

Tender ID	SBI/AAO-3/2024-25/12/01/ELE
Date	30.10.2024



STATE BANK OF INDIA

INVITES ONLINE E-TENDERS

FOR

**PROPOSED ELECTRICAL WORK OF
SHRINANDNAGAR BRANCH, AHMEDABAD.**

FROM

**THE ELECTRICAL CONTRACTORS EMPANELLED FOR AHMEDABAD CIRCLE UNDER THE
5 LACS AND ABOVE (AS PER THE LIST ENCLOSED)**

THE LAST DATE OF SUBMISSION OF ONLINE TECHNICAL BID AND ONLINE SEALED PRICE BID: **20-11-2024
by 03:00 PM**

NO PHYSICAL SUBMISSION OF DOCUMENTS REQUIRED EXCEPT PROCESS COMPLIANCE FORM.

PART – A: TECHNICAL BID

TENDER SUBMITTED BY:

TENDER SUBMITTED BY:

NAME : _____

ADDRESS : _____

DATE : _____

Architect:

MAHESH DESAI

10-B, 11th Floor, Sumeru,

Near Parimal Under pass & Suvidha shopping centre,

Paldi, Ahmedabad 380 007

M:9825490658 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 sealed price bids” from the SBI Empanelled ELECTRICALcontractors of Ahmedabad Circle for ELECTRICAL works of **SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.**
Please note that there will be No reverse auction conducted.

The details of tender are as under:

SN	Description	
1	Name of work	Electrical works of SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.
2	Nature of Work	<u>ELECTRICAL WORK</u>
3	Time allowed for completion	30 (Forty five) Days from date of acceptance of work order.
5	Earnest Money Deposit	The tenderer shall furnish EMD of Rs 4,800/- . In the form of Demand draft or bankers cheque drawn in favour of State Bank of India payable Ahmedabad on any Scheduled Bank. No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD. [Those registered with MSMEUDYAM need not submitted EMD. Instead DD, Valid MSME UDHYAM certificate shall be uploaded],
6	Initial Security Deposit (ISD)	The amount of ISD shall be 2% of accepted value of tender including the EMD.
7	Total Security deposit	5% of the final bill amount
8	Start and end date for downloading of tender documents form Bank's website	30-10-2024 to 20-11-2024. www.sbi.co.in under <Link><SBI in the news >procurement news.
9	Last date & time for submission of online Technical bid and online Price Bid	20-11-2024 by 03:00 PM
10	Address at which EMD & Process compliance form has to be submitted	The Assistant General Manager, Admin office, AAO-3, State Bank of India, 5th floor, Old LHO Building, Lal Darwaja, Ahmedabad.
11	Date and time of opening of online Technical bid & online Price bid at SBI address mentioned at Sr. No.10	20-11-2024 at 03:30 PM
13	E-Tendering will be conducted by our approved e-tendering consultant	M/s. Antares Systems Limited, Bangalore, Contact No 91 80 40482000; 91-80-40482114 CELL :91 -9674758719, 9674758720
14	Liquidated Damages	The liquidated damages shall be 0.5% per week subject to a maximum of 5% of contract value.

5.	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	Tenders shall remain valid and open for acceptance for a period of 3 (Three) months from the date of opening price bid.
18.	Value of Interim Certificate	NIL
19.	Insurance	The contractor shall obtain all necessary insurance policies as per the governing laws applicable at the centre & shall require to produce the original policy of Insurance & receipt of the premium as applicable in the matter to the Architect/Bank.
20.	Water and Electricity	If contractor is permitted to use SBI source of water & electricity, the SBI will recover @ 0.5% of contract amount from the final bill of contractor. However further distribution & extension & light fixtures etc. With required MCB switches, switch boards, lamp, tube etc. shall be arranged by the contractor at their own cost within the accepted tender amount. <u>Bank will recover 0.5% of the final bill amount towards consumption of water & electricity.</u>
21	Tenders can be downloaded from the bank's website www.sbi.co.in (link) <SBI In the news <Procurement News>. It shall be responsibility of the contractor to timely submit the technical and financial bid. SBI, in no case shall be responsible for site issues/ delay in tender submission.	
22	the contractor shall read and understand each page of the tender document thereby ensuring the number and sequence of all pages.	
23	No conditions other than mentioned in the tender will be considered, and if given they will have to be withdrawn before submission of final quote. else their bid will be rejected.	
24	The SBI reserve their rights to accept or reject any or all the tenders, either in whole or in part without assigning any reason(s) for doing so and no claim / correspondence shall be entertained in this regard.	
25	Tenders received without EMD and Process Compliance Form shall be summarily rejected and such tenders shall not be allowed to participate in the Price bid process/ rejected/ not considered.	
26	In case the date of opening of tenders is declared as a holiday, the tenders will be opened on the next working day at the same time.	
27	SBI has the right to accept / reject any / all tenders without assigning any reasons and no correspondence shall be entertained in this regard.	
28	The Bank will place order as per its requirement and quoting minimum rate for any category does not provide any guarantee for receiving order for that item by the firm who <u>quotes lowest rates.</u>	
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,

(For and on behalf of SBI)

The Assistant General Manager,
Admin office, AAO-3,
State Bank of India, 5th floor, Old LHO Building,
Lal Darwaja, Ahmedabad.

