be1979@rediffmail.com
11	<u>Y M INFRACO.</u> A 104 RUDRA APARTMENT, NANBHAWADI,NR TAKTESHWAR	9825498095,9825300586EMAIL- yminfraco@yahoo.com

	TEMPLE, BHAVNAGAR	
12	ARIHANT DÉCOR, 301 WAIKIKI APARTMENT, ANAND NAGAR, NEAR VARTAKSCHOOL, VASAI(W) PALGHAR	9326877256, 9511637029  nirav_cshah@yahoo.co.in



LIST OF EMPANELLED CIVIL CONTRACTOR UP TO RS.200.00 LAKH

<u>Sl. No.</u>	<u>NameandAddress</u>	<u>ContactDetails</u>
1	<u>PooranChandSharma&amp; Sons</u> 1/70 W.H.S. Kirti Nagar, NewDelhi-110015	9810111055 sds.pcass@gmail.com
2	<u>M/STez Corporation</u> A/55, Akruti Society, AjayTenaments-5, VastralRoad,Ahmedabad - 382418	9426020113 tez267@gmail.com
3	<u>MilindConstruction</u> MilindJayantilalPatel A/10, MadhavAppartment,B/hVasna Bus-stop, Opp. MunicipalGarden, Vasna, Ahmedabad -380007	079-26607346,9898058957 milind.3027@gmail.com
4	<u>SHAH ASSOCIATES,</u> OPP LAXMI BHAVAN, NEWSTATION ROAD, BHUJ KUTCHH -370001	02832-226067,9825228305 shahassociates1@gmail.com

LIST OF EMPANELLED CIVIL CONTRACTOR UP TO RS.500.00 LAKH

<u>Sl. No.</u>	<u>NameandAddress</u>	<u>ContactDetails</u>
1	<u>Firm- BHAVANI CONSTRUCTION COMPANY</u> SHOPNO-212,2ND FLOORRATNADEEP COMPLEX, OPP.CENTRALSELT,WAGHA WADI ROAD,BHAVNAGAR-364001	9427262860, 9428078876. bhavani_const@yahoo.in
2	<u>MAHENDRA REALTORS &amp;INFRASTRUCTUREPVT LTD</u> 6 03 QUANTUM TOWER, 6THFLOOR, RAM BAUG LANE, NEXTTO SBIMALAD WEST INDUSTRIAL BRANCH,MALAD(W)MUMBAI-400064	022-28828239,28807684 <a href="mailto:info@mripl.net">info@mripl.net</a> ,tenders@mripl.net
3	<u>MAHENDRU CONSULTANTS,</u> 16VINDHYACHALAPARTMENTS, INDER ENCLAVE,NEW DELHI: 110087	011-25289843,9818446200 mahendruconsultants@gmail.com

STATE BANK OF INDIA  
FORM TENDER

To,  
The Deputy General Manager,  
State Bank of India, 5<sup>TH</sup> Floor, Admin. Office,  
Sector – 10B, Gandhinagar.

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 WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR
Earnest Money	The tenderer shall furnish EMD of Rs.36,200/-. In the form of Demand draft or bankers cheque drawn in favour of State Bank of India payable at Gandhinagar. on any Scheduled Bank. Not tenders 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 3 days after the date of written order or date of handing over of the site (whichever is later) to commence the work	90 days

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) \_\_\_\_\_ ii) \_\_\_\_\_

## SAMPLE BUISNESS RULE DOCUMENT

ONLINE E-TENDERING FOR PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR

### Business rules for E-tendering:

1. Only AHMEDABAD CIRCLE empanelled 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. Antares Systems Limited, Bangalore, 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. Antares Systems Limited, Bangalore, 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. Antares Systems Limited, Bangalore, 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 empanelled 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. Antares Systems Limited, Bangalore, . The Bidders are requested to change the Password after the receipt of initial Password from M/s. Antares Systems Limited, Bangalore, . 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. Antares Systems Limited, Bangalore, 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. Antares Systems Limited, Bangalore, is not responsible for any damages, including damages that result from, but are not limited to negligence.

SBI or its authorized service M/s. Antares Systems Limited, Bangalore, 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. Antares Systems Limited, Bangalore,

- 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. Antares Systems Limited, Bangalore,  
#24,3rd Stage, 4th Block, Basveshwaranagar, Bangalore- 560079, India

E-mail : [kushal.b@anataressystems.com](mailto:kushal.b@anataressystems.com)  
Contact No.- 91 - 9674758719, 9674758720

AGREEMENT TO THE PROCESS RELATED TERMS AND CONDITIONS FOR THE ONLINE E-TENDERING FOR PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, 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. Antares Systems Limited, Bangalore 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  
INSTRUCTIONSTOTHETENDERERS

- 1.0 Scope of Work  
Sealed Tenders are invited by M/s. Mahesh Desai for and behalf of State Bank of India for PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR
- 1.1 Site and Its Location  
The proposed work is to be carried out in the entire building of SBI at Admin office, 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 workmanlike manner,
- Instruction 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 to 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 regulation 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
- 4.1 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.
- 4.2 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:- Additional Security deposit (ASD)/Additional performance Guarantee (APG) shall be applicable if the bid price is below 7.5% of the estimated cost put to tender. The amount of such ASD/APG shall be the difference between 92.5% of estimated cost put to tender and the quoted price.

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 90 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 acceptable 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 civil 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 sheets 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/ Gypboard 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 MAHESH DESAI, 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 refer red 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, Ahmedabad// Competent Authority, GANDHINAGAR.

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 (Furniture 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- 36,200/-

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 an 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 7.5% of the estimated cost put to tender. The amount of such ASD/APG shall be the difference between 92.5% of estimated cost put to tender and the quoted price.

### 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 carry out 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 ad shall his own expenses rectify such error, if so, required to satisfaction of the SBI

#### 12.0 Protection of works and property:

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

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protections of his employees on the works and shall comply with all applicable provisions of Govt. and local bodies' safety laws and building codes to prevent accidents, or injuries to persons or property on about or adjacent to his place of work. The contractor shall take insurance covers as per clause 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 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 AIRCONDITIONING MATERIAL 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 defects 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 I 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 affected 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 if 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 affected with an insurer and in terms approved by the SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to 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 contactor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBI or Architect's / consultant's instructions to the contrary subject any part of the contract. Then and in any of said cases the SBI and or the Architect / consultant, may not withstanding any previous waiver, after giving seven days' notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect/consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBI through the Architect / consultant their agents or employees may enter upon and take possession of the work and all plants, took scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any

other contractors or persons to the work and the contractor shall not in any way 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 for the date of deduction or recovery. The said notices 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 thereunder.
  - 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

thereferenceonthedateheissuesnoticetoboththepartiescallingthemtosubmittheirstatement 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 whom may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fixed 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 /consultant's.
- 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 contactor and charges payable for permanent connections, if any, shall be initially paid by the contactor and the SBI will reimburse the amount on production of receipts.

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 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 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 contractors 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 contact. All of the aforesaid taxes, duties, levies, fees and charges shall be to the contractor's account and the SBI Shall not be required to pay any additional or extra amount on this account. Variation of taxes, duties, fees, levies etc. if any, till completion of work shall be deemed to be included in the quoted rates and no extra amount on this account. Variation of taxes, duties, fees, levies etc. if any, till completion of work shall be deemed to be included in the quoted rates and no extra claim on this account will in any case be entertained. If a new tax or duty or levy or cess or royalty or Octroi is imposed under as statutory law during the currency of contract the same shall be borne by the contractor. 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 running's 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.

ANNEXURE-4.9 BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

Place:.....

Date:.....

(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 Rs..... towards Security Deposit for the work of 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) hereafter called the "Guarantor" (which expression shall include its successors and assigns) hereby 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 upto 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 respects 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 indulgences 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 suretyship.
- (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 thereby 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)

ANNEXURE-4.31:DETAILSOFINSURANCEPOLICIES

Type of policies	Name of Insurance	AmountRs.	PolicyNo.	Validity
CAR policy including 3 <sup>rd</sup> 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 \_\_\_\_\_

## ANNEXURE-4.32: SAFETY CODE

### SAFETY MEASURES AT SITE:

1. All personnel at sites 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 Man should 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 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 an adequate width and should be suitably fenced, as described.
7. Every opening in the floor of a building or in a working platform should 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 ladders shall be over 9 Meters in length while the width between side rails in rungs shall in no case be less than 30 cms for ladder up to and including 9 Meters in length. For longer ladders this width should be increased at least 6 mm for each additional 30 cms. Uniform step spacings shall not exceed 30 cms.
9. Adequate precautions shall be taken to prevent danger from electrical equipments. 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 material 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 shall under mining or undercutting

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 buildings shall be so over-loaded with debris or materials as to render it unsafe.
- d) All necessary personal safety equipment as considered adequate by the Site Engineers should be kept available for the use of the person employed on the Site and maintained in a condition suitable for immediate use; and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.
- 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 supports 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 defects 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.



## ANNEXURE-4.33: 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 expressions 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 Contractor  
s' 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 work to be done prepared by Project Architects M/s  
\_\_\_\_\_ having their offices at \_\_\_\_\_ (hereinafter called "the Architect")

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

AND whereas the contractors have agreed to execute upon and subject to the condition set forth herein and  
Schedule of items and quantities, General & special Conditions of Contract, specification etc. contained in the  
tendered documents including all correspondences exchanged by or  
between the parties from the submission of tender till the award of work, both letters inclusive, (all of which are collectively  
hereinafter referred to as "the said conditions"). The works shown upon the said  
drawing and/or described in the said specification and included in the schedule of items and quantities at the respective  
at the rate 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 Contractor 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 conditions 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 overrule 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 right 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 here by agrees to commence the work soon after the site is handed over to him or from the 14<sup>th</sup> day after date of issue of formal work order as provided for in the said conditions of contractor whichever is later and to complete the entire work within (period of contract) months subject 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 the fullest satisfaction of architect/Employer.

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

Signed on behalf of the

Signed on behalf of the

STATE BANK OF INDIA

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 : **The Deputy General Manager,  
State Bank of India, 5<sup>TH</sup> Floor, Admin. Office,  
Sector – 10B, Gandhinagar.**
- 2) Consultants : ARCHITECT M/s. Mahesh Desai
- 3) Site Address : Admin office, Gandhinagar
- 4) Scope of Work : PROPOSED WORK FOR CIVIL ADDITION/ALTERATION  
AND RENOVATION IN STATE BANK OF INDIA, ADMN.  
OFFICE BUILDING, SECTOR - 10B, 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 : Rs/- 36,200/-
- 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.) : Rs/- 18,00,000.00
- 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 : 15 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:

## LETTER OF DECLARATION

To,  
The Deputy General Manager,  
State Bank of India, 5<sup>TH</sup> Floor, Admin. Office,  
Sector – 10B, Gandhinagar.

Dear Sir,

### PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR

Having examined the terms & conditions, drawings, specifications, design 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 and affecting the quotation, I/We hereby offer to execute the works specified in the said memorandum within the time specified in the said memorandum on the item rate basis mentioned in the attached schedule and in accordance in all respect with the specifications, design, drawings and instructions in writing referred to in conditions of Tender, the articles of agreement, conditions of contract and with such conditions so far as they may be applicable.

#### MEMORANDUM

(a)	Description of work	PROPOSED WORK FOR CIVIL ADDITION/ALTERATION AND RENOVATION IN STATE BANK OF INDIA, ADMN. OFFICE BUILDING, SECTOR - 10B, GANDHINAGAR
(b)	Earnest Money	Rs/- 36,200.00
(c)	Time allowed for completion of work from the date of issue of work order.	90 days from the date of commencement as per tender

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

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 an year or so.

We understand that as per terms of this tender, the SBI may consider accepting our tender in part or whole or may entrust the work of various jobs/buildings proposed (i.e. Institute Building, Staff Qtrs. And Director's Bungalow/ work) in phases. We, therefore, undertake that we shall not raise any claim/compensation in the eventuality of Bank deciding to drop any of the work/building/buildings from the scope of work of this tender at any stage during the contract period. Further, we also undertake to execute the work entrusted to us in phases as per L-1 rates/standard rates accepted by us/on our approved rates and within the stipulated time limit without any extra claim for price escalation as provided for in Clause 9.0.1 "Instructions to Tenderers" of this tender.

We, hereby, also undertake that, we will not raise any claim for any escalation in the prices of any of the material during the currency of contract/execution/completion period.

Yours faithfully,  
Signature of contractor with seal

PROFORMA FOR RUNNING A/C BILL  
TABLE - XIII

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

S N	Item Descripti on	Unit	Rate (Rs.)	As per Tender		Up to Previous R.A. Bill		Up to Date (Gross)		Present Bill		Remark s
				Qty	Amou nt (Rs.)	Qty	Amount (Rs.)	Qty	Amount (Rs.)	Qty	Amount (Rs.)	
1	2	3	4	5	6	7	8	9	10	11	12	13

Note:

1.	If part rate is allowed for any items, it should be indicated with reasons for allowing such a rate.	<hr style="width: 80%; margin: 0 auto;"/> <hr style="width: 80%; margin: 0 auto;"/> 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 of Architects Representative (Seal)	----- Signature and date of Site Engineer
---	---	---

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

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

### TABLE – 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.	<del>PVA on account of declaration in price of Steel, Cement and other materials and labor as detailed in separate statements enclosed.</del>	<del>Rs.....</del>
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 Architectwith 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 : -----

STATUTORY DEDUCTION:

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



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

given in the  
for payable  
verified and

Date:-----

-----Signature of the CM (GB)

## TECHNICAL SPECIFICATION

### SPECIFICATIONS OF MATERIALS TO BE USED

#### General:

These specifications are for the work to be executed items to be supplied and materials to be used in the works as shown and defined on the drawings and described here in all under the supervision and to the satisfaction of the architect / employer.