LIST OF EMPANELLED ELECTRICAL CONTRACTOR UPTO RS. 5.0 LAKH

SR.NO.	NAME OF CONTRACTOR & ADDRESS	CONTACT NOS. & EMAIL ID
1.	Patel electricals 1/A, MandalChowk, Taleja road, Bhavnagar	9825088095 Patelectricals55@gmail.com
2.	Shreeji Electricals U-10, Lake view Flat, Opp. Vastrapur lake, Vastrapur, Ahmedabad	9427246110 Shreejiele10@gmail.com
3.	Paresh Electric Co., B-1 Harinagar Society, CTM Char Rasta, Ahmedabad 380026	9824129513 Paresh_electrical_co@yahoo.co.in
4.	Pay & service, 309 Sadguru Arcade, Dhebar Road, One way, Rajkot - 360001	9825075667 / 8160197253 Payandservice2@gmail.com
5.	Riya Electricals, 64, Shiv Shankar Nagar, Nr. MalavTalav, Jivrajpark, Ahmedabad	9723958466 Riyaelectricals1988@gmail.com
6.	Utkarsh Electricals 37/6, Kharwar Nagar, Nr. Udhana Nagar, Surat	9825257117 utksrselectricals@yahoo.co.in
7.	Deep Enterprise, 306, Vishranti Enclave, AmbeSchool,Road, Majalpur, Vadodara	9512406797 Gandhi_devesh@yahoo.in
8.	Gorisha Electricals, A/102, Ayodhya Flats, Ayodhya Township, Tarasali, Vadodara	9904757686 Rajesh6765@gmail.com
9.	Jay shreeTulja Electricals, GF – 12, Suryadeeo Complex, Nr. Rupam Cinema, Harni Road, Vadodara	9879288410 / 9825252364 Vipulpurohit2013@gmail.com
10.	Harshad Furniture Mart, Sadar Opp. MotiTankiChowk, Jigar Pan Street, Rajkot	9898198877 / 9979744997 Harshad_furnitures@yahoo.com
11.	Dhanlaxmi Electricals, B – 206, Shreenath Re. Nr. Akruiti Town ship, Narol, Ahmedbad	9428739476 / 8690066012 Dhanlaxmielectrical9428@gmail.com
12.	Access Electrotech B – 401, TaoiEnclav e, Singapore causeway Road, Katagam, Surat	9904626310 / 9726226357 accesseletrotech@gmail.com
13.	Mahdev Electric 101, Shanti ComplexmKotak Street, SanganvaChowkRjkot	9824509112 Hirekanabar54@hayoo.com
14.	Shah Associates,	9825228305

Opp. LaxmiBhavan, New Station Road, BhujKachch	Shahassociates2@gmasil.com
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LIST OF EMPANELLED ELECTRICAL CONTRACTOR UPTO RS. 10.0 LAKH

SR. NO.	NAMEOF CONTRACTOR & ADDRESS	CONTACT NOS. & EMAIL ID
1	Umesh Engineering Works, Gala No. A – 10, D. M. Singh Compound, Opp. Shraddha Tower, Thalur Complex, Kandivadi, Mumbai * 400010	9821098131 umeshenginerringwootkd@gmail.com
2.	RK Electrocals, 30, GhatiBhadbhunja, Nr., KMC School, Bhopal	9827216074 Mosultan99@gmail.com
3.	RP Enterprise, 309 Saraswati Complex, Manjalpur, Vadodara	9825467087 Rpenterprise7@gmail.com
4.	Vikalp Electricals, LL – 1, Om Centre, Shreyash Crossing, Ambawadi, Ahmedabad - 15	9825307125 Viklp1991@gmail.com
5.	Vaidehi Enterprise, 15, Trishila Residency, Nr. Ganesh Park Twin Bunglow, Sola, Ahmedabad 380061	9327014869 / 6352995533 piyushpatel@vaidehient.com harshoatek@vaidehient.com

LIST OF EMPANELLED ELECTRICAL CONTRACTOR UPTO RS. 25.0 LAKH

SR. NO.	NAMEOF CONTRACTOR & ADDRESS	CONTACT NOS. & EMAIL ID
1.	Shree Electricals, B/S Vantage Point Sampatrac Colony, BPC Road, Alkapuri, Vadodara	9825032710 Shreeelectricals97@gmail.com
2.	Dharmesh A Mewada, 123, Sangath Mall – 1, Opp. Govt. Engg. College, VisatGandhinagar Highway, Motera, Ahmedabad	9725043778 Dharmeshmewada17@gmail.com
3.	Kirti Traders, Jivan Mansion, Lati Bazar, Bhavnagar	9426548801 Ananddoshi62@gmail.com
4.	Dhariti Engineers 28, Mahadevnagar Society, O/S Panigate, B/h. GovindRao Park, Ayurvedik, Vadodara	9998981088 dhritiengineers@gmail.com
5.	Maya Transformer &Electricala C/9, GopinathSopciety, Opp. SK Complex, India Colony Road, Bapunagar, Ahmedabad	9825716962 mayatret@yahoo.com
6.	NK Electicals SB/B3, Indraprasth Complex, Ellora park, Vadodara	9825061543 ketanna@gmail.com
7.	Urmi Electric Co., B/5 JaiminiSociety, NavaVadaj, Ahmedabad- 13	9825342374 Urmiele22@gmail.com
8.	Jay Engineers,	98244031888

	F/5, Mansi Apartment, B/H Glaxy Cinema, Naroda, Ahmedabad - 30	kumudrathod@yahoo.co.in
9.	Pooran Chand Sharma ^ Sons, 1/70, W. H. S. Timber Market, Kirti Nagar, New Delhi 0 110015	9810111055 / 01141420277 Sds.pcass@gmail.com
10.	Parameter Engineering Project 7 & 8, Third floor, Jyoti Plaza, Shyamal Cross Road, Ahmedabad - 15	97940060596 / 07940060597 naidu@parameter.in
11.	R. S. Enterprise, C – 74, Patel Nagar, Risen Road, Bhopal MP 462022	9826961063 / 9425378197 Rsenterprises73@gmail.com
12.	Mamta Electrical, 68, ShramJivi Society No. 1, Umara, Khanatha, Surat	9898599899 Hem_sukhadia@yahoo.com
13.	Sai electrical works 19/2/28, Store lane, 5 A Brelvi Road, BahadurManzil, Fort, Mumbai	9820326854 saielectricworks@gmail.com

LIST OF EMPANELLED ELECTRICAL CONTRACTOR UPTO RS. 50.0 LAKH

SR.NO.	NAMEOF CONTRACTOR & ADDRESS	CONTACT NOS. & EMAIL ID
1.	Rudra Enterprise, B-9, AkahardeepCo,plex, SanskarMandalChowk, Talaja Road, Bhavnagar	9428996994 rudraenterrprisework@gmail.com
2.	RB Trading Co. 9 GF, NH Trust Building, Nr. Kothari Pole, Gandhi Road, Ahmedabad - 1	9033077332 Rbtrading99@yahoo.co.in
3.	Bhagat Electricals, 101, ShailjaSankul, Nr. Amrepali Railway Crossing Raiya Road, Rajkot	9825165426 bhagatelectricals@yahoo.co.in
4.	Kruti Electrical, 626, Mandir Street, MotaVaracha, Surat	972344454883 archkrut@gmail.com
5.	System Protection, 301/2, Silverline Complex, Opp, BBC Tower, Sayajigunj, Vadodara	2652225137 infor@systemprotection.in

LIST OF EMPANELLED ELECTRICAL CONTRACTOR UPTO RS. 100.0 LAKH

SR. NO.	NAMEOF CONTRACTOR & ADDRESS	CONTACT NOS. & EMAIL ID
1.	Alpha Enterprise, A/2, ShriHari Colony, Lad Society Road, Nehru Park, Vastrpur, Ahmedabad - 15	9408281388 infor@alphaenterprise.co.in
2.	Janta Electric Co. Shop no. 6, building 3, Chaitranya CHS, Opp Ram Mandir Road, SV Road, Goregoan (S), Membai - 400104	7208000817 jantaelectriccompany@hao.in
3.	Power Control 18, Sursarthi Complex, B./h Rudra Complex, Ambawadi, Ahmedabad - 6	9327030790 info@powercontril.com
4.	Indian Electric Corporation 1-A HemaliBunglows, Nr. Old PATwaNruing Home, Opp. KachniSamaj, Paldi, Ahmedabad	9327578375 / 9825306291 infor@iecprojects.co.in

5.	Parth Energy Solutions, Shop no. 1, SaiDarshan Part. Santosh Park Main Road, 150 Ft ring Road, Rajkot - 360007	9998517133 Parth_energy@rediffmail.com
6.	Aum electric engineering Pvt. Ltd. Plot no. 7, MadfiwalaSteet Opp. Shivram Dyeing, Behind KiranMorters, Surat - 395002	9825093003 / 8879593825 Aumelectric1994@yahoo.co.in
7.	Bhavani Construction 212, 2 nd Floor, Ratnandeeep Complex, Opp. Central SelftWaghawadi Road, Bhavnagar	9427262860 / 9428078876 Bhavani_const@yahoo.in

**STATE BANK OF INDIA
FORM TENDER**

To,
The Assistant General Manager,
Admin office, AAO-3,
State Bank of India, 5th floor, Old LHO Building,
Lal Darwaja, Ahmedabad.

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 Electrical works at SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.
Earnest Money	The tenderer shall furnish EMD of Rs.4,800/-. In the form of Demand draft or bankers cheque drawn in favour of State Bank of India payable at Ahmedabad. On any Scheduled Bank. No 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 3% 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	30 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 an 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 ELECTRICAL WORKS AT SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.
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Business rules for E-tendering:

1. Only AHMEDABAD CIRCLE **empanelled ELECTRICAL 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. The Contractors will be required to submit the various documents in sealed Envelope to the office of SBI at the address mentioned hereinbefore by the stipulated date i.e. (2) Demand Draft of specified amount of EMD Contractors not submitting any one or more documents shall not be eligible to participate in the on-line price bidding.
7. E-tendering will be conducted on schedule date & time.
8. **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 fails 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 anytime, 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

Contact No.- 91 - 9674758719, 9674758720

AGREEMENT TO THE PROCESS RELATED TERMS AND CONDITIONS FOR THE ONLINE E-TENDERING FOR PROPOSED ELECTRICAL WORKS AT SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.

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
INSTRUCTIONS TO THE TENDERERS

- 1.0 Scope of Work
Sealed Tenders are invited by M/s. Mahesh Desai for and behalf of State Bank of India for the work of **Electrical** At **SBI SHRINAND NAGAR BRANCH**.
- 1.1 Site and Its Location
The proposed work is to be carried out at **SBI SHRINAND NAGAR BRANCH**.
- 2.0 Tender Documents
- 2.1 The work has to be carried out strictly according to the conditions stipulated in tender consisting the following documents and the most workman like manner,
- Instructions to tenderers
 - General Conditions of Contract
 - Special Conditions of Contract
 - Additional Conditions for Electrical Installation
 - Technical Specifications
 - Drawings
 - Priced Bid
- 2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below :
- Price Bid
 - Technical Specifications
 - Additional Conditions for Electrical Installation
 - Special Conditions of Contract
 - General Conditions of Contract
 - Instructions to Tenderers
- 2.3 The tender documents are not transferable.
- 3.0 Site Visit
- 3.1 The tenderer must obtain himself on his own responsibility and his own expenses all information and data which may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The Tenderer is requested satisfy himself regarding the availability of water, power, transport and communication facilities, the character quality and quantity of the materials, labour, the law & order situation, climatic conditions local authorities requirement, traffic regulations etc;
- The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.
- 4.0 Earnest Money
The tenderers are requested to submit the Earnest Money of Rs.4,800/- in the form of Demand Draft or Banker's Cheque in favour of State Bank of India drawn on any Bank in India.
- 4.1
- 4.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD in accordance with clause 4.1 above shall be rejected.
- 4.3 No interest will be paid on the EMD.
- 4.4 EMD of unsuccessful tenderers will be refunded within 45 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 30 days / ~~months~~ from the date of commencement of work or 15 days from the date of issuance of work order, whichever is earlier.

9.0 Validity of Tender

Tenders shall remain valid and open for acceptance for a period of 3 (Three) months from the date of opening price bid. If the tenderer withdraws his/her offer during the validity period or makes modifications in his/her original offer which are not 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 Electrical items at his workshop only & deliver the same to the site at appropriate time as instructed by the Architect/BMs/Bank Officials.
- (iv) The site shall be cleaned on day-to-day basis & all debris shall be disposed away at the location beyond the limit as approved by the local authority.
- (v) Hidden measurements: - It is contractor's responsibility to get the measurement checked immediately on completion of such items. This shall be done before finishing the same. The Architect shall be provided with such details well in advance so that the other work is not held up due to last moment action.
- (vi) Before starting the work at site, the contractor shall mark out the plan & levels of the false ceiling, partitions etc. in coordination with other agencies on site.
- vii) The rates quoted shall be inclusive of all taxes, Duties, Octroi, Transportation, Delivery, Installation, Testing, Commissioning etc. complete at the site. No extra will be paid for any kind of taxes. However, the GST will be paid extra as applicable as per actual.
- viii) The entire job shall be executed in total coordination with the other agencies working on the project & also with landlord, Branch Manager and Bank officials etc.
- ix) Architect of the project shall be kept informed about the progress of the work at various stages.
- x) The contractor shall arrange on his own for lighting & plug point with socket & electrical wiring, DB's etc. required during entire execution process. However, supply at point shall be provided by the bank / landlord
- (xi) Any Hidden item MUST be photographed and need to be sent via e- mail or CD to Architect / Bank

xii) BILLING PROCESS:

The contractor/Architect should take care of the following while submitting the final Bill

The Final Bill Should Contain: -

- a) Abstract in tender BOQ format only.
- b) Schedules for detailed measurement sheet for all items (in detailed break up).
- c) original insurance policies as per tender terms and conditions.
- d) Completion certificate issued by the concerned Architect.
- e) Inspection & completion certificates for all types of false ceiling.
- f) Test report for Toughened Glass.
- g) Copy of LOA etc.