The workmanship is to be the best available and to a high standard. Use must be made of specialist tradesmen in all aspects of the works, and allowance must be made in the rates for doing so.

The materials and items to be provided by the contractor shall be the best of their respective kinds, approved by the architect in accordance with any samples, which may be submitted for approval, and generally in accordance with the specification. Where materials or products are specified in this specification and/ or bill of quantities by the name of the manufacture or the brand trade name or catalogue references the contractor will be required to obtain the approval of the architect/ employer before using a material or product other than the specified. The contractor shall produce all invoices, vouchers or receipted accounts for any materials of called upon to do so by the architect.

Sample of all material are to be submitted to the architect for his approval before the contractor orders or delivers in bulk to the site. Also, the contractor will be required to submit specimen finishes to colors, fabrics etc. For the approval of the architect before proceeding with the works. Should it be necessary to prepare shop drawings, then four copies of such drawings shall be submitted for the approval of the architect who will retain to copies, all at the contractors expenses.

#### Materials

The materials shall be of the best-approved quality obtainable and shall comply with the respective Indian standard specification.

If directed, materials shall be tested in any approved testing laboratory and the test certificates in original shall be submitted to the architect and the entire charges for repeated testes, if ordered shall be borne by the constructor.

It shall be obligatory for the contractor to furnish certificate, it demanded by the architect, from manufacturer of the material supplier that the work has been carried out by using their material and as per their recommendations.

All materials supplied by the employer / any other specialist firm shall be properly stores and the contractor shall be responsible for its safe custody until they are required on the works and till the completion of work.

Unless otherwise shown on the drawings or mentioned in the "Schedule of Quantities" or special specifications, the quality of materials, workmanship, dimensions etc., shall be as specified herein under.

The contractor without any extra cost for carrying out field-tests on materials shall provide all equipment and facilities.

Unless mentioned specifically, all materials used in the construction shall conform to the relevant Indian standards published by bureau of Indian standards.

The contractor whenever in doubt should get the materials approved by the architect, before use. A sample of approved material should be deposited with the architect.

Test certificates from the laboratory approved by the architect will have to be furnished, if so directed by him. The contractor will pay all costs for the same.

For special items to be used, the manufacturer's instruction of handling and installation shall be strictly adhered to. The contractor shall obtain the guarantee certificate from the manufacturer and pass on the same to the owner.

Materials if supplied by the owner shall be properly stored in the safe custody of the contractor. The same shall be carefully used and shall be properly preserved till the work is completed and handed over to the owner. Proper accounts of such materials will be maintained and will be presented for inspection and physical verification as and when requested by the owner.

Timber:

Timber generally is to be the best of its kind, well and properly seasoned, of mature growth, free from worm holes large loose or dead knots or other defects and sawn die square and will not suffer warping, splitting or other defects through improper handling.

The wood is to be Steam beach weighting not less than 45 lbs per cubic foot with moisture content not exceeding 12% to 14%. The moisture content of timber shall be determined according to method described in paragraph 4 of IS: 287 for "maximum permissible moisture content of timber used for different purpose in different zones".

In measuring cross-sectional dimensions of the frame pieces tolerance up-to 1.5 mm shall be allowed for each planned surface.

Good quality Steam beach wood:

Steam beach wood be of good quality and well-seasoned. It shall have uniform color, reasonably straight grains and shall be free from large, loose dead knots, cracks, shakes, warp, twists, bends, borer, holes or defects of any kind. No individual hard and sound knot shall be more than 1 cm. In diameter and aggregate area of all knots shall not exceed 1/2 % of the area of the piece. It shall be close grained and there shall not be less than 6 growth rings per 2.5 cm width.

Good quality Steam beach wood:

Steam beach wood shall be of good quality and well-seasoned. It shall have uniform color reasonably straight grains and shall be free from large, loose, dead knots, cracks, shakes, warp, sound knot shall be more than 2.5 cm. In diameter and aggregated area of all knots shall not exceed 1% of the area of the piece. There shall not be less than 4 growth rings per 2.5 cm width.

Timber is to be cut to the required sizes and lengths as soon as practicable after the works are begun and stored under cover so that the air will circulate freely around it. Joinery is to be prepared, immediately after the placing of the contract, framed up (but not bonded) and stored until required for fixing in position, when it is to be bonded and wedged up. Any portions that warp or develop shakes or other defects are to be replaced before wedging up. The whole of the work is to be framed and finished in a proper and workman like manner, in accordance with the detailed drawings, and fitted with all necessary motifs straps, belts screws etc. Running bounded joints are to be cross-tongued with teak onguese and where over 1-1/2" thick double cross tongued. Joiner's work generally is to be finished with fine class papered surfaces unless otherwise specified.

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

Grounds are to be clean shown, free from large knots, splayed as required, plugged and fixed to walls etc. At 1'-6" centers.

Wood plugs are to be put cut on the twist. Patent wall plugs or plastic filling may be used in lieu of wood plugs with the

approval of the architect.

All unexposed surfaces of timber e.g. walls ceilings, backings fillets backs of doors frames backs of doors frames, cupboard framing, grounds etc. Are to be treated with two coats of approved timber preservative like soigné, kirticite, term seal or castral or vacuum pressure impregnated with and approved water soluble timber preservative before fixing or bedding.

Timber shall be well seasoned and of the best quality Indian teak of specified species. Timber shall be considered as well seasoned, if its moisture content does not exceed the following limits.

(1) timber for frames. . . . . 14%

(2) timber for planking, shutters etc. . . 12%

The moisture content of timber shall be determined according to method described in paragraph 4 of is 287 for "maximum permissible moisture content of timber used for different purposes in different climatic zones".

In measuring cross-sectional dimensions of the frame pieces tolerance up-to 1.5mm shall be allowed for each planed surface.

Laminates:

All the laminate to be used shall be of 1.0 mm (or 1.5 mm or 0.5 mm where specified) thickness in approved the color and shade as approved and specified by the architect. It shall be matt finish manufactured by recommended makes as per sample shown by the consultant unless otherwise specified. It shall satisfy all the I.S.I. standards for melamine coated laminated fiber board's before the use of such fiberboard laminated. The contractor shall have to take approval of the department of each sheet of the laminates.

Fixtures & Fastenings:

The fixtures and fastening, that is, butt hinges, tend strap hinges, sliding door bolts, tower bolts, door latch, bath room latch, handles, door stoppers, casement window fasteners, casement stays and ventilators catch shall be made of the metal as specified in the item or its specifications.

They shall be of S.S., S.S. brush finish, iron, brass, aluminum, chromium plated iron, and chromium plated brass, copper oxidized iron, copper oxidized brass or anodized aluminum as specified.

The fixtures shall be heavy type. The fixtures and fastenings shall be smooth finished and shall be such as will ensure ease of operation.

The samples of fixtures and fastening shall be got approved as regards quality and shape before providing them in position. Brass and anodized aluminum fixtures and fastenings shall be bright finished.

Screws, nails, bolts will be of brass or other no corrosive metal. In hardware, they will match the finish of the hardware item. Nails, in a finished surface shall be neatly punched and the hole filled with wood filler matching the finish. Screws in a finished surface will be round head, raised head or sunk beneath the surfaces and the hole plugged with a wood plug with matching color and grain of the wood surface as directed.

S.S. fittings should be proper polish finished.

Screws, nails, bolts, will be of brass or non-corrosive metal. In hardware, they will match with the hardware items.

Nails, in a finished surface shall be neatly punched and the holes filled with wood filler matching the finish. Screws, in a finished surface will be round head, raised head or sunk beneath the surfaces and the hole plugged with a wood plug

with matching color and grain of the wood surface, unless especially detailed

Hardware:

Hinges, locks, latches, door tracks etc. shall be as specified and as far as possible, by the manufacturer specified. In any variation of this quality of the substitute shall be equal to or better than the original specified, and the samples shall be submitted to the architect for prior approval.

Hardware and metals:

The hardware throughout shall be of approved brand and supply well made and equal in every respect to the samples deposited with the architect. The contractor may be required to produce and provide samples many different sources before the architect is able to make the decision and he should allow in his rates for doing so.

Fittings generally shall have a brass finish or powder coated finish unless otherwise specified and should be suitable for their intended purposes.

Screws are to match the finish of the article to be fixed and to be rounded or flat headed or counter sunk as required.

Cover up and protect at the brass or powder coated surfaces with a thick grease or other suitable material, renew as necessary and subsequently clean off and clear away on completion

All steel, brass, bronze, aluminum and stainless steel articles shall be submitted to a reasonable test for strength. If so required by the architect at the contractors expenses.

Glass:

All glass shall be of best quality, free from flaws, specks, bubbles, veins, smokes, air holes blisters and other defects. The thickness and kind of glass to be used shall be as mentioned in the item or as shown in detailed drawing. The thickness of glass panel shall be uniform. All glass shall be of approved make by the architect and conforming to is 3548.

All glass shall be float glass of the best quality, free from specks, bubbles, smokes, veins, air holes, blisters and other defects. The kind of glass to be used shall be as mentioned in the item or specification or in the special provisions or as shown in detailed drawings thickness of glass panel shall be uniform. All glass to be approved manufacture complying with is: 3548-1966 or as per approved quality and sample.

The compound for glazing to metal is to be special non-hardening compound manufacture for the purpose and of 9 brands and quality approved the interior designer.

In cutting glass, proper allowance shall be made for expansion. Each square of glazing to be in one whole sheet and after cutting the edges to be properly filled.

On completion, clean all glass inside and out, replace all cracked scratched or broken panes and leave in good condition to the satisfaction of the architect.

The contractor shall furnish all labor, materials, and equipments required for the installation of glass and glazing items.

The glass shall be of the type, quality and substance specificity in the bills of quantities.

In case of the glass being supplied by the owners, the contractor shall take the delivery of the glass at site and shall be responsible for proper handling and stacking. We shall insure glass against theft, fire, etc.

The contractor shall replace at his own expense all broken, damaged or disfigured glass caused in the execution of the work of faulty installation, before the virtual completion of the work.

Patterned or translucent glass shall be 4 mm. In thickness and shall be approved by the architects. Sheet glass shall be

in 5 mm. In thickness. Wired glass shall be 6 mm. In thickness.

The putty used for glazing metal door, window or ventilator shall conform to I.S. 420:1953.

Before installation of the glass, the contractor shall ensure against the following:

All glazing rebates shall be square, putty, true in plane, clear, dry and free of dust. The frames shall be adjusted before glazing. The weight of the glass in side hung casement causes it to drop slightly on its hinges. Before glazing it shall be set in slightly high position in its frame. Glass edges shall be clean and cut to the exact size, chipped or damaged edges shall be rejected. Sashes shall be glazing in the closed position and shall not be open till the putty is set.

The glass shall be set in teak wood beading or metal glazing chips and so installed to achieve water lightness.

The platter glass shall be bedded on strips of leather or felt turned over the two sides of the glass to form packing between the glass and the metal coating. The ground glass shall be getting with smooth surface outside.

Glazing large panes of glass, or when heavy wind pressure is experienced, glazing bead may be used instead of front putty. In this case putty shall be applied to the face of the bead, which is in contact with glass. Putty would also be necessary, at the back.

Beads shall be of timber, rustproof steel or aluminum and shall have mitered corners. The position and size of the bead may depend on the thickness of glass used. The beads shall be fixed with screws 0" apart.

On completion of the job, all glass shall be thoroughly cleaned. All paint or other marks to be removed.

## GENERAL TECHNICAL SPECIFICATIONS FOR BUILDING WORKS

### GENERAL

1. In the specifications, "as directed /" Approved" shall be taken to mean "as directed"/"approved" by the Architect/Engineer-in charge
2. Wherever a reference to any India Standard appears in the specifications, t shall be taken to mean as a referenced to the latest edition of the same in force on the date of agreement.
3. In "Mode of Measurement" in the specification wherever a depute arises in the absence of specific mention of a particular point or aspect, the provisions on these particular points, or aspects in the relevant India Standards shall be referred to.
4. All measurements and computations, unless otherwise specified, shall be carried out nearest to the following limits:
  - (i)Length, width and depth (height) ----- 0.01 Meter
  - (ii)Areas ----- 0.01 Sq.Mt
  - (iii)Cubic Contents ----- 0.01 Cu.Mt.
5. The distances which constitutes lead shall be determined along the shortest partials route and not necessarily the route actually taken. The decision of the Engineer-in-charge in this regard shall be taken as final
6. Where do lead is specified, t shall mean "all leads"
7. Lift shall be measured from plinth level.
8. Up to "floor two levels" means actual height of floor (Maxi. 4 M) up to 3 Mt. above plinth level
9. Definite particulars covered in the items of work, though not mentioned or elucidated in it, specification shall be deemed to be included therein
10. Reference to specification of materials as made in the detailed specification of the items of work in the form of a designation containing the number of the specification of the material and prefix 'M' e.g., 'M-5'
- 11.Approval to the samples of various materials given by the Engineer-in-charge shall not be absolve the contractor from the responsibility of replacing defective material brought on site or materials used in the work found defective at a later date. The contractor shall have no claim to any payment or compensation whatsoever on account of any such materials being rejected by the Engineer-in-charge.
12. The contract rate of the item of work shall be for the work completed in all respects.
13. No collection of materials shall be made before it is got approved from the Engineer-in-charge.
14. Collection of approved materials shall be done at site of work in a systematic manner. Materials shall be stored in such a manner as to prevent damage, deterioration or intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work.
15. Materials, if and when rejected by the Engineer-in-charge, shall be immediately removed from the site of work.
16. No materials shall be stored prior to, during and after execution of a structure in such a way as to cause or lead to damage or overloading of the various components of the structure.
17. All works shall be carried out in a workmanlike manner as per the best techniques for the particular item
18. All tools, templates, machinery and equipment for correct execution of the sock as well as for checking lines, levels alignment of the works during execution shall be kept in sufficient numbers and in good working condition on the site of the work.
19. The mode, procedure and manner of execution shall be such that it does not cause damage or over loading of the various components of the structure during execution or after completion of the structure.
- 20.Special modes of construction not adopted in general Engineering practice, if proposed to be adopted by the Contractor, shall be considered only if the contractor and completion of work to the required strength and quality. Acceptance of the same by the Engineer-in-charge shall not, however, absolve the contractor of the responsibility of any adverse effected and consequences of adopting the same in the course of execution of the work.
21. All installation pertaining to water supply and fixtures thereof as well as drainage lines and sanitary fittings shall be deemed to be completed only after giving satisfactory tests by the Contractor.
22. He contractor shall be responsible for observing the rules and regulations imposed under "Minor Minerals Act", and such other laws and rules prescribed by Government from time to time.
23. All necessary safety measures and precaution (including those laid down in the various relevant Indian Standards) shall be taken to ensure the safety of men, materials and machinery on the works as also of the work itself.
24. The testing charges of all materials shall be borne by the Contractor unless recovery at one percent towards using charges is separately made.