- h) All documents shall carry contractor's signature & seal with address. - All documents shall be submitted in 1 + 1 copies.
- i) The contractor shall also provide all measurement sheet in soft copy (in Excel format).
- j) The contractor shall submit the purchase bill copy of major items used in the project.
- k) That extension of time, if any, beyond scheduled date of completion has been granted by the Competent Authority.
- l) original receipt of purchase of Corian /plywood/ 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 State Bank of India (Client) and the contractor, together with the documents referred therein 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.

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

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

‘Architects/Consultants’ shall mean M/s **Mahesh Desai**

ii. ‘Site Engineer’ shall mean an Engineer appointed by the Bank as their representative to give instructions to the contractors.

iii. ‘The Contractor’ shall mean the individual or firm or company whether incorporated or not, undertaking the works and shall include legal personal representative of such individual or the composing the firm or company and the permitted assignees of such individual or firms of company.

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

iv. ‘Engineer’ shall mean the representative of the Architect/consultant.

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

vi. ‘Specifications’ shall mean the specifications referred to in the tender and any modifications thereof as may time to time be furnished or approved by the architect/ consultant “Month” means calendar month.

vii. “Week” means seven consecutive days.

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

CLAUSE

Total Security Deposit

Total Security deposit comprise of :

- a) Earnest Money Deposit : 4,800/-.
- b) Initial Security Deposit : 2% including EMD
- c) Retention Money : As per clause no. 1.4 of General Conditions
- d) Additional Security Deposit :

a) Earnest Money Deposit :

The tenderer shall furnish EMD of Rs **4,800/-**. in the form of Demand draft or bankers cheque drawn in favour of

State Bank of India, on any Scheduled Bank. No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD. The EMD of the unsuccessful tenderer shall be refunded soon after the decision to award the contract is taken without interest. The EMD shall stand absolutely forfeited if the tenderer revokes his tender at any time during the period when he is required to keep his tender open acceptance by the SBI or after it is accepted by the SBI the contractor fails to enter into a formal agreement or fails to pay the initial security deposit as stipulated or fails to commence the work within the stipulated time.

b) Initial Security Deposit (ISD)

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

c) Retention Money

Besides the ISD as deposited by the contractor in the above said manner the retention money shall be deducted from the running account bill at the rate of 10% of the gross value of work done by the contractor and claimed in each bill provided the total security deposit i.e. the ISD plus Retention Money shall both together not exceed 5% of the contract value. 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.

d) 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.

Language 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 latter shall be adopted.
- iv) In case of difference between rates written in figures and words, the rate in words shall prevail.
- v) 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 work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction of the Bank to be communicated through the architect/consultant. The architect/consultant at the directions of the Bank from time to time issue further drawings and/or written instructions, details directions and explanations which are hereafter collectively referred to as Architect's/Consultant's instructions in regard to : the variation or modification of the design, quality or quantity of work or the addition or omission or substitution of any work, any discrepancy in the drawings or between the BOQ and/or drawings and/or specifications, the removal from the site of any material brought thereon by the contractor and the substitution of any other materials thereof, the demolition, removal and/or re-execution of any work executed by him, the dismissal from the work of any person employed/engaged thereupon.

5 (i) Letter of Acceptance

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

5 (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 thereof he 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 promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable there from.

The work shall be executed in conformity therewith 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.

Copies of Agreement

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

8.0 Liquidated Damages

If the contractor fails to maintain the required progress in terms of clause 30 of GCC or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBI on account of such breach to pay a liquidated damages at the rate of 0.5% of the contract value per week subject to a maximum of 5% of the contract value.

9.0 Materials, Appliances and Employees

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

promptly notify the SBI in writing under intimation of the Architect/Consultant. If the contractor performs any act which is against the law, rules and regulations he shall meet all the costs arising there from and shall indemnify the SBI any legal actions arising there from.

11.0 Setting out Work

The contractor shall set out the work and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof and get it approved by the architect/consultant before proceeding with the work. If at any time any error in this respect shall appear during the progress of the works, irrespective of the fact that the layout had been approved by the architect/consultant the contractor shall be responsible for the same and shall at 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 due to his fault or negligence except which are due to causes beyond his control.

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protection of his employees on the works and shall comply with all applicable provisions of Government and local bodies' safety laws and building codes to prevent accidents, or injuries to persons or property of about or adjacent to his place of work. The contractor shall take insurance covers as per clause 24.0 at his own cost. The policy may be taken in joint names of the contractors 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 time 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 by the contractor and he shall not directly trust and engage or indirectly transfer assign or underlet the contract or any part or share thereof or interest therein without the written consent of the SBI through the architect and no undertaken shall relieve the contractor from the responsibility of the contractor from active superintendence of the work during its progress.

15.0 Quality of Materials, Workmanship & Test

(i) All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with Architect/Consultant instructions and shall be subject from time to time to such tests as the architect/consultant may direct at the place of manufacture or fabrication or on the site or an approved testing laboratory. The contractor shall provide such assistance, instruments, machinery, labour and materials

(ii) Samples

(iii) 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 samples/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 Electrical 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.

(iv) 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 specifications or BOQ.

(v) Cost of test not provided for

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

If so intended by or provided for or (in the cases above mentioned) is not so particularized or through so intended or provided for but ordered by the Architect/Consultant which is either 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 fulfilment of contract.

17.0 Contractor's superintendence

The contractor shall give necessary personal superintendence during the execution of 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

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

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

ii) Variation exceeding 25%: The items of work executed in relation to variation exceeding 25% shall be paid on the basis of provisions of clause 22(e) hereof.

19.0 Works to be measured

The Architect/Consultant may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send a qualified representative to assist the Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detailed in the specifications. The representative of the Architect/Consultant shall take joint 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 then 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 in such measurements.

20.0 Variations:

No alteration, omission or variation ordered in writing by the Architect/Consultant shall vitiate the contract.

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

21.0 Valuation of Variations

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

- a) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein. Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of works are carried out, otherwise the prices for the same shall be valued under sub clause (c) hereunder.
- c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the Architect/Consultant of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the Architect/Consultant shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.
- d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the Architect/Consultant) the workman's name and materials employed be delivered for verifications to the Architect/Consultant at or before the end of the week following that in which the work has been executed.
- e) It is further clarified that for all such authorized extra items where rates cannot be derived from the tender, the contractor shall submit rates duly supported by rate analysis worked on the "market rate basis" for material, labour, hire/running charges of equipment and wastages etc plus 15% towards establishment

charges, contractor's overheads and profit. Such items shall not be eligible for escalation.