25. Approval to any of the executed items for the work does not in any way relieve the contractor of his responsibility for the correctness, soundness and strength of the structure as per the drawings and specification.

## 8.00 TECHNICAL SPECIFICATIONS FOR PLASTERING WORK

### 8.1 – 12MM Gypsum Plaster:

#### Scope of Work:

This shall include providing and laying average 12 mm thick single coat gypsum plaster to desired line, level and plumb. Gypsum plaster will be a premixed formulated gypsum lightweight plaster (Gyproc or equivalent) having additives and light weight aggregates as vermiculite / perlite respectively. Gyproc Plasters can be applied directly to brick walls, concrete blocks, or RCC surfaces as per manufacturer's specification. The RCC surfaces should be hacked or use of a bonding agent is recommended. The surfaces should not have paint, oil, dust, dirt or any other material that might prevent the development of proper bond.

Scaffolding: Double scaffolding independent of the work having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed.

Preparation of Surface: As specified above under item no. 7.01.

#### Materials:

Premixed light weight plasters of approved make and shade shall essentially consist of retarded hemihydrates gypsum plaster and light weight aggregate which are characterized by low density, high thermal insulation and sound absorption properties. Other additions may be incorporated to impart desired properties. The physical and chemical requirements shall conform to IS 2547 (Pt. II).

The minimum recommended water-premixed plaster ratio is 1:2 as per standard practice or as recommended by the manufacturers.

#### Application of Plaster:

Ceiling plaster shall be completed before commencement of wall plaster.

Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15 × 15 cm shall be first applied, horizontally and vertically, at not more than 2 meters intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall then be laid on the wall, between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface, by working a wooden straight edge reaching across the gauges, with small upward and sideways movements at a time. Finally, the surface shall be finished off true with trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive trowel or over working the float shall be avoided. Contractor may follow the application procedure as mentioned by the manufacturer, after prior approval from the Architect / Engineer-in-charge.

All corners, arises, angles and junctions shall be truly vertical or horizontal as the case may be and shall be carefully finished. Rounding or chamfering corners, arises, provision of grooves at junctions etc. where required shall be done without any extra payment. Such rounding, chamfering or grooving shall be carried out with proper templates or battens to the sizes required. When suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically. When recommencing the plastering, the edge of the old work shall be scrapped cleaned and wetted with cement slurry before plaster is applied to the adjacent areas, to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of wall and not nearer than 15 cm to any corners or arises. It shall not be closed on the body of the features such as plasters, bands and cornices, nor at the corners of arises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakages. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar. No portion of the surface shall be left out initially to be patched up later on.

The plaster application may be done as recommended by the manufacturer.

Finish: The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required.

The work shall be tested frequently as the work proceeds with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as



the work proceeds.

Mode of Measurement: As specified above under item no. 7.01.

Rate: Rate shall include the cost of all cleaning, surface preparation, labor, material, fixing chicken mesh, scaffolding, curing, finishing etc., involved in all the operations described above for all heights and levels.

#### 8.2 – 8MM TO 10MM CEMENT PLASTER:

Scope of work:

This shall include providing and laying single coat average 08 to 10 mm thick cement plaster 1:4 (1 cement: 4 coarse sand) on ceilings. The junctions of RCC and masonry shall be fixed with chicken mesh with a minimum overlap of 100 mm in all directions and curing complete.

All other specifications shall be as specified above.

#### 8.3 – 18MM CEMENT PLASTER INCLUDING WATERPROOFING COMPOUND ON EXTERNAL SURFACES:

Scope of work:

This shall include providing and laying double coat average 18 mm thick comprising first layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and top layer 6mm thick cement plaster (1 cement: 3 coarse sand) with approved waterproofing compound (Sikka / Dr. Fixit / BASF or equivalent) @ 2%, by weight of cement on external wall surfaces or facades. The junctions of RCC and masonry shall be fixed with chicken mesh with a minimum overlap of 100 mm in all directions and curing complete.

The fineness modulus of the sand shall not be less than 2.5 mm.

Sand for Plaster- Sand shall consist of natural sand, crushed stone sand or crushed gravel sand or a combination of any of these. Sand shall be hard durable, clean and free from adherent coating and organic matter and shall not contain the amount of clay, silt and fine dust more than as specified in relevant Indian standards.

#### Water Proofing Compound

Integral cement water proofing compound conforming to IS 2645 and of approved brand and manufacture, enlisted by the Engineer-in-Charge shall be used.

Where so specified, water proofing material of approved quality shall be added to the mixture in accordance with the manufacturer's specification stating the quantity of water proofing material in liters or kg per 50 kg of cement.

Appearance - Opaque liquid

Density @20 degree Celsius: 1.05 +/- 0.02 kg/ltr

pH: alkali

Chloride: nil

Storage: 24 months when kept unopened and away from frost.

Areas of Application:

External masonry walls, parapet walls, all shafts inner side etc.

#### Features & Benefits:

Corrosion - Chloride-free hence no chances of corrosion of reinforcement bars. Water seepage - As an effective pore filler, helps to fill capillaries and pores to prevent water seepage.

Consistency - Makes the mix cohesive and denser, hence the concrete & plaster has reduced permeability.

Setting & strength - Does not affect the setting time and strength. Of the cured concrete.

Compatibility – Compatible with all types & grades of cements.

Method of Application:

Hand mixing of mortar not allowed, else otherwise specified and prior approval of Architect / Engineer-in-charge.

Machine Mixing: Charge the Cement & sand as per the mix design into concrete mixer & mix for one minute. Add dosage of liquid waterproofing compound for every 50 kg bag of cement & mix for one minute.

Add the measured quantity of potable water as per W/C ratio and mix for 2-3 minutes to a lumps free homogeneous concrete. Place the mixed cement mortar to the locations as specified. For exterior plasters procedure is to be carried from top to ground level.

Cure the concrete / mortar surface as per regular practices of water curing.

Health & Safety Precautions

Use rubber hand gloves & safety goggles, while using Powder Waterproof.

In case of contact with skin, wash with plenty of water.

Keep out of reach of children.

The contractor shall bring the materials to the site in their original packing. The containers will be opened and the material mixed with dry cement in the proportion by weight, recommended by the manufacturers or as specifically described in the description of the item. Care shall be taken in mixing, to see that the water proofing material gets well and integrally mixed with tied from the cement and does not run out separately when water is added.

Mode of Measurement:

Length and breadth shall be measured correct to a cm and its area shall be calculated in square meters correct to two places of decimal.

The measurement of wall plaster shall be taken between the walls or partitions (the dimensions before the plaster shall be taken) for the length and from the top of the floor or skirting to the ceiling for the height. Depth of coves or cornices if any shall be deducted.

Deductions in measurements, for opening etc. will be regulated as follows: 1) No deduction will be made for openings or ends of joists, beams, posts, girders, steps etc. up to 0.5 sqm in area and no additions shall be made either, for the jambs, 2) soffits and sills of such openings. The above procedure will apply to both faces of wall. 3) Deduction for opening exceeding 0.5 sqm but not exceeding 3 sqm each shall be made for reveals, jambs, soffits sills, sills, etc. of these openings. When both faces of walls are plastered with same plaster, deductions shall be made for one face only. 4) When two faces of walls are plastered with different types of plaster or if one face is plastered and other is pointed or one face is plastered and other is un-plastered, deduction shall be made from the plaster or pointing on the side of the frame for the doors, windows etc. on which width of reveals is less than that on the other side but no deduction shall be made on the other side. Where width of reveals on both faces of wall is equal, deduction of 50% of area of opening on each face shall be made from area of plaster and/or pointing as the case may be. (iii) For opening having door frame equal to or projecting beyond thickness of wall, full deduction for opening shall be made from each plastered face of wall. For opening exceeding 3 sqm in area, deduction will be made in the measurements for the full opening of the wall treatment on both faces, while at the same time, jambs, sills and soffits will be measured for payment.

Rate: The rate shall include the cost of all cleaning, surface preparation, labor, material, scaffolding, curing, finishing etc., involved in all the operations described above.

BOQ SPECIFIED ITEMS:

## 11. TECHNICAL SPECIFICATIONS FOR PAINTING WORKS

Scope of work:

These specifications cover the minimum requirements of all material, paint, equipment, consumables, utilities, application including all labor, supervision, inspection and test of performance of all operations and incidentals necessary for painting of walls, finished plaster surfaces, columns, ceilings, lift shafts, service shafts, pipelines, steel structures, buildings etc. as per detailed specifications given below.

Materials:

All materials shall be the best of their kind and of approved manufacture for each item. Painting materials such as shellac, thinner, oils, driers, rollers, brushes, etc. shall be of the best approved quality and type. If for any reason, thinning is necessary in case of ready mixed paint, the brand of thinner recommended by the manufacturer or as instructed by Engineer shall be used.

Sealed Containers:

Approved paints, oils or varnishes shall be brought to the site of work by the Contractor in their original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The empty containers shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the Engineer –in charge.

### Storage

All materials shall be stored in a neat and orderly fashion in one single clean space. Care shall be taken to maintain this place as clean and dust-free as possible.

### Precaution against fire

Paints and thinners leave vapors which are inflammable. Hence, adequate precautions shall be taken in the form of screens, covers etc. against fire while storing, painting, mixing of painting work is in progress.

### Specialized Workmen:

All work shall be done by the specialized skilled workmen experienced in the trade. The contractor shall engage only skilled workmen for painting work. The application of paint on Tanks surface shall be made strictly by airless spray gun. The application of paint can be made by brush in case of inaccessible area or paint application area is small. The brushes used shall be of best quality suitable for painting.

### Work as per Manufacturer's Instructions:

All work shall be done strictly as per this specification and manufacturer's printed instructions.

### Scaffolding:

1. Scaffolding has to be in steel, arranged by the contractor at his own cost for carrying out entire painting jobs at all height and provide all facilities for proper inspection of surface at various stages. Material has to be erected as per safe methods. Ropes and guy wires shall be used for tying etc. Stage scaffolding to be used and shall not endanger the painter. Scaffolding shall be sufficiently away from the tank shell/ surface to be painted so as to enable the painter to work with ease. The scaffolding shall be removed by the contractor promptly after completion of the work.
2. Ladders are not allowed to be used for the painting works.

### Protective measures:

Doors, windows, floors, articles of furniture etc. and such other parts of the building not to be white washed, shall be protected from being splashed upon. Splashing and droppings, if any shall be removed by the contractor at his own cost and the surfaces cleaned. Damages if any to furniture or fittings and fixtures shall be recoverable from the contractor.

### Finished Surface to the Architect / Engineer's Satisfaction:

All finished surface shall be required texture (smooth, rough or any other) and of even shade to the satisfaction of Architect /PMC.

### Protection:

All work done shall be thoroughly protected from damage at all times by suitable methods. All other adjacent work or materials not received the finish at that time shall also be thoroughly protected by suitable canvas or paper covering or by other approved method.

### Damages to be made good:

Any damage or disfigurement of other works shall be immediately made good. All paint and varnish spots and other stains shall be thoroughly and carefully removed from all floors, doors, windows, fittings, furniture, glass, hardware and all other surfaces required, by approved paint removers and the places left clean and tidy to the satisfaction of Architect /PMC

### Preparation of surface:

Before painting, the surface shall be cleaned thoroughly leaving it free of all scales, rust, grease, oil coating, moisture and other matter. Any protrusions of weld metal etc. shall be ground by grinding machine to get smooth surface. Heavy deposits of grease and oily material if any shall be removed by a suitable solvent wash before painting. All loose places and scales shall be removed by scrapping. Surfaces shall be thoroughly, sand-papered to a smooth finish. Further preparation work shall be done as specified under different types of finishes. Before starting painting, all floors shall be washed clean and wiped dry.

#### Commencing Work:

Intimation before Starting: No work under this section shall start without approval from Architect /PMC. Painting shall not be started until Engineer has inspected the items of work to be painted, satisfied himself about their quality and given his approval to commence the painting work. Painting of external surface should not be done in adverse weather condition. Painting except the priming coat, shall generally be taken in hand after practically finishing all other builder's work. The rooms should be thoroughly swept out and the entire building cleaned up, at least one day in advance of the paint work being started.

Samples: Before starting work under this section large size samples of all work shall be prepared by the Contractor for approval. Only after specific approval has been given to the samples, work shall commence. The actual work done shall be done as per the approved samples.

#### Application:

The number of coats including the undercoat shall be as stipulated in the item.

#### Undercoat:

One coat of the specified paint of shade suited to the shade of the top coat shall, be applied and allowed to dry overnight. It shall be rubbed next day with the finest grade of wet abrasive paper to ensure a smooth and even surface, free from brush marks and all loose particles dusted off.

#### Top Coat:

Top coats of specified paint of the desired shade shall be applied after the undercoat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure properly uniform glossy surface.

#### Measurements:

Length and breadth shall be measured correct to a cm. and area shall be calculated in Sq.mt. correct to two places of decimals.

The measurement shall be taken between the walls or partitions (the dimensions before the painting shall be taken) for the length and from the top of the floor or skirting to the false ceiling for the height.

Exterior painting at a height greater than 10 m from average ground level shall be measured separately in each storey height.

Deductions in measurements, for opening etc. will be regulated as follows:

No deduction will be made for openings or ends of joists, beams, posts, girders, steps etc. up to 0.5 sqm in area and no additions shall be made either, for the jambs, soffits and sills of such openings. The above procedure will apply to both faces of wall.

Deduction for opening exceeding 0.5 sqm but not exceeding 3 sqm each shall be made for reveals, jambs, soffits sills, sills, etc. of these openings.

When both faces of walls are painted with same paint, deductions shall be made for one face only.

When two faces of walls are painted with different types of paint or if one face is painted and other is pointed or one face is painted and other is not painted, deduction shall be made from the paint or pointing on the side of the frame for the doors, windows etc. on which width of reveals is less than that on the other side but no deduction shall be made on the other side. Where width of reveals on both faces of wall are equal, deduction of 50% of area of opening on each face shall be made from area of paint and/or pointing as the case may be.

For opening having door frame equal to or projecting beyond thickness of wall, full deduction for opening shall be made from each painted face of wall.

For opening exceeding 3 sqm in area, deduction will be made in the measurements for the full opening of the wall treatment on both faces, while at the same time, jambs, sills and soffits will be measured for payment.

In measuring jambs, sills and soffits, deduction shall not be made for the area in contact with the frame of doors, windows etc.

Corrugated surfaces shall be measured flat as fixed and the area so measured shall be increased by the following percentages to allow for the girthed area. Corrugated non-asbestos cement sheet 20% Semi corrugated non-asbestos cement sheet 10%

Cornices and other such wall or ceiling features, shall be measured along the girth and included in the measurements. The number of coats of each treatment shall be stated. The item shall include removing nails, making good holes, cracks, patches etc. not exceeding 50 sq. cm. each with material similar in composition to the surface to be prepared.

**Rate:**

The rate shall include the cost of all materials, labor, scaffolding, curing, polishing, finishing etc. involved in all the operations described above.

**11.1 Acrylic Emulsion – Interior grade**

**Scope of work:**

This includes providing and applying 02 or more coats of water based 100% Acrylic emulsion paint of approved make and shade, Interior grade to all walls, columns, ceilings, finished plaster surfaces on locations as per drawings or as per directions of Architect / Engineer in charge. Contractor shall follow general specifications as specified above.

**Material:**

The paint shall be Acrylic Emulsion smooth paint/premium acrylic smooth (interior grade) of approved make and color. This paint shall be brought to the site of work by the contractor in its original containers in sealed condition.

**Preparation of Surface:** Before painting, the surface shall be cleaned thoroughly leaving it free of all scales, rust, grease, oil coating, moisture and other matter. Any protrusions of weld metal etc. shall be ground by grinding machine to get smooth surface. Heavy deposits of grease and oily material if any shall be removed by a suitable solvent wash before painting. All loose places and scales shall be removed by scrapping. Surfaces shall be thoroughly, sand-papered to a smooth finish. Further preparation work shall be done as specified under different types of finishes. Before starting painting, all floors shall be washed clean and wiped dry.

**Application:**

**Base Coat:** The surface shall be thoroughly cleaned of dust, old white or color wash by washing and scrubbing. The surface shall then be allowed to dry for at least 48 hours. It shall then be sand papered to give a smooth and even surface. Any unevenness shall be made good by applying putty, as approved, on the entire surface including filling up the undulations and then sand papering the same after it is dry.

**Primer:** The primer to be used for the painting with acrylic emulsion on cement concrete surfaces, plastered surfaces, A.C. sheets, timber and metal surfaces, if necessary, shall be of approved base and as per recommendations of the manufacturers.

**Putty:** Plaster filler to be used for filling up (putting) uneven surfaces, small cracks and holes etc. shall be of approved compound and as per recommendations of the manufacturers. No oil-based putty shall be used. The putty should be made from a mixture of whiting and plastic emulsion paint or as per manufacturers recommendations.

**Finishing Coats:** All the finishing coats shall be of matt finish or any other finish as required by the Architects. The number of finishing coats shall be as specified in the item

Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its container, when applying also the paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform. Dilution ratio of paint with potable water can be altered taking into consideration the nature of surface climate and as per recommended dilution given by manufacturer. In all cases, the manufacturer's instructions & directions of the Engineer-in-charge shall be followed meticulously. The lids of paint drums shall be kept tightly closed when not in use as by exposure to atmosphere the paint may thicken and also be kept safe from dust.

Paint shall be applied with a roller / brush on the cleaned and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks.

The specifications in respect of scaffolding, protective measures, measurements and rate shall be as described above in

general specifications.

#### 11.2 Apex exterior paint.

The general specifications shall be same as mentioned in the item 10.02, and above, except that the paint used will be exterior emulsion paint of required shade (Protek of Asian make).

### 12. Technical Specifications for Steel Works

#### 12.1/12.2 /12.4 Fabrication work in Steel for MS grills, Collapsible gates and MS stair ladder

##### Scope of Work:

The work covered by this specification consists of supplying, fabricating, assembling, and fixing in position of structural steel in grating, frames, guard bar, ladders, brackets, gates etc. complete in strict accordance with these specifications and the applicable drawings.

**Materials:** All structural steel shall be of standard sections as marked on the drawing's and shall be free of scale, blisters, laminations, cracked edges and defects of any sort. All structural steel and electrodes shall comply in all respects with relevant I.S. codes.

##### Workmanship:

All workmanship shall be of first-class quality in every respect to get greatest accuracy to ensure that all parts will fit together properly on erection. All ends shall be cut true to planes. They must fit the abutting surfaces closely. All stiffeners shall fit tightly at both ends. All holes in plates and section between 12mm and 20 mm thick shall be punched to such diameter that 3mm of metal is left all around the hole to be cleaned out to correct size by reamer. The base connection shall be provided as shown on drawings and the greatest accuracy of workmanship shall be ensured to provide the best connections. Figured dimensions on the drawings shall be taken.

##### Shop Drawing:

The shop drawings of structural steel based on contract drawings shall be submitted to the Engineer-in-charge. The necessary information for fabrication, erection, painting of structure etc. must be furnished immediately after acceptance of the Architect / Engineer in charge.

##### Painting:

Providing and applying Epoxy paint of approved make and desired shade, including the surface preparation (with emery paper 180 and wipe clean) by thoroughly cleaning all dust, dirt, applying red oxide oil primer and applying primer, again sand papering leveling rubbing the surface, to be free from undulation/ waviness, applying 1st coat of Epoxy paint & 2nd coat of Epoxy paint. Painting should be carried out on dry surfaces free from dust, scale etc. The paint shall be approved by the Engineer-in-charge.

##### Welding:

Welding shall be in accordance with IS 816-1969, IS 819-1957, IS 1024-1979, IS1261-1959, IS 1323-1982 and IS 9595-1980 as appropriate. For welding of any particular type of joint, welders shall give evidence of having satisfactory completed appropriate test as described in any of IS 817-1966, IS 1393-1961, IS 7307 (part-I) –1974, IS 7310 (part-I) 1974 and IS 7318 (part-I) 1974 as relevant.

##### Type of Welding:

Arc welding (direct or alternating current) or Oxyacetylene welding may use. Field welding may be used. Field welding shall be by D.C.

**Note:** On any straight weld the first run shall not ordinarily be deposited with a larger gauge electrode than No.8 S.W.G. For subsequent runs the electrode shall not be increased by more than two electrode size between consecutive runs.

Mode of Measurement: All structural steel shall be measured on weight basis in KG as mentioned in the schedule of quantities. The length or areas of various members including gusset plates shall be measured correct to two places of decimals as the net weight worked out from the standard steel tables approved by Indian Standard Institution. No separate measurements shall be taken for welding, riveting, bolting, field connections etc. The rate shall include cost of all labor, materials, scaffolding, transport and also cost of welding, riveting and bolting, field connections if any all to complete the job as per specifications.

### 12.3 Rolling shutters

#### Material:

Rolling shutters shall be in extruded galvanized sections, of approved make, type and finish. These shutters shall be complete with locking arrangements, hoods, guides, pulling devices, springs and other accessories. Wherever specified, mechanical device shall be fixed for easy operation of the shutters. Metal rolling shutters should conform to IS:6248. Rolling shutter shall be gear operated. Gear operated shutters are provided with reduction gear operated by mechanical device with chain, crank, shaft and handle.

#### GI Sections:

GI sheets and plates used for manufacturing the guide channels, brackets and lock plate should be of hot rolled steel of thickness not less than 18 gauge confirming to IS: 5986. These shall be free from surface defects and the edges shall be cleanly sheared. All components of rolling shutter to be hot dip galvanized with a zinc coating containing not less than 97.5% pure zinc. The minimum weight of zinc coating to be 230g/Sq.mt. The coating shall be free from flaking/peeling.

#### Steel Pipe:

GI pipes used for the suspension shaft of the roller should be heavy duty pipe suitable for mechanical purposes and shall conform to IS:1161.

#### Springs:

The springs shall be, preferably of coiled type. The spring steel wire used or helical spring should conform to Grade 2 of IS:4454. Flat spring steel strip used for spiral spring shall be from 0.8 to 1.0 percent carbon steel strip especially hardened and tempered. The spring shall be manufactured from high tensile spring steel wire or strip of adequate strength to balance the shutters in all positions; the spring pipe shaft etc. shall be supported on strong mild steel brackets.

Both the side guides and bottom rails are joint less and of single piece of pressed steel of minimum 16-gauge thickness.

#### Guide Channels:

The guide channels shall be of mild steel deep channel section and or rolled pressed or built-up, jointless construction. The thickness of the sheet used shall not be less than 3.15 mm. The minimum depth of guide channels shall be 60 mm for clear width of shutters up to 3.5m and 75 mm for 3.5 m and above. The gap between the two legs of the guide channel shall be sufficient to allow the free movement of the curtain and at the same time closes enough to prevent the rattling of the curtain due to wind.

Each guide channel shall be provided with a minimum of three fixing cleats to the walls or columns by means of bolts or screws.

#### Hood Covers:

Hood covers shall be made of M.S. Sheets not less than 1.25 mm thickness.

#### Fixing:

Brackets shall be fixed on the lintel/ beam or under the lintel/ beam as shown with raw plugs, screws, bolts, etc. The shaft along with the spring shall then be fixed to the brackets.

The shutters shall be laid on the ground and the side guide channels shall be bound with it with ropes etc. The shutter shall then be placed in position and top fixed with pipe shaft with bolts and nuts. The side guide channels and the cover frame/shall be then fixed to the walls through the plate welded to the guides. Fixing shall be done accurately in workmen like manner so that the operation of the shutter is easy and smooth. The plates and screws, bolts shall be concealed in

plaster to make their locations invisible.

The rolling shutters shall be of self-rolling type up to 8 sq.m clear area without ball bearing and up to 12 sq.m clear area with ball bearing. If the rolling shutters are larger, then gear operated type shutters shall be used. The locking arrangement shall be provided at the bottom of shutter at both ends. The shutters shall be opened from outside. The shutters shall be completed with door suspension shafts, locking arrangements, pulling hooks, handles and other accessories.

**Grilled Curtain:**

Wherever specified rolling shutter shall be provided with grill curtain.

**Finishing:**

The rolling shutter together with guide channel, cover and accessories shall be supplied with one coats of approved primer and shall be painted finally with two coats of approved epoxy paint at site after installation, as specified.

**Mode of Measurement:**

The rolling shutter is measured in terms of area in square meter, the payable area shall be obtained from the net opening for which the rolling shutter has been provided.

**Rates:**

The rate shall include the cost of all materials, hardware, labor, scaffolding, fixing, painting, etc. involved in all the operations described above.

### 13 TECHNICAL SPECIFICATIONS FOR DOORS AND WINDOWS

**Scope of work:**

The work covered under this specification consists of providing and fixing in position the different types of doors as specified in the item / as per design and detailed drawings. The doors are to be framed & finished as required, along with the accessories and hardware fittings to be installed in the same.

**Frames:**

The frames shall be wrought, framed and fixed in position as per detailed drawings and as directed by Engineer. It shall be sawn in the direction of the grains. Sawing shall be truly straight and square. The scantling shall be planed smooth and accurate to the full dimensions with rebates, rounding, and moldings as shown in the drawings made, before assembling. Patch work or plugging of any kind shall not be permitted except as provided. Tolerance of +2/3 mm shall be allowed in the finished cross dimensions of door and window frames. The maximum permissible limits for moisture content shall conform to IS 287-1973. Wood shall be drawn which are representative of the lot in dimension, quality and moisture content.

**Joints:** These shall be of mortise and tenon type, simple, neat and strong. Mortise and tenon joints shall fit in fully and accurately without wedging or filling. The joints shall be glued with approved adhesive, framed, put together and pinned with hardwood or bamboo pins not less than 10 mm dia., after the frames are put together pressed in position by means of a press.