22.0 Final Measurement

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

23.0 Virtual Completion Certificate (VCC)

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

- a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.
- b) Demolish, dismantle and remove the contractor's site office, temporary works, structures 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 and not incorporated in the permanent works.
- c) 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.
- d) Shall put the SBI in undisputed custody and possession of the site and all land allotted by the SBI.
- e) Shall hand over the work in a peaceful manner to the SBI.
- f) All defects/imperfections have been attended and rectified as pointed out by the SBI to the full satisfaction of SBI.

Upon the satisfactory fulfilment by the contractor as stated above, the contractor shall be entitled to apply to the Architect/Consultant for the certificate. If the Architect/Consultant is satisfied of the completion of the 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 virtual completion certificate, issue a VCC in respect of the work for which the VCC has been applied.

This issuance of a VCC shall be without prejudice to the SBI's rights and contractor's liabilities under the contract including the contractor's liability for defects liability period nor shall the issuance of VCC in respect of the works or work at any site be construed as a waiver of any right or claim of the SBI against the contractor in respect of works 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 of 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 manners not to impede the progress of the works included in the contract.

25.0 Insurance of Works

25.1 Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI and the contractor against all loss or damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBI and contractor are covered for the period stipulated in clause 28 of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

- a) The works for the time being executed to the estimated current Contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.
- b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.
- c) Such insurance shall be effected with an insurer and in terms approved by the SBI which approval shall not be unreasonably withheld and the contractor shall whenever required produce to the Architect/Consultant the policy of insurance and the receipts for payment of the current premiums.

25.2 Damage to persons and property

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

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

25.3 Contractor to indemnify SBI

The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 26.2 of this clause.

25.4 Contractor's superintendence

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

25.5 Third Party Insurance

25.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 26.0 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 26.0 thereof.

25.5.2 Minimum Amount of Third Party Insurance

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

25.6 The minimum insurance cover for physical property, injury, and death is Rs.5.00 lacs per occurrence with the number of occurrences limited to four. After each occurrence contractor will pay additional premium necessary to make insurance valid for four occurrences always.

25.7 Accident or Injury to Workmen

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

25.7.2 Insurance against accidents etc to workmen

The contractor shall insure against such liability with an insurer approved by the SBI during the whole of the time any person 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 required such policy of insurance and the receipt for the payment of the current premium.

25.7.3 Remedy on Contractor's failure to insure

If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the SBI may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the SBI as aforesaid and also deduct 15% of contract value from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

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

26.0 Commencement of Works

The date of commencement of the work will be reckoned as the recorded date of handing over site by the SBI or 15 days from the date of issue of Letter of Acceptance of Bank, whichever is later.

27.0 Time for completion

Time is the essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of **30 days of calendar months** from the date of commencement. If required in the contract or as directed by the Architect/Consultant, the contractor shall complete certain

portions of work before completion of the entire work. However, the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

28.0 Extension of Time

If, in the opinion of the Architect/Consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/Consultant may submit a recommendation to the SBI to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBI through the Architect/Consultant in writing at least 45 days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reasons in detail and his justification if any, for the delays. The architect/consultant shall submit their recommendations to the SBI in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the SBI the provision of liquidated damages as stated under clause 9 of GCC shall become applicable. Further contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

29.0 Rate of progress

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

30.0 Work during nights and holidays

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

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

31.0 No compensation for restrictions of work

If at any time after acceptance of the tender SBI shall decide to abandon or reduce the scope of work for any

reason whatsoever and hence not require the whole or any part of the work to be carried out, the Architect / Consultant shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the

execution of the work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work.

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

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

32.0 Suspension of work

The contractor shall, on receipt of the order in writing of the Architect/Consultant (whose decision shall be final and binding on the contractor) suspend the progress of works or any part thereof for such time and in such manner as Architect/Consultant may consider necessary so as not 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 of the contractor, or
- c) For safety of the works or part thereof.

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

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

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

33.0 Action when the whole security deposit is forfeited

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

- a) To rescind the contract (of which rescission notice in writing to the contractor by the Architect/Consultant shall be conclusive evidence) and in which case the security deposit of the contractor shall be forfeited and be absolutely at the disposal of SBI.
- b) To employ labour paid by the SBI and to supply materials to carry out the work, or any part of the work, debiting the contractor with the cost of the labour and materials (the cost of such labour and materials as worked out by the Architect/Consultant shall be 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 the

certificate of Architect/Consultant as to the value of work done shall be final and conclusive against the contractor.

- c) To measure up the work of the contractor, and to take such part thereof as shall be 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 (of the amount of which excess the certificates in writing of the Architects/ Consultant shall be final and conclusive) shall be borne by original contractor and may be deducted from any money due to him by SBI under the contract otherwise, or from his security deposit or the proceeds of sale thereof, or sufficient part thereof.

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

34.0 Owner's Right to Terminate the Contract

If the contractor being an individual or a firm commit any 'Act of Insolvency' or shall be adjusted an insolvent or being an incorporated company shall have an order for compulsory winding up voluntarily or subject to the supervision of Government 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 fulfil the contract, and to give security therefore if so required by the Architect/Consultant.

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

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

- a) Has abandoned the contract; or
- b) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the SBI through the Architect/Consultant written notice to proceed, or
- c) Has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBI through the Architect/ Consultant that the said materials were condemned and rejected by the Architect/ Consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBI's 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 notwithstanding 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 so 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, tools, 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 complete 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 completing and finishing or using the materials and plant for the works.

When the works shall be completed or as soon thereafter as convenient the SBI or the 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 receipt thereof by him the SBI sell the same by public auction after due publication and shall adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the SBI incidental to the sale of the materials etc.

35.0 Certificate of Payment

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

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

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

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

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

36.0 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 45 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the contractor unless notice of such claim shall have been given by the contractor to the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) in the manner and within the time as aforesaid. The contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the Assistant General Manager (Premises & Estate) / Dy. General Manager (Premises) in writing in the manner and within the time aforesaid.