**Surface Treatment:**

Wood work shall not be painted, oiled or otherwise treated before it has been approved by Engineer. All portions of timber abutting against masonry or concrete or bedded in ground shall be painted with approved bit mastic paint or with boiling coal tar.

**Fixing in position:**

Before the frames are fixed in position these shall be inspected and passed by Engineer. The frame shall be placed in proper position, and secured to walls or columns as the case may be with metallic fastener; iron hold fasts as shown in drawing or as directed by Engineer. These sills shall be embedded sunk in the floor to its full depth. The doorframes without sills, while being placed in position, shall be suitably strutted and wedged in order to prevent warping during construction. The frames shall also be protected from damage, during construction.



Opening for Glazing: When required, opening for glazing shall be provided and unless otherwise specified the opening for glazing shall be 250 mm in height and 150 mm or 200 mm in width unless directed otherwise. The bottom of the opening shall be at a height of 1.4 m from the bottom of the shutter. Opening for glazing shall be lipped internally with wooden batten of width not less than 25 mm. Opening for glazing shall be provided where specified or shown in the drawing.

Venetian Opening:

Where specified the height of the venetian opening shall be 350 mm from the bottom of the shutter. The width of the opening shall be as directed but shall provide for a clear space of 75 mm between the edge of the door and venetian opening but in no case the opening shall extend beyond the stiles of the shutter. The top edge of the opening shall be lipped internally with wooden battens of width not less than 25 mm. Venetian opening shall be provided where specified or shown in the drawing.

Tolerance:

Tolerance on width and height shall be + 3 mm and tolerance on nominal thickness shall be  $\pm 1.2$  mm. The thickness of the door shutter shall be uniform throughout with a permissible variation of not more than 0.8 mm when measured at any two points.

Adhesive:

Adhesive used for bonding various components of flush door shutters namely, core, core frame, lipping, cross-bands, face veneers, plywood etc. and for bonding plywood shall conform to BWP type, phenol formaldehyde synthetic resin adhesive.

Manufacturer Testing Certificate (MTC)

All the materials received at site shall have MTC for evaluation of testing and acceptance criteria. Material without MTC shall not be allowed for fixing.

Fittings:

Details of fittings to be provided shall be as per the schedule of fittings shown in the drawings. All fittings shall be heavy duty of approved make.

The fixing material of all the hardware e.g., screw, nuts & bolts shall be used as per manufacturer's specifications.

Fixing with Screws and Plugs:

In RCC work where lugs cannot be embedded due to reinforcement bars etc. rawl plugs or other approved of metallic fasteners such as Dash Fasteners of the required size and type as approved shall be used to fix the frame and doors.

Measurements:

Length and width of the shutters shall be measured to the nearest cm in closed position covering the rebates of the frames but excluding the gap between the shutter and the frame. Overlap of two shutters shall not be measured. All work shall be measured net as fixed and area calculated in square meters to nearest two places of decimal. No deduction shall be made for providing venetian opening and opening for glazing.

Rates: The rate shall include the cost of all materials, hardware, labor, scaffolding, fixing, polishing, chasing, nosing etc. involved in all the operations described above.

### 13.1 ALUMINIUM CASEMENT/SLIDING TYPE WINDOWS:

Scope of work:

Providing and fixing factory made colored anodized aluminum two track sliding windows with 4mm/5mm thick clear glass. The outer frame should be heavy suitable size sections with tracks on all the sides & drain tray system for the bottom frame. The shutters should be of suitable for series - B (Shutter section - 18 mm) heavy (approx. 1.5 mm thick) sections for top & bottom member & for vertical with 5 mm. thk. Tinted reflective float glass & imported beading shall be

used. Windows will have all req. Hardware such as Maruti locks cum handles, sliding system wool gasket etc. Silicon sealant shall be applied on external & internal sides of the windows. The entire window shall be finished in color anodized (20 microns) of the suggested shade. The windows will have necessary provision in case of window ac units with required additional member with wood in-filled. All work shall be completed as per instructions of Architect/ Engineer in charge.

Mode of Measurement: It is measured in terms of area in square meter, the payable area shall be obtained from the net opening for which the casement/sliding door / window has been provided.

Rates: The rate shall include the cost of all materials, hardware, labour, scaffolding, fixing etc. involved in all the operations described above.

### 13.2 Aluminum Ventilators

Scope of work: The work covered under this specification consists of providing and fixing in position powder coated aluminum (Jindal make) ventilator of size as suggested for toilets. The outer frame should be made out of 2 1/2" x 1 1/2" aluminum sections of minimum 1.8 mm thick sections. One portion of ventilation should have 4 mm thick figure glass in fixed type louvers in aluminum framework by using hard PVC on fixed by means of screws. The other division will have provision for exhaust fan.

### 13.3 Flush Door – Single Leaf

Scope of work: The work covered under this specification consists of providing and fixing in position 30mm thick solid core phenol bonded single leaf flush door (over granite door jambs/ frames) finished with 1mm thick laminate on both sides along with all accessories and hardware fittings to be installed in the same on the locations as specified in detailed drawings.

Material:

30mm thick solid core phenol bonded flush door.

Finishing to be done with 1mm thick laminate on both sides as per design and combination of approved make and shade.

CPTW Lipping 33x6mm.

Vision panel – Will be of required size, as per the drawings by 6mm clear glass.

SS Matt finish butt door Hinges-4 Nos, 100mmX25mmX4mm.

Door closer -Hafele DCL 15 Startech with standard arm Product Code-931.84.629 or Equivalent.

Handle- SS matt Finish 19mm dia.200mm long handle.

The specifications in respect of Joints, Surface treatment, adhesives, Polishing and finishing, mode of measurement and rates shall be as described above in general specifications.

## 14.0 SPECIFICATIONS FOR PLUMBING DRAINAGE & SANITARYWARE

### SCOPE OF WORK

Work under this section shall consist of furnishing all materials & labour necessary and required to completely install all sanitary fixtures, chromium plated fittings and accessories as required by the drawings specified hereinafter and given in the Bill of Quantities.

Without restricting to the generality of the foregoing the sanitary fixtures shall include the following: -

Sanitary fixtures

Chromium plated fittings

Porcelain or stainless-steel sinks

Accessories e.g., towel rails, toilet paper holders, coat hooks etc.

Whether specifically mentioned or not, all fixtures and appliances shall be provided with all fixing devices, nuts, bolts, screws, hangers as required.

All exposed pipes within toilets and near fixtures shall be chromium plated brass or copper unless otherwise specified.

#### GENERAL REQUIREMENTS

Sanitary fixtures shall be of the best quality approved by the Architect / Consultant / PM / Client. Wherever particular makes are mentioned, the choice of selection shall remain with the Architect / Consultant / PM / Client.

All fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Bill of Quantities, specifications, drawings. Accessories shall include proper fixing arrangement, brackets, nuts, bolts, screws and required connection pieces.

Fixing screws shall be half round head chromium plated brass screws with C.P. washers where necessary.

Contractor shall furnish without cost all such accessories and fixing devices that are necessary and required but not supplied along with the Plumbing Fixtures & CP Fittings by the manufacturers as a part of the original and standard supply.

All fittings and fixtures shall be fixed in a neat workmanlike manner true to level and heights shown on the drawings and in accordance with the manufacturer's recommendations. Care shall be taken to fix all inlet and outlet pipes at correct positions. Faulty locations shall be made good and any damage to the finished floor, tiling or terrace shall be made good at Contractor's cost.

Contractor seal all fixtures fixed near wall, marble and edges. With an approved type of poly- sulphide sealant appropriate for its application.

#### EUROPEAN W.C

European W.C. shall be wash down or siphoned type wall mounted set flushed by means of dual flush Cistern systems which will be an integral part of the wall system. Framework, walling and finishing will not form a part of the contractor's work. Where applicable flush pipe / bend shall be connected to the W.C. by means of a suitable rubber adapter. Wall hung W.C. shall be supported by C.I. floor mounted chair.

Each W.C. set shall be provided with a plastic seat shall be with rubber buffers and chromium plated hinges.

Plastic seat shall be so fixed that it remains absolutely stationary in vertical position without falling down on the W.C. Each W.C. shall be suitable for flushing in low volume of water 5-6 liters.

Flushing Cistern shall be provided with all internal flushing mechanism, 15 mm dia ball cock with unbreakable polythene float and overflow pipe. Any frame work required for fixing cistern has to be provided by the contractor.

#### LAVATORY BASIN

Lavatory basins shall be white glazed vitreous China of size, shape and type specified in the Schedule of Quantities.

Each basin shall be provided with brackets and clips of approved and securely fixed. Placing of basins over the brackets without secure fixing shall not be accepted.

Each basin shall be provided with 32 mm dia. C.P. waste with overflow, pop-up waste or rubber plug and chain as specified in the Bill of Quantities, 32 mm dia. C.P. brass bottle trap with C.P pipe to wall and flange.

Each basin shall be provided with Pillar Tap as specified in the Bill of Quantities.

Basins shall be fixed at proper heights as shown on drawings. If height is not specified, the rim level shall be 79 Cms. or as directed by Engineer-in-charge.

#### SINKS

Sinks shall be white glazed fireclay or vitreous China or stainless steel or any other material as specified in the Bill of Quantities.

Each sink shall be provided with brackets of approved and securely fixed. Counter top sinks shall be fixed with suitable brackets or clips as recommended by the manufacturer. Each sink shall be provided with 40 mm dia. C.P. waste with

chain and plug as given in the Bill of Quantities. Fixing shall be done as directed by Engineer-in-charge. Supply fittings for sinks shall be mixing fittings or C.P. taps as specified in the Bill of Quantities.

#### URINALS

Urinals shall be flat back type white glazed vitreous China of size, shape and type specified in the Bill of Quantities. Bowl urinals shall be provided with 15 mm dia. C.P. spreader, 40mm dia. stainless steel domical waste and C.P. cast brass bottle trap with pipe and wall flange, and shall be fixed to wall by C.I. brackets and C.I. wall clips as recommended by manufacturers complete as directed by Owner's Site Representative. Urinals shall be fixed with C.P. brass screws and shall be provided with 32 mm dia. domical waste leading to urinal's trap. Flush pipes shall be G.I. pipes concealed in wall chase but with chromium plated bends at inlet and outlet or as given in Bill of Quantities. Urinals shall be flushed by means of brass ball valves. Waste pipes for urinals shall be UPVC pipes. Waste pipes may be exposed on wall or concealed in chase as directed by the Specifications.

#### URINAL PARTITIONS

Urinal partitions shall be white glazed vitreous China, marble, granite or any other material selected by the Owner's Site Representative. The same shall be fixed by Contractor executing the finishing work. The exact location shall however be co oriented by the Plumbing Contractor.

Urinal partitions shall be fixed at proper heights with C.P. brass bolts, anchor fasteners and M.S. Clips as recommended by the manufacturer and directed by Owner's Site Representative

#### ACCESSORIES

Contractor shall install all chromium plated and porcelain accessories as shown on the drawings or directed by the Engineer-in-charge.

All C.P. accessories shall be fixed with C.P. brass half round head screws and cup washers in wall with rowel plugs or nylon sleeves and shall include cutting and making good as required or directed by Engineer-in-charge.

Recessed porcelain accessories shall be fixed in walls and set in cement mortar 1:2 (1 cement: 2 coarse sand) and fixed in relation to the tiling work as per Interior Designer's drawings.

#### FINAL INSTALLATION

The contractor shall install all sanitary fixtures and fittings in their position in accordance with approved trial assemblies and as shown on drawings. The installation shall be completed with all supply and waste connections. The connection between building and piping system and the sanitary fixtures shall be through proper unions and flanges to facilitate removal/replacement of sanitary fixtures without disturbing the built-in piping system. All unions and flanges shall match in appearance with other exposed fittings.

Fixtures shall be mounted rigid, plumb and to alignment. The outlets of water closet pans and similar appliances shall be examined to ensure that outlet ends are butting on the receiving pipes before making the joints. It shall be ensured that the receiving pipes are clear of obstruction. When fixtures are being mounted, attention shall be paid to the possibility of movement and settlement by other causes. Overflows shall be made to ensure that the necessary anchoring devices have been provided for supporting water closets, wash basins, sinks and other appliances.

#### PROTECTION AGAINST DAMAGE

The contractor shall take every precaution to protect all sanitary fixtures against damage, misuse, cracking, staining, breakage and pilferage by providing proper wrapping and locking arrangement till the completion of the installation. At the time of handing over, the contractor shall clean, disinfect and polish all the fixtures and fittings. Any fixtures and fittings found damaged, cracked chipped stained or scratched shall be removed and new fixtures and fittings free from

defects shall be installed at his own cost to complete the work.

#### MEASUREMENT

Sanitary fixtures and accessories shall be counted by numbers in the unit given in the Bill of Quantities. Rates for all items shall be inclusive of cutting holes and chases and making good the same, C.P Brass screws, nuts, bolts and any fixing arrangements required and recommended by manufacturers, testing and commissioning.

#### SPECIFICATIONS FOR SOIL, WASTE, VENT & RAINWATER PIPES & FITTINGS

##### SCOPE OF WORK

Work under this section shall consist of furnishing all labor, materials, equipment and appliances necessary and required to completely install all soil, waste, vent rain water pipes and fittings as required by the drawings, and given in the Bill of Quantities.

Without restricting to the generality of the foregoing, the soil, waste, vent pipes system shall include the following: -  
Horizontal soil, waste and vent pipes, and fittings, joints, clamps, connections to fixtures.  
Floor and urinal traps, cleanout plugs, inlet fittings.  
Testing of all pipe lines.

##### GENERAL REQUIREMENTS

All materials shall be new of the best quality conforming to specifications and subject to the approval of Engineer-in-charge.

Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.

Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

Pipes shall be securely fixed to walls and ceilings by suitable clamps intervals specified.

Access doors for fittings and clean outs shall be so located that they are easily accessible for repair and maintenance.

Any access panel required in the civil structure, false ceiling or marble cladding etc. shall be clearly reported to the Owner in the form of shop drawing so that other agencies are instructed to provide the same well in advance.

##### PIPING SYSTEM

###### Schedule of Pipes Use

C.I. IS-3989	For Vertical Stacks.
□ C.I IS-3989	From WC & Floor Trap to
□ uPVC Pipes I.S 4985	Connections from fixtures
□ HDPE/C.I.	to FT. For Rain water
	System

##### SOIL, WASTE & VENT PIPES

The Soil & Waste Pipe System above ground has been planned as a "two pipe system" as defined in IS: 5329 having separate pipes for waste for kitchen sinks, bath tubs, showers, washbasins, condensate drains and floor drains and is approved by Engineer-in-charge.

Vertical soil & waste stacks shall be connected to a horizontal Soil and Waste Pipe as shown on the drawings.

Toilet layouts have been so arranged that the W.C. outlets shall be with "P" trap above ground.

##### JOINTING

The jointing of the pipes to the fittings shall be done as per the manufacturer's instructions /recommendation. The rubber ring socket fittings and pipes shall be jointed as follows:

Clean the outside of the pipe's spigot end and the inside of the ceiling groove of the fitting. Apply the lubricant uniformly

to the spigot end, sealing ring and pass the spigot end into the socket containing sealing ring until fully home. Mark the position of the socket edge with pencil or felt open on the pipe, then withdraw the pipe from the socket by approximately 10 mm. to make the pipe fully fitted to the fitting. The horizontal pipes on the wall shall be fixed with M.S. fabricated clamps with necessary provisions to take care the expansion and contraction in PVC pipes. The spacing of the clamps shall be at the intervals of 1.5 meter to 2 meter depending on the requirement of the supporting arrangements.

#### FIXING

All vertical pipes shall be fixed by Galvanized clamps and galvanized angle brackets truly vertical. Branch pipes shall be connected to the stack at the same angle as that of the fittings. No collars shall be used on vertical stacks. Each stack shall be terminated at top with a cowl (terminal guard).

Horizontal pipes running along ceiling shall be fixed on galvanized structural adjustable clamps of special design shown on the drawings or as directed. Horizontal pipes shall be laid to uniform slope and the clamps adjusted to the proper levels so that the pipes fully rest on them.

Contractor shall provide all sleeves, openings, hangers, inserts during the construction. He shall provide all necessary information to the building Contractor for making such provisions in the structure as necessary. All damages shall be made good to restore the surfaces.

#### CLAMPS

All pipe clamps, supports and hangers shall be galvanized. Factory made pre-fabricated clamps shall be preferred. Contactor may fabricate the clamps of special nature and galvanize them after fabrication but before installation. All nuts, bolts, washers and other fasteners shall be factory galvanized.

Clamps shall be of approved designs and fabricated from M.S. flats (which shall be galvanized after fabrication) of thickness and sizes as per drawings or contractor's shop drawings. Clamps shall be fixed in accordance to manufacturer's details/shop drawings to be submitted by the contractors.

When required to be fixed on RCC columns, walls or beam they shall be fixed with approved type of galvanized expansion anchor fasteners (Dash fasteners) of approved design and size according to load.

Structural clamps e.g., trapeze or cluster hangers shall be fabricated by electro-welding from M.S. Structural members e.g., rods, angles, channels flats as per Contractor's shop drawing shall be galvanized after fabrication. All nuts, bolts and washers shall be galvanized.

Galvanized slotted angle/channel supports on walls shall be provided wherever shown on drawings. Angles/channels shall be of sizes shown on drawings or specified in Bill of Quantities. Angles/channels shall be fixed to brick walls with bolts embedded in cement concrete blocks and to RCC walls with anchor fasteners mentioned above. The spacing of support bolts on support members fixed horizontally shall not exceed 1 m.

#### TRAPS

##### Floor traps

Floor traps where specified shall be siphon type full bore P or S type uPVC/triplus having a minimum 50 mm or more than that which is more deep seal. The trap and waste pipes when buried below ground shall be set and encased in cement concrete blocks firmly supported on firm ground or when installed on a sunken RCC structural slab. The blocks shall be in 1:2:4 mix (1 cement: 2 coarse sands: 4 stone aggregate 20 mm nominal size).

Contractor shall provide all necessary shuttering and centering for the blocks. Size of the block shall be 30x30 CMS of the required depth.

##### Floor Trap inlet

Bath room traps and connections shall ensure free and silent flow of discharging water. Where specified, Contractor shall provide a special type of floor or manhole inlet fitting fabricated from uPVC/triplus pipe without, with one, two or

three inlet sockets welded on side to connect the waste pipe or joint between waste and inlet socket shall be solvent cement. Floor trap inlet and the traps shall be set in cement concrete blocks were varied in floors as specified without extra charge. Floor trap for the shower cubicle shall suit site and as per the approval of Engineer-in-charge.

Floor Trap Grating Floor and urinal traps shall be provided with 100 -150mm square or round Stainless-Steel gratings as approved with frame and rim of approved design and shape or as specified in the Bill of Quantities approved by the Engineer-in-charge.

#### Cleanout Plugs

Clean out plug for Soil, Waste or Rainwater pipes laid under floors shall be provided near pipe junctions bends, tees, "Ys" and on straight runs at such intervals as required as per site conditions. Cleanout plugs shall terminate flush with the floor levels. They shall be threaded and provided with key holes for opening. Cleanout plugs shall be Cast Brass suitable for the Pipe dia. With screwed to a G.I. socket. The socket shall be drip seal to the drain pipes.

#### WASTE PIPE FROM APPLIANCES

Waste pipe from appliances e.g., washbasins, sinks and urinals shall be of uPVC pipes in Toilets, kitchens, pantries, Equipment's and service areas where so required, and as given in the Bill of Quantities or shown on the drawings.

All pipes shall be fixed in gradient towards the connection to stack or drains. Pipes inside all toilets shall be in chase unless otherwise shown on drawings. Where so required and shown on drawings or directed by the Engineer-in-charge.

#### ENCASING IN CEMENT CONCRETE

Encasing of pipes is required to provide stability to the line and prevent its damage during construction.

#### Soil and waste pipes under floor

Pipes lay in sunken slabs and in wall chases (when cut specially for the pipe) shall be encased in cement concrete 1:2:4 mix (1 cement: 2 coarse sands: 4 stone aggregate 12 mm size) 75 mm in bed and all round. When pipes are running well above the structural slab, the encased pipes shall be supported with suitable cement concrete pillars of required height at intervals of 1.8 m.

#### Cutting And Making Good

Contractor shall provide all holes cutouts and chases in structural members necessary and required for the pipe work as building work proceeds. Wherever cutouts, holes are left in the original construction, they shall be made good with cement concrete 1:2:4 (1 cement: 2 coarse sands: 4 stone aggregate 20 mm nominal size) or cement mortar 1:2 (1 cement: 2 coarse sand) and the surface restored as in original condition.

#### Sleeves/ Cut-Outs

Contractor shall utilize all cut out and sleeves provided during construction to prevent breaking. The annular space between the pipe and the sleeve shall be filled up with approved type of fire-retardant sealant. When sleeves are misplaced or inaccurately located contractor shall make the holes in the wall or structural members at his own cost but only with the prior permission of the Engineer-in-charge.

#### TESTING

Testing procedure specified below apply to all soil, waste and vent pipes above ground.

Entire drainage system shall be tested for water tightness and smoke tightness during and after completion of the installation. No portion of the system shall remain untested. PVC pipes and fittings shall be tested for three meters of water head the openings of the pipes shall be sealed for the section to be tested. The water pressure shall be maintained for maximum of one hour. The Engineer shall examine carefully all the joints for leakage. Contractor must have adequate number of expandable rubber bellow plugs, manometers, smoke testing machines, pipe and fitting work test benches and any other equipment necessary and required to conduct the tests.

All materials obtained and used on site must have manufacturer's hydraulic test certificate for each batch of materials used on the site.

#### Measurements

Rates quoted for all items shall be inclusive of all work and items given in the Specifications and Bill of Quantities. Rates are applicable for the work in basements, underground, floors, in shafts at ceiling level area for all depths and building up to 45 m in height.

Rates are inclusive of cutting holes and chases in RCC and masonry work where no sleeves or cut outs have been provided during construction and making good the same.

Rates are inclusive of pre testing, on site testing, of the installations, materials and commissioning of the works.

Pipes (unit of measurement linear meter to the nearest centimeter).

Soil, waste, vent, anti-siphon age, rain water pipes, shall be measured net when fixed correct to a centimeter including all fittings along its finished length.

G.I./C.I./UPVC pipes shall measure per running meter correct to a centimeter for the finished work which shall include fittings e.g., bends, tees, elbows, reducers, crosses, sockets, nipples and nuts. The length shall be taken along center line of the pipes and fittings. All pipes and fittings shall be classified according to their diameter, method of jointing and fixing substance, quality, and finish. The diameters shall be nominal diameter of internal bore. No allowances shall be made for the portions of pipe length entering the sockets of the adjacent pipe or fittings.

All supports required to support the pipes from slab/ceiling/i/c dash fasteners, M.S. structural, slotted angles/channels including support bolts and nuts embedded in masonry walls and hangers etc shall be included in the item rate of pipe including the item of work given below: -

Expandable anchor fasteners

Galvanizing of all supports and hangers

Cutting holes in walls, ceiling of floors and making good, where permitted

Nuts, bolts and washers for fixing and assembling

Wooden/PVC pipe saddles for vertical or horizontal runs

Cement concrete around pipes shall be measured along the center of the pipe line measured per linear meter and include any masonry supports, shuttering and centering cutting complete as described in the relevant specifications.

Fittings (excluding pipe fittings) (Unit of measurement by numbers)

Urinal traps, trap gratings, hoppers, cleanout plugs khurras shall be measured by number per piece and shall include all items described in the relevant Specifications and Bill of Quantities.

## SPECIFICATION FOR WATER SUPPLY SYSTEM

### SCOPE OF WORK

Work under this section consists of furnishing all labor, materials equipment and appliances necessary and required to completely install the water supply system as required by the drawings, specified hereinafter and given in the Bill of Quantities.

Without restricting to the generality of the foregoing, the water supply system shall include the following: -



Distribution system from main vertical stack to all fixtures and appliances for cold & hot water.  
Pipe protection and painting.  
Control valves

#### GENERAL REQUIREMENTS

All materials shall be new of the best quality conforming to specifications. All works executed shall be to the satisfaction of the Engineer-in-charge.

Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.

Short or long bends shall be used on all main pipe lines as far as possible. Use of elbows shall be restricted for short connections.

Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

Pipes shall be securely fixed to walls and ceilings by suitable clamps at intervals specified.

Clamps, hangers and supports on RCC walls, columns & slabs shall be fixed only by means of approved made of expandable metal fasteners inserted by use of power drills.

All pipe clamps, supports, nuts, bolts, washers shall be galvanized MS steel throughout the building. Painted MS clamps & MS nuts, bolts & washers shall not be accepted.

Valves and other appurtenances shall be so located as to provide easy accessibility for operations, maintenance and repairs.

#### MATERIAL

##### CPVC pipes, fittings & valves

CPVC Pipes - All pipes within toilets, kitchen/ pantry (in Wall Chases) shall be CPVC. The pipes from 15mm to 50mm dia. (copper tube size) shall be as per ASTM D- 2846 requirements. They shall be of the nominal diameter (nominal bore) specified on the description of the item. The sockets shall be designated by the respective nominal bores of the pipes for which they are intended.

##### Pipe Fittings

Fittings for PVC pipes shall include couplings, tees, reducers, nipples, unions, bushes. The fittings shall be of perfect size and should be as per CTS (Copper tube size).

##### Jointing material

All-purpose cement solvents should not be used. Solvent cement manufactured as per ASTM F-493 only shall be used. Pipe threaded joints will be made by applying suitable grade of TEFLON tape used for drinking water supply.

##### Pipe Fittings

The fittings shall be of perfect size and should be as per ITS (Iron tube size) the fitting should be as per the specifications of ASTM D 2467.

All pipes shall be fixed in accordance with layout and alignment shown on the drawings. Care shall be taken to avoid air pockets. PVC pipes inside toilets shall be fixed in wall chases well above the floor. No pipes be run inside a sunken floor as far as possible. Pipes may be run under the ceiling or floors and other areas as shown on drawings

### Pipe Supports

All pipes' clamps, supports, hangers, rods, pipe supports, nuts bolts & washers shall be factory made galvanized Mild Steel or alternatively galvanized after fabrication to suit site requirements.

### Clamps

Galvanized iron pipes in shafts and other locations shall be supported by GI. clamps of design approved by Engineer-in-charge. Pipes in wall chases shall be anchored by iron hooks, Pipes at ceiling level shall be supported on structural clamps fabricated from M.S. structural as described above. Pipes in typical shafts shall be supported on slotted angles/channels as specified elsewhere.

### Anchor Fasteners

All pipes support, hangers and clamps to be fixed on RCC walls, beams, columns, slabs and masonry walls 230mm thick and above by means of galvanized expandable anchor fasteners in drilled holes of correct size and model to carry the weight of pipes. Drilling shall be made only by approved type of power drill as recommend and approved by manufacturer of the anchor fasteners. Failure of any fastening devices shall be the entire responsibility and contractor shall redo or provide additional supports at his own cost. He shall also compensate the owner for any damage that may be caused by such failures.

### Unions

Contractor shall provide adequate number of unions on all pipes to enable easy dismantling later when required. Unions shall be provided near each gunmetal valve, stop cock, or check valve and on straight runs as necessary at appropriate locations as required and/or directed by Engineer-in- charge.