- ii) The Assistant General Manager (Premises & Estate) / Dy. General Manager (Premises) shall give his decision in writing on the claims notified by the contractor. The contractor may within 45 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 45 days of termination thereof shall give a notice to the concerned Chief General Manager/Dy. Managing Director (HR) & Corporate Development Officer of the Bank for appointment of an arbitrator to adjudicate the notified claims failing which the claims of the contractor shall be deemed to have been considered absolutely barred and waived.
- iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chief General Manager at LHO /Dy. Managing Director & Corporate Development Officer at CC/CCEs. It will also be no objection to any such appointment that the Arbitrator so appointed is a technically competent person not below the rank of Superintending Engineer or equivalent position in Public Sector Banks / CPSEs, CPWD, LIC, RBI etc. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Chief General Manager/ Dy. Managing Director (HR) & Corporate Development Officer. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.
- v) It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.
- vi) It is also a term of this contract that no person other than a person appointed by such Chief General Manager aforesaid should act as arbitrator.
- vii) The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under.
- viii) It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties.
- ix) It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what

manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be paid.

37.0 Power Supply

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

38.0 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 conditions:

- i) That the water used by the Contractor shall be fit for construction purpose to the satisfaction of the Architect/Consultant.
- j) The Contractor shall make alternative arrangements for the supply of water if the arrangements made by the Contractor for procurement of water in the opinion of the Architect/Consultant is unsatisfactory.

37.1 The Contractor shall construct temporary well/tube well in SBI land for taking water for construction purposes only after obtaining permission in writing from the SBI. The contractor has to make his own arrangements for drawing and distributing the water at his own cost. He has to make necessary arrangements. To avoid any accidents or damages caused due to construction and subsequent maintenance of the wells. He has to obtain necessary approvals from the 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.

39.0 Treasure Trove etc.

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

40.0 Method of Measurement

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

41.0 Maintenance of Registers

The contractor shall maintain the following registers as per the enclosed format 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/Government from time to time.

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

42.0 Force Majeure

Neither contractor nor SBI shall be considered in default in performance of their obligations if such performance is prevented or delayed by events such as war, hostilities, revolution, riots, Electrical commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of god or for any other cause beyond the reasonable control of the party affected or prevented or delayed. However, a notice is required to be given within 45 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 to 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 of force majeure obligations of the party affected shall be suspended during the continuance of any inability so caused. With the cause itself and inability resulting therefrom having been removed, the agreed time of completion of the respective obligations under this agreement shall stand extended by a period equal to the period of delay occasioned by such events.

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

43.0 Local Laws, Acts, Regulations

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

- (i) Minimum Wages Act, 1948 (Amended)
- (ii) Payment of Wages Act 1936 (Amended)
- (iii) Workmen's Compensation Act 1923 (Amended)
- (iv) Contract Labour Regulation and Abolition Act 1970 and Central Rules 1971 (Amended)
- (v) Apprentices Act 1961 (Amended)
- (vi) Industrial Employment (Standing Order) Act 1946 (Amended)
- (vii) Personal Injuries (Compensation Insurance) Act 1963 and any other modifications
- (viii) Employees' Provident Fund and Miscellaneous Provisions Act 1952 and amendment thereof
- (ix) Shop and Establishment Act
- (x) Any other Act or enactment relating thereto and rules framed thereunder from time to time.

44.0 SAFETY CODE:

Safety as per annexure 4.32 should be followed.

45.0 Accidents

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

ANNEXURE-4.9 BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

Place:

Date:.....

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

BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

B.G.No. _____ Value Rs. _____

State Bank of India,

(Address)

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

(Name of Branch/Office)

Dear Sir,

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

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

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

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

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

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

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

This guarantee will remain valid upto _____ 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: DETAILS OF INSURANCE POLICIES

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

Remarks :

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

Architects _____

ANNEXURE-4.32: SAFETY CODE

SAFETY MEASURES AT SITE:

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

bottom. Under no circumstances undermining or under cutting shall be done.

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

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

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

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

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

ANNEXURE-4.33: SAMPLE AGREEMENT WITH CONTRACTORS

ARTICLES OF AGREEMENT

This agreement made theday ofbetween AGM/
DGM

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

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

and has caused drawings and specifications describing the works to be done prepared by Project

Architects M/s _____ having their offices at _____ (hereinafter called "the Architect")

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

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

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

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract amount to be paid at the times and the manner set forth in the said Conditions, the Contractors shall upon and subject to the said conditions execute and complete the work shown upon the said drawings and described in the said specifications and the schedule of items and quantities.
2. The employer shall pay the Contractors the amount or such other sum as shall become payable, at the times and in the manner specified in the said conditions.
3. The term "the Architect" in the said condition shall mean the said "M/s_" or in the event of their ceasing to be the Architect for the purpose of this contract for whatever reason, such other person or persons as shall be nominated for that purpose by the Employer, not being a person to whom the Contractor shall object for reasons considered to be sufficient by the Employer provided always that no person or persons subsequently appointed to be Architect under this contract shall be entitled to disregard or over rule any previous decisions or approval or direction given or expressed in writing by the architect for the time being.
4. The said conditions and appendix thereto shall be read and construed as forming part of this agreement, and the parties hereto shall respectively abide by / submit themselves to the said conditions and perform the agreements on their part respectively in the said conditions contained.
5. The plans, agreement and documents mentioned herein shall form the basis of this contract.
6. This contract is neither a fixed Lump sum contract nor a piece work contract but is a contract to carry out the work in respect of the entire project on item rate basis to be paid for according to actual measured quantities at the rates contained in the schedule of quantities and rates or as provided in the said conditions.
7. The Bank / Employer reserves to itself the rights of altering the specifications and nature of work by adding to or omitting any item of work or having portions of the same carried out without prejudice to the contract.
8. Time shall be considered as the essence of this contract and the contractor here by agrees to

commence the work soon after the site is handed over to him or from the 14th day after date of issue of formal work order as provided for in the said conditions of 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 fullest satisfaction of architect / Employer.

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

Signed on behalf of the

Signed on behalf of the

STATE BANK OF INDIA

CONTRACTORS

In the presence of :

In the presence of :

1. Signature :

1. Signature :

Name :

Name :

Address :

Address :

In the presence of :

In the presence of :

2. Signature :

2. Signature :

Name :

Name :

Address :

Address :

APPENDIX HEREIN BEFORE REFERRED TO

- 1) Name of the organization Offering Contract : **The Assistant General Manager,
Admin office, AAO-3,
State Bank of India, 5th floor, Old LHO
Building, Lal Darwaja, Ahmedabad.**
- 2) Consultants : **ARCHITECT M/s. Mahesh Desai**
- 3) Site Address : **SBI,SHRINANDNAGAR BRANCH,
AHMEDABAD.**
- 4) Scope of Work** : **Proposed Electrical Work of SBI,
SHRINANDNAGAR BRANCH,
AHMEDABAD.**
- 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 : **4,800/-**
- 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 allrisk 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.) : **NIL**
- 14) Date of Commencement : From the date of work order issued to
The contractor/ or the day on which
the Contractor is instructed to take
possession of
the site whichever is earlier.
- 15) Period of Final Measurement : 2 Months from the date of Virtual
Completion Certificate (VCC) issued
by the project Architect

- 16) Initial Security Deposit : 2% including EMD
- 17) Total Security Deposit : 5.0% of the final bill amount or contract value
- 18) Refund of Total Security Deposit : 50% of the Security Deposit shall be refunded to the Contractor on completion of the work/along with the final bill and balance refunded only after the Defect Liability Period is over.
- 19) Period for Honoring Certificate : **7 days for R.A. Bills**
- 20) The final bill will be submitted by the Contractor within one month of the date fixed for completion work and the Bill shall be certified within 3 Months from the date of receipt of final bill provided the bills are submitted with all pre-requisite documents/test reports etc. prescribed in the tender.

Signature of Tenderer. _____

Date:

LETTER OF DECLARATION

To,
The Assistant General Manager,
Admin office, AAO-3,
State Bank of India, 5th floor, Old LHO Building,
Lal Darwaja, Ahmedabad.

Dear Sir,

PROPOSED ELECTRICAL WORKS FOR SBI,SHRINANDNAGAR BRANCH, AHMEDABAD.

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 Electrical works for SBI, SHRINANDNAGAR BRANCH, AHMEDABAD.
(b)	Earnest Money	4,800/-
(c)	Time allowed for completion of work from the date of issue of work order.	30 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 a 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 Descrip tion	Unit	Rate (Rs.)	As per Tender		Up to Previous R.A. Bill		Up to Date (Gross)		Present Bill		Remar ks
				Qty	Amo unt (Rs.)	Qty	Amou nt (Rs.)	Qty	Amoun t (Rs.)	Qty	Amoun t (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 _____

Net Value since previous bill

CERTIFICATE

The measurements on the basis of which the above entries for the Running Bill No. -----
----- were made have been taken jointly on ----- and are recorded in Excel format.
Excel sheet enclosed

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

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

Architect Signature and date of Site Engineer

TABLE – XV

MEMORANDUM FOR PAYMENT

R/A BILL NO.

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

OBJECTIONS:

i)	Secured Advance paid in the previous R/A	Rs.....
ii)	Retention money on value of works as per accepted tenders up to date amount Rs.	Rs.....

	Less already recovered		Rs.....
	Balance to be recovered		Rs.....
iii)	Mobilization Advance, if any		Rs.....
(a)	Outstanding amount (principal interest) as on date	+	Rs.....
(b)	To be recovered in this bill		Rs.....
iii.	Any other Departmental materials cost to be recovered as per contract, if any		Rs.....
iv.	Any other Departmental service charges to be recovered if any, as per contract (water, power etc.) enclose statement.		Rs.....

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

Date:-----

Signature of 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
given in the
Memorandu
m for
payable has been verified and bill passed for payment -----
----- (in words and figures)

Date:-----

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

SPECIFICATION OF MATERIALS

All the material to be used shall be as per the specified make of the materials list and ISI approved Brand. Any deviation from this shall be got approved from Architect / Owner, the contractor shall submit samples of material to be used for verifications and Produce Bill in original.

1. **SAMPLES** :After receipt of the bids but prior to award of the contract, bidder shall, upon notification from owner submit samples of materials he intends to Use.

The owner shall reserve the right to evaluate the sample with regard to the Specification before award of work. Samples as directed by the Architect / Owner for various items shall be prepared / brought for approval without any cost.

Special Notes:

- a) The successful tendered will have to supply the make of the materials as recommended and in consultation with the Client / Architect / Consultant without any extra cost. Client / Architect / Consultant reserve the rights to choose any make out of above list.
- b) Tenderer should have to specify the list of makes considered in the tender while quoting the rates in the tender, in covering letter of separate letter enclosure. However, the final decision for accepting make specified by tenderer would be of client / Architect / Consultants.
- c) As far as possible, the successful tenderer will have to place order directly to the manufacturer or it's authorized dealer.
- d) The client / Architect/ Consultant have right to Check the Challans of supplier.
- e) The RCCB, RCBO, MCB and MCB DBs must be of same make.
- f) Make of components required to be used by contractor to complete the installation, if not mentioned anywhere, shall be required to GOT it Approved by Client / Architect/ Consultant before installation in writing manner.
- g) Within a week of work order, the contractor shall submit the sample of each item / component of above-mentioned approved make for the approval of the Client / Architect / Consultant.

APPLICABLE STANDARDS

<u>Sr. No.</u>	<u>IS No.</u>	<u>Description</u>
1)	IS:2026-1977 IS 3639	: Distributing transformers & fittings. Fittings and acc.For P.T.
2)	IS:7886 IS:660	: Installation of Transformer.
3)	IS:2516-1972	: Specification for AC circuit Breakers.
4)	IS:335	: Insulating oil for Transformers & switch gear.
5)	IS:2705	: CT for measuring and protection.
6)	IS:3155	: Voltage (Potential) Transformers.
7)	IS:3236 Part II	: Voltage Transformer.
8)	IS:373	: Busbar arrangement and marking.
9)	IS:2099	: Bushing
10)	IS:5621	: Large Hollow Porcelains
11)	IS:2544	: Insulators
12)	IS:2629& 2633	: Hot Dip Galvanizing
13)	IS:3842	: Relays.
14)	IS:1248-1958	: Meters (measuring).
15)	IS:3072-1975	: Installation of Switch gears.
16)	IS:692	: HV cable.
17)	IS:1255	: Installation of HV cables and jointing.
18)	IS:3043	: Code of practice for earthing.
19)	IS:4047-1977	: HD Air breaker, Switch gears and fuses for Voltage not exceeding 1000 Volts.
20)	IS:8106-1966	: Selection, installation and maintenance of fuses upto 650 Volts.
21)	IS:4237-1967	: for voltage not exceeding 1000 Volts.
22)	IS:2607-1976	: Air-break isolators for Voltage not exceeding 1000 Volts.
23)	IS:8623-1977	: Factory built assemblies of switch gears and