### Flanges

Flanged connections shall be provided on pipes as required or, where shown on the drawings, all equipment connections as necessary and required or as directed by Connections shall be made by the correct number and size of GI nuts, bolts & washers with 3 mm thick gasket. Where hot water or steam connections are made insertion gasket shall be of suitable high temperature grade and quality approved by Bolt hole dia. for flanges shall conform to match the specification for G.M. sluice valve to I.S. 778. And C.I. butterfly valve to IS: 13095.

### Trenches

All water supply pipes below ground shall be laid in trenches with a minimum cover of 60 Cms. The width and depth of the trenches shall be as follows: -

Dia. of pipe	Width oftrench	Depthof trench
-----	-----	-----
15 mmto50 mm	30cms	75cms
65 mmto100 mm	45cms	100cms

### Joining Of CPVC/ UPVC Pipes

The procedures described in ASTM D-2855 shall be followed for making joints. The pipes and fittings shall be cleaned and cleared of all foreign matter before being laid. Care should be taken that all pipes and fittings are properly jointed so as to make the joints completely water tight and pipes are kept at all-time free from dust and dirt during fixing. Burr from the joint shall be removed while joining the pipes. After lying the open ends of the pipes shall be temporarily plugged to prevent access of water, soil or any other foreign matter. The tubing should make contact with the socket wall 1/3 to 2/3 of the way into the fitting socket. Avoid too much of cement coat otherwise it will clog the water. In case of cement joint allow to set for 10 to 20 min.

### INSULATION

All hot water pipes shall be insulated with elastomeric closed shells circular pipes.

All insulation material shall be elastomeric closed shells foam has a high diffusion resistance factor that prevent excessive water diffusion that gives longer lifetime of material.

The insulation material having the property of resistance of fire i.e., in case of fire these materials do not drop and do not spread flames.

All insulation material as per din 1988/7 (standard for drinking water pipe installation and for avoiding corrosion damage and scale formation).

The thermal conductivity of material at 0 deg. C = 0.035 w/ (m.K). Temperature resistance of material between -45 deg. C to +116 deg. C. The Thickness of insulation pipes as follows:

Size of pipes	Application of pipes	Location	Thickness of Material (mm)	Type of Section
15 mm to 40mm	Hot water supply	Concealed	6 mm	Tube Section
15 mm to 100 mm	Hot water supply	Exposed	9 mm	Tube Section

#### VALVES:

##### BALL VALVES

Valves up to 40 mm dia. shall be screwed type Brass Ball Valves with stainless steel balls, spindle, Teflon seating and gland packing tested to a hydraulic pressure of 20 kg/cm<sup>2</sup>, and accompanying couplings and steel handles. (to BS 5351)

Butterfly Valves: Valves 40 mm dia. and above shall be cast iron butterfly valve to be used for isolation. The valves shall be bubble tight, resilient seated suitable for flow in either direction and seal in both direction with accompanying flanges and steel handle.

Butterfly valve shall be of best quality conforming to IS: 13095.

##### Non-Return Valve (Slim Type)

Where specified non return valve (wafer type) shall be provided through which flow can occur in one direction only. Each Butterfly and Slim Type Swing Check (NRV) Valve shall be provided with a pair of flanges screwed or welded to the main line and having the required number of galvanized nuts, bolts and washers of correct length.

##### Air Relief Valve

Where specified air relief valve shall be provided through which air trapped in the system can be relieved automatically. Each air relief valve shall be provided with an isolation ball valve used to the main line. The air relief valve shall be of Cast Iron body and conforming to IS 14845; single air valve small orifice type.

#### TESTING

All pipes, fittings and valves after fixing at site, shall be tested by hydrostatic pressure of 1.5 times the working pressure or 20 kg/cm<sup>2</sup> whichever is more.

Pressure shall be maintained for a period of at least two hours without any drop.

A test register shall be maintained and all entries shall be signed and dated by Contractor (s) and Engineer-in-charge.

In addition to the sectional testing carried out during the construction, Contractor shall test the entire installation after connections to the overhead tanks or pumping system or mains. He shall rectify all leakages and shall replace all defective materials in the system. Any damage done due to carelessness, open or burst pipes or failure of fittings, to the building, furniture and fixtures shall be made good by the Contractor during the defect's liability period without any cost.

After commissioning of the water supply system, Contractor shall test each valve by closing and opening it a number of times to observe if it is working efficiently. Valves which do not effectively operate shall be replaced by new ones at no extra cost and the same shall be tested as above.

#### Measurement

All pipes above ground shall be measured per linear meter (to the nearest cm) and shall be inclusive of all fittings e.g., coupling, tees, bends, elbows, unions, flanges and U clamps with nuts, bolts & washers fixed to wall or other standard supports. No allowance shall be made for the portions of pipe length entering the sockets of the adjacent pipe or fittings. All supports required to support the pipes from slab/ceiling/i/c dash fasteners. M.S. structural, slotted angles/channels including support bolts and nuts embedded in masonry walls and hangers etc. shall be incl. in the item rate of pipe including the item of work given below: -

#### Expandable anchor fasteners

Galvanizing of all supports and hangers

Cutting holes in walls, ceiling of floors and making good, where permitted

Nuts, bolts and washers for fixing and assembling

Wooden/PVC pipe saddles for vertical or horizontal runs

Jointing with Teflon tape, white lead and insertion gasket of appropriate temperature grade. Cutting holes, and chases in walls, floors, any pipe support required for pipes below ground & making good the same.

Excavation, back filling, disposal of surplus earth and restoring the ground & floor in original condition.

#### VALVES

Gunmetal, cast iron, butterfly and non-return valves and puddle flanges shall be measured by numbers and shall include wheels/caps, GI nuts, bolts, washers and insertion gasket.

#### Painting / Pipe Protection/Insulation

Painting / pipe protection / insulation for pipes shall be measured per linear meter over finished surface and shall include all valves and fittings for which no deduction shall be made. No extra payment shall be made for fittings, valves or flanges.

#### Water Supply System

Contractor should study the site plan and water supply system diagram for an overview of the system.

It is proposed to provide dual flushing cistern/dual flush valve for all WCs.

#### UPVC/CPVC PIPES AND FITTINGS

UPVC/ CPVC Plain/Solvent Joint Pressure Pipes shall conform to IS 4985:2000 and IS: 15778 respectively, and Molded fittings as per IS:7834 & fabricated fittings IS: 10124.

Precautions: - Water Hammer:

All uPVC Plastic piping systems be designed and constructed to avoid excessive Water Hammer. Water hammer can cause damage and failure to pipe, valves and fittings within the piping system.

Threaded Connections:

Use a quality grade thread sealant. Do not use substances that could cause stress cracking to plastic. Major attention must be given while making plastic thread joints. 1 to 2 turns beyond finger tight is generally all that is required to make a sound plastic connection unnecessary over tightening will cause damage to both pipes & fittings. Also give proper attention while selecting the threaded fittings, as some fittings with NPT threads & some fittings with BSP threads are available, to give more versatility to customer NPT threads are not compatible with BSP threads.

#### Seal & Gasket Lubricants:

Some Lubricants, including vegetable oils are known to cause stress cracking in thermoplastics materials. A mild soap or commercially available pipe gasket lubricants suitable for uPVC is recommended where lubrication is required for installation or maintenance service (especially with Flange joints). Choice of lubricant is at the discretion of the installer.

#### Support System:

Adequate supports for any piping system is a matter of great importance. In practice, support spacing are a function of pipe size operating temperatures, the location of heavy valves or fittings and the mechanical properties of the pipe material. To ensure the satisfactory operation of a ASTRAL Aquarius+ uPVC piping system, the location and type of hangers should be carefully considered. Hangers should not compress, distort, cut or abrade the piping. All piping should be supported with an approved hanger at intervals sufficiently close to maintain correct pipe alignment and to prevent sagging or grade reversal. Pipe should also be supported at all branch ends and at all changes of direction. Support trap arms as close as possible to the trap.

(1) Concentrated loads should be supported directly so as to eliminate high stress concentrations. Should this be impractical then the pipe must be supported immediately adjacent to the load.

(2) In systems where large fluctuations in temperature occur, allowances must be made for expansion and contraction of the piping system. Since changes in direction in the system are usually sufficient to allow for expansion and contraction hangers must be placed so as not to restrict this movement.

(3) Since plastic pipe expands or contracts approximately five times greater than those of steel, hangers should not restrict this movement.

(4) Hangers should provide as much bearing surface as possible. To prevent damage to the pipe, file smooth any sharp edges or burrs on the hangers or supports.

(5) Support spacing for horizontal piping systems is determined by the maximum operating temperature the system will encounter. The piping should be supported on uniform centers with supports that do not restrict the axial movement.

(6) For vertical lines, it is recommended that an engineer should design the vertical supports according to the vertical load involved.

#### Bib cock and Stop cock:

A bib cock is draw off tap with a horizontal inlet and free outlet. A stop cock is a valve with a suitable means of connection for insertion in a pipe line for controlling or stopping the flow.

They shall be of screw down type and of brass chromium plated and of diameter as specified in the description of the item. They shall conform to I.S. 781-1977 and they shall be best Indian make. They shall be polished bright.

#### Ceramic Flushing Cistern:

The ceramic flushing cistern shall be of 15 liters capacity. It shall conform to I.S. 774-1971. The flushing cistern shall be of best quality free from any defects. The flushing cistern shall have outer dia. of 32 mm. The outlet shall be connected to lead pipe of 32 mm. diameter. The lead pipe shall conform to I.S. 404 (Part-I) 1962. For fixing G.I./uPVC inlet pipes and overflow pipe 20 mm dia. inlet and outlet shall be provided.

#### Tolerances:

The standard weights and thickness of pipes shall be shown in the following table: A tolerance up to minus 10 percent may however be allowed against these standard weights.

A tolerance up to minus 15 percent in thickness and 20 mm. in length will be allowed. For fittings tolerance in length shall be plus 15 mm. and minus 10 mm.

The thickness of fittings and their socket and spigot dimensions shall conform to the thickness and dimensions specified for the corresponding sizes of straight pipes. The tolerances in weights and thickness shall be the same as for straight pipes.

#### Nahni trap:

Nahni trap shall be of cast iron / pvc and shall be sound and free from porosity or other defects which affect serviceability. The thickness of the base metal shall not be less than 6.5 mm. The surface shall be smooth and free from craze, ships and other flaws or any other kind of defects which affect serviceability. The size of nahni trap shall be

having inlet 100mm dia. & outlet 75 mm dia. or as specified and shall be of self-cleansing design.

The nahni trap shall be quality approved by the Engineer-in-charge and shall generally conform to the relevant Indian Standards.

The Nahni trap provided shall be with deep seal, minimum 50 mm. except at places where trap with deep seal cannot be accommodated. S.S./ PVC Perforated cover shall be provided on the trap of appropriate size.

#### Gully Trap:

Gully trap shall conform to I.S. 651-1980. It shall be sound free from defects such as fire cracks. The glaze of the traps shall be free from cracking. They shall give a clear note when struck with light hammer. There shall be no broken blisters.

The size of the gully trap shall be as specified in the item.

Each gully trap shall have one C.I. grating of square size corresponding to the dimensions of inlet of gully trap. It will also have a water tight C.I. cover with frame inside dimensions 300 mm x 300 mm. the cover with frame inside dimension, 300 mm x 300 mm. the cover weighting not less than 4.53 Kg and the frame not less than 2.72 Kg. The grating cover and frame shall be of sound and good casting and shall have truly square machined seating faces.

#### Glaze stone ware pipe and fittings:

The pipes and fittings shall be of best quality as approved by the Engineer-in-charge. The pipe shall be of best quality manufactured from stone ware of fire clay, salt glazed thoroughly burnt the whole thickness, of a close even texture, free from air blows, fire blisters, crack and other imperfections, which effect the serviceability. The inner and outer surfaces shall be smooth and perfectly glazed. The pipe shall be capable to withstand pressure of 1.5 m lead without showing sign of leakage. The thickness of the wall shall not be less than 1/12th of the internal dia. The depth of socket shall not be less than 38 mm. The socket shall be sufficiently large to allow a joint of 1 mm. around the pipe.

### 17.0 Technical specifications for External Development

#### 17.1 Cement Concrete paver blocks of M-30 grade

##### Scope of work:

The work covered under this specification consists of providing and laying 60mm thick cement concrete paver blocks of grade M-30 all as per these specifications or as per instructions of Architect/ Engineer in charge.

##### Sub- Base:

60 mm thick Interlocking paver block to be fixed over the 50 mm bed of compacted coarse sand of approved specification and filling the joints with the sand of approved type and quality.

##### Interlocking Paver Block:

Factory made precast concrete molded paver blocks of M-30 grade to be used. Paver blocks to be of approved brand and manufacturer and of approved quality. Minimum strength as prescribed by manufacturer and as per direction of Engineer-in-Charge for the grade specified to be tested as per method mentioned in CPWD specifications.

##### Measurement & Rates:

Area provided with paver block to be measured in sqm. Correct up to two places of decimal. The rate includes the cost of all material, labor, tools etc. required in all the operations described above.

#### 17.3 Fabrication work for Parking/Entrance Shed

##### Scope of Work:

The work covered by this specification consists of supplying, fabricating, assembling, and fixing in position of structural steel in grating, frames, guard bar, ladders, brackets, gates etc. complete in strict accordance with these specifications and the applicable drawings. This also includes fixing 6 mm the Poly Carbonate Shed using one side supported on 4" dia. M.S. Pipe, the Roof Is Supported On 3" X 1 1/2" MS fame Around the Peripheral in two layers forming a truss also

at every 4' length & 2" X 1" Pipe at Every 2' C/C. 12 mm MS bar is fixed between two layers to form a truss as per details given.

**Materials:** All structural steel shall be of standard sections as marked on the drawings and shall be free of scale, blisters, laminations, cracked edges and defects of any sort. All structural steel and electrodes shall comply in all respects with relevant I.S. codes.

**Workmanship:**

All workmanship shall be of first-class quality in every respect to get greatest accuracy to ensure that all parts will fit together properly on erection. All ends shall be cut true to planes. They must fit the abutting surfaces closely. All stiffeners shall fit tightly at both ends. All holes in plates and section between 12mm and 20 mm thick shall be punched to such diameter that 3mm of metal is left all around the hole to be cleaned out to correct size by reamer. The base connection shall be provided as shown on drawings and the greatest accuracy of workmanship shall be ensured to provide the best connections. Figured dimensions on the drawings shall be taken.

**Shop Drawing:**

The shop drawings of structural steel based on contract drawings shall be submitted to the Engineer-in-charge. The necessary information for fabrication, erection, painting of structure etc. must be furnished immediately after acceptance of the Architect / Engineer in charge.

**Painting:**

Providing and applying Epoxy paint of approved make and desired shade, including the surface preparation (with emery paper 180 and wipe clean) by thoroughly cleaning all dust, dirt, applying red oxide oil primer and applying primer, again sand papering leveling rubbing the surface, to be free from undulation/ waviness, applying 1st coat of Epoxy paint & 2nd coat of Epoxy paint. Painting should be carried out on dry surfaces free from dust, scale etc. The paint shall be approved by the Engineer-in-charge.

**Welding:**

Welding shall be in accordance with IS 816-1969, IS 819-1957, IS 1024-1979, IS 1261-1959, IS 1323-1982 and IS 9595-1980 as appropriate. For welding of any particular type of joint, welders shall give evidence of having satisfactory completed appropriate test as described in any of IS 817-1966, IS 1393-1961, IS 7307 (part-I) –1974, IS 7310 (part-I) 1974 and IS 7318 (part-I) 1974 as relevant.

**Type of Welding:**

Arc welding (direct or alternating current) or Oxyacetylene welding may use. Field welding may be used. Field welding shall be by D.C.

Note: On any straight weld the first run shall not ordinarily be deposited with a larger gauge electrode than No.8 S.W.G. For subsequent runs the electrode shall not be increased by more than two electrode sizes between consecutive runs.

**Mode of Measurement:** For payment purpose, polycarbonate sheet and fabrication work will be measured under separate items. Fabrication work will be measured in KG whereas area of polycarbonate sheet will be measured in Sqm. Overlapping of sheets will not be measured. No separate measurements shall be taken for welding, riveting, bolting, field connections etc. The rate shall include cost of all labor, materials, scaffolding, transport and also cost of welding, riveting and bolting, field connections if any all to complete the job as per specifications.

**GENERAL LIST OF APPROVED MAKES FOR CIVIL WORKS**

The following are approved brand makes/manufacture's makes listed below. However, approved equivalent material and

finishes of any other specialized brand names/ manufacturer's makes may be used with the prior approval of the SBIIMS/ Architect. Permitting or not permitting such deviations from the approved make shall be the absolute discretion of the SBIIMS / Architect, and shall not be open to arbitration.

S.NO	PRODUCT	APPROVED BRAND
1	AAC Blocks	Ascolite (Ashwini Construction Pvt. Ltd-Surat), Brixo (Brixo Industries-Ahmadabad), Eco Green (Eco Green Products Pvt. Ltd-Gandhinagar), Wonder, Ercon.
2	Acoustic Panel /Tiles	Armstrong, Anutone, Tranquil.
3	ACP Cladding	Eurobond, Alucobond, Alstrong.
4	Acrylic Sheet	Perspex, Acrylic India.
5	Aluminum Section	Jindal, Hindalco. Indal,
6	Anti-skid Tape	3M, NITCO, Tapes India.
7	Anti-termite Emulsifiable Concentrate	Lindane 20% E.C., Chloropyriphos 20% E.C., of any ISI brand
8	Block-board (IS 303, IS 710)	Mayur, Euro, Century, Sonear,
9	Bricks	Good quality available from approved Local source.
10	Cement – Admixtures	Fosroc, Roff, Cico, Mc-bauchemie, Choksey,
11	Cement - O.P.C. (43/53 grade)	Ultratech, Ambuja, Lafarge, ACC, JK Laxmi, HI-Bond.
12	Cement - PPC	Ultratech, Ambuja, Lafarge, ACC, JKLaxmi, HI-Bond.
13	Cement - White	JK white, Birla white,
13	C.I Covers (heavy)	Bharat, Kaplesh
14	Coarse Aggregates	From approved local source
15	Concrete block – pavers	Alcock, Pavit, Vyara, Super
16	Concrete – Ready Mix	Ultratech, La Farge, ACC, RELCON or equivalent.
17	Doors –Flush(IS 2202)	Mayur, Euro, Century Sonear
18	Doors & Windows- PVC Section	Fenesta, Vensterplus, Superwin,
19	Doors & Windows - Pressed steel section	Steel plast, Agew, Jackson Engg.
20	Doors & Windows - Z section	AGEW
21	Door – Metal	Marin Door, Sehgal Door, Hormann (I) P. Ltd.
22	Door/Partition- Fire rated glass	Saint Gobain, AIS, FG Glass
23	Glass Film	Birla3M, GarwareLlumar, Covestro.
24	Geo Fabric	Geo textiles, Manas Geotech, Khator Technical textiles
25	G.I.Frame	Gyproc, India. Gypsum, Armstrong.
26	G.I. Sheet	Tata, JSW, Uttam
27	Glass – back painted	Saint Gobain, AIS, Glaverbel.
28	Glass – Float	Saint Gobain, Asahi, Modi, Tata, Gujarat Guardian
29	Glass – Laminated	Saint Gobain, Asahi, GSC Glass, AIS
30	Glass - Plain Sheet	Triveni, Modi, Haryana, Atul,
31	Glass – Mirror	Atul, Belgium, Commander, Patel, Rabbit, Globe
32	Gypsum Board	India. Gypsum. Saint Gobain, Gyproc
33	Hardware - Anodized Aluminum Matt finished Hardware fitting (Heavy)	Ebco, Belu, Paramount, Dia.mond
34	Hardware-Aluminum general	Aries, C.H. Aluminum, J.S. Enterprise
35	Hardware-Brass Hardware fittings (Heavy)	Rolex, Zodiac, from Jamnagar.
36	Hardware - Cylindrical Locks	Godrej, Europa, EG, EBCO
37	Hardware - Doors closer	Dorma, Hafele, Hettich, Ozone, EBCO.
38	Hardware - Floor Springs	Dorma, Hafele, Hettich, Ozone, EBCO.



39	Hardware – Handles	Dorma, Hafele, Hettich, Ozone, EBCO.
40	Hardware – Hinges	Dorma, Hafele, Hettich, Ozone, EBCO.
41	Hardware – Metallic	Dorma, Hafele, Hettich, Ozone, EBCO.
42	Hardware - Mortice Locks / Latch	Dorma, Hafele, Hettich, EBCO. Europa, EG,
43	Hardware – Patch fittings	Dorma, Hafele, Hettich,Ozone, Raccordi.
44	Hardware – Screws	GKW, RK, Nettlefold
45	Hardware – Self closing Hinges	Hafele, Hettich, EG, EBCO
46	Hardware - S.S. Hinges (Heavy duty)	Dorma, Hafele, Hettich, Ozone, EBCO.
47	Laminates	Vir, Formica, Sunmica, Greenlam, Decolam
48	MDF Boards	Decoboard, Ecoboard,Novopan
49	Mineral Fibre Boards/ False Ceiling	Armstrong, AMF, Daiken
50	Paint - Acrylic Emulsion	Asian, ICI, Nerolac, Berger
51	Paint - Cement Based	Snow-cem, Indo-cem
52	Paint - Cement Based wall putty	Birla white, NCL-Alltek ,
53	Paint - Distemper (Oil Bound & Acrylic)	Asian, ICI, Nerolac, Berger
54	Paint - Epoxy	Asian, Berger, Jotun
55	Paint - Exterior Texture	Asian, Unitex, NCL-Alltek, Sandtex matt, Nitco-tex,
56	Paint - Exterior Emulsion	Apex-Asian, Weathershield-ICI, Nerolac, Berger,
57	Paint - Texture	Asian, ICI, Berger, Unitex, NCL-Alltek
58	Paint - Plastic Emulsion	Asian, ICI, Nerolac, Berger
59	Paint – Primers	Asian, ICI, Nerolac, Berger, J&N, Shalimar
60	Paint - Red Oxide	Blundel-Eomite
61	Paint - Synthetic Enamel Paint/Flat/Semi-Gloss	Asian, Nerolac, ICI, Berger, J&N,
62	Particle Boards	Sitapur, Decoboard, Novopan, Ecoboard
63	Pipes & fittings - C.I.	Neco, Bic
64	Pipes & Fittings - C.P. Fittings (water supply)	Somany, Cera, Jaquar, Esco, ESS, Grohe, Hindware
65	Pipes & fittings - CPVC /UPVC	Astral, Supreme, Dutron
67	Pipes & Fittings- G.I. (B class Pipes)	Tata, Asian, Prakash
68	Pipes & Fittings - G.I. fittings	R- Brand
69	Pipes & Fittings - Gun Metal Wheel Valves	Zoloto
70	Pipes & Fittings - PVC (6 kg &above)	Supreme, Prince
71	Pipes - Stone ware	Sonya
72	Ply Wood	Mayur, Century, Archid, Anchor, Green,Euro
73	Pre-lam Particle Board	Novopan, Nuwud, Duratuf, or approved equivalent
74	PVC Tiles/Roll	Armstrong, Tusker,
75	PVC - Water tank	Sintex, National
76	Rolling Shutters	Gujarat, Sarvottam, Swastik, Gandhi automation
77	Sand	From approved local source
78	Sanitary Wares (First Quality)	Somany, Cera, Hindustan, Perryware, Duravit
79	Smoke/Fire Seal	3M barrier, Signum
80	Stainless Steel Sink	Nirali, Krishna.
81	Stainless Steel Railing	Kitch, Continental Steel, Jindal Steel, Columbus
82	Steel – Chequered Plate	TISCO, BAO Steel, ZPSS, JSW or equivalent
83	Steel – Reinforcement	Tata, JSW, SAIL, Electrotherm,National, NRE
84	Steel – Structural Section	JSW, Electrotherm, Kamdhenu, Tata
85	Steel - Rectangular/Square Hollow Section	Tata, Jindal

86	Stone – Granite	Lakha Red, RBI Red, Telephone Black, Pearl blue, Panther
87	Stone – Marble	Kesariyaji Green, Rajnagar, Ambaji,
88	Stone - Sand stone	Jaisalmer yellow, Bansipahadpur Red
89	Stone	Green Kota, Black Kadappa
90	Sun Control Film	Garware, 3M
91	Tile – Adhesive	Bal-Endura, Fosroc ,Roff, McBauchemie, Choksey, Cico.
92	Tiles - Glazed /Ceramic	Somany, Varmora, City, Asian, Kajaria, Johnson,
93	Tiles – Paver	Somany, Varmora, City, Asian, Kajaria, Johnson,Pavit.
94	Tiles – Mosaic	Royal-Rajlot, Alcock-Ahmedabad.
95	Tiles – Vitrified	Somany, Varmora, City, Asian, Kajaria, Johnson,
96	Veneer	Mayur,Euro, Century, Sonear
97	Vinyl Film	Birla 3M
98	Waterproofing Chemical	Dr. Fixit, Forsook,Roff, McBauchemie, Choksey, Cico.
99	Wood – Adhesive	Fevicol, Blucoat, Euro, Century.
100	Wood - Non-Teak	Red Saal, Kapoor, Steam Beach, Chill,Kail
101	Wood – Teak	Special Ghana, Ghana, Nigeria, C. P.Burmah

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) /USG BORAL
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)
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)
11	Glass film	3M INDIA /AVERY DENNISON
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
12	Exterior Grade Compact Laminate (5mm,6mm)	Clads (Greenlam) / Staylam
14	Hardware	
	a) Latches	Ebco / Hafele / Hettich
	b) Locks	Ebco / Hafele / Hettich / Godrej
	c) Screw	Nettle fold / GWK / Hafele
	d) Door Closer	Ozone / Dorma / Hafele / Godrej
	e) Tower Bolt	Rolex / Flora / Riddhi
	f) Hinge	Suzu matt / Gary premium
	g) Nails	Mehta / chakra / Sun
	h) L & key	Riddhi / Prince
15	Glazing, Lacquered glass	Tata / Modi guard / Saint gobain
16	Vinyl & Glass film	3M India / Avery Dennison
19	Calcium silicate board	Saint Gobain / Usgeboral / Hilux

20	Mineral fiber ceiling tiles tabulated profile	Armstrong / USG / Usgboral / AMF
26	Aluminum Section	Jindal / Hindustan / Hindalco
28	Wall Putty	Birla white / J.K. white

Note:

[a] Where other Material are proposed to be used these should be got approved from the Architect/Bank's Engineer before execution of particular item. In case of Non-Availability of any material of specified make, the Alternative equivalent make should be used only after it is Approved in writing by the Employer or the Architect. The Material shall be used in preferential Order only.

[b] Before starting of work, contractor must get all samples/make approved from Architect/Bank's authorities before using at site

[c] Consultants/Bank's authorities reserve the right to add or delete name of any manufacturers and when required.

[d] Consultants/Bank's authorities reserve rights to select any of the specified brands mentioned above.