- control gears for voltage upto and including 1000 Volts A.C. and 1200 Volts D.C.
- 24) IS:375-1963 : Marking and arrangement of switch gear bus bars main connectors and auxiliary wiring.
- 25) IS:2147-1962 : Cubical Boards.
- 26) IS:8084-1972 : Insulated conductor rating.
- 27) IS:2675-1983 : Enclosed distribution fuse boards and cutouts for Voltage not exceeding 1000 Volts.
- 28) IS:8828-1978 : Miniature Circuit Breaker.
- 29) IS:9926-1981 : Fuse wire used in re-wearable type electric fuses upto 650Volts.
- 30) IS:1554 (Part I) : PVC insulated electric cables Heavy duty.
- 31) IS:3961 (Part II) : Recommended current rating for cables.
- 32) IS:2982 : Copper conductor in insulated cables and cores.
- 33) IS:8130 : Conductor for insulated electric cables and flexible rods.
- 34) IS:3975 : Mild steel wires, strips and tapes for armoring cables.
- 35) IS:5831 : PVC insulation and sheath of electric cables.
- 36) IS:1753 : Aluminum conductor for insulated cables.
- 37) IS:4288 : PVC insulated and PVC sheathed solid aluminum conductor cables of voltage rating not exceeding 1100 volts.
- 38) IS:961 : Recommended current rating for Cable.
- 39) S:732 : Code of practice for electrical wiring installation system Voltage not exceeding 650 Volts.
- 40) IS:1646 : Code of practice for fire safety of Buildings (general) electrical installation.
- 41) IS:1653 : Rigid steel conduits for electrical wiring.
- 42) IS:2667 : Fittings for rigid steel conduits for electrical wiring.
- 43) IS:3480 : Flexible steel conduit for electrical wiring.

44)	IS:3837	:	Accessories for rigid steel conduits for electrical wiring.
45)	IS:694	:	PVC insulated cables (wires).
46)	IS:2509	:	Rigid non-metallic conduits for electrical wiring.
47)	IS:6946	:	Flexible (playable) nonmetallic conduits for electrical installation.
48)	IS:1293	:	Three pin plugs and sockets.
49)	IS:8180	:	Conductors for insulated electrical cables and flexible codes.
50)	IS:9537-1980	:	Specification for conduit for electrical installation.
51)	IS:3419	:	Accessories for non-metallic conduits for electrical wiring.
52)	IS:3854	:	Switches.
53)	IS:6538	:	Plugs.
54)	IS:2834-1954	:	Shunt Capacitors for power systems.
55)	IS:2208	:	HRC cartridge fuse and links up to 660 volts.
56)	IS:1913-1969	:	General and safety requirement for lighting fittings.
57)	IS:2944-1981	:	Code of practice for lighting public thorough fares.
58)	IS:3528	:	Waterproof electric lighting fittings.
59)	IS:3553-1966	:	Water tight electric lighting fitting.
60)	IS:1239-1958	:	Mild Steel tubular and other wrought steel pipe fitting.
63)	IS:2149-1970	:	Luminaries for street light.
64)	IS:9224	:	HRC fuses having rupturing capacity of 90 KA.
65)	IS:2312-1967	:	Exhaust Fan.
66)	IS:374-1979	:	Class I Ceiling Fan.

NOTE : All codes and standards means the latest where not specified otherwise the installation shall generally follow the Indian Standard codes of practice or relevant British Standard Codes of Practice in the absence of corresponding Indian Standards.

PLEASE FOLLOW :

- a. Indian Electricity Act of 1910 and rules issued there under revised up to date.
- b. Special Attention should be given to Rule No. 50.
- c. Regulations for electrical equipment in building issued by The Bombay Regional Council of insurance Association of India.

ELECTRICAL MATERIAL SPECIFICATION

DISTRIBUTION BOARDS

The scope of work shall cover supply, installation testing and commissioning of all distribution boards -

Standards :

AS PER SCHEDULE OF INDIAN STANDARDS, ATTACHED IN THE DOCUMENT.

Distribution Boards :

Distribution boards along with the controlling MCB's/Fuse or Isolator as shown shall be fixed in an M.S. Box with hinged door suitable for recessed mounting in wall. Distribution boards shall be made of 18 SWG steel sheet duly rust inhibited through a process of de-greasing, acid pickling, phosphate and powder coated to an approved color of adequate micron rating duly approved by architect/consultant.

Three phase boards shall have phase barriers and a wire channel on three sides. Neutral bars shall be solid tinned copper bars with tapped holes and chase headed screws. For 3 phase DB's, 3. independent neutral bars shall be provided. All DB's shall be internally pre-wired using copper insulated PVC wires brought to a terminal strip of appropriate rating for outgoing feeders.

Conduit knockouts shall be provided as required/shown on drawings and the entire board shall be rendered dust and vermin proof with necessary sealing gaskets. The top and bottom side of DB should be detachable.

MCB's shall have quick make and break non-- welding self-wiping silver alloy contacts for 10 KA short circuit both on the manual and automatic operation. Each pole of the breaker shall be provided with inverse time thermal over load and instantaneous over current tripping elements, with trip - free mechanism. In case of multi-pole breakers, the tripping must be on all the poles and operating handle shall be common. Breakers must conform to BS 3871 with facility for locking in OFF position. Pressure clamp terminals for stranded/solid conductor insertion are acceptable up to 4 sq.mm. aluminum or 2.5 sq.mm. copper and for higher ratings, the terminals shall be suitably shrouded. Wherever MCB isolators are specified they are without the tripping elements.

Fuses shall be HRC link type re-wires able with necessary fuse carriers and with rating of not less than 25 MVA. Bottle type fuses are not acceptable. Fuse carrier terminals shall be suitably shrouded. Re-wire able fuse carriers shall be porcelain. HRC fuses for motor duty should be time lag type.

Distribution boards shall have HRC/re-wire able fuses as shown on the schedule and drawings. Board shall meet with the requirements of IS 2675 and marking arrangement of bus bars shall be in accordance with I.S. standards.

Bus bars shall be suitable for the incoming switch rating and sized for a temperature rise of 35° C over the ambient. Each board shall have two separate earthing terminals. Circuit diagram indicating the load distribution shall be pasted on the inside of the DB as instructed. One earthing terminal for single phase and two terminals for 3 phase DB's shall be provided with an earth strip connecting the studs and the outgoing ECU earth bar.

In the case of MCB distribution boards, the backup fuses wherever shown shall be not less than 63 A with a delayed characteristic and a minimum pre-arcing time of 0.5 sec. At 9 KA/3 KA fault current.

All outgoing feeders shall terminate on a terminal strip which in turn is interconnected to the MCB/Fuse base by means of insulated single conductor copper wires as follows:

Up to 15 A	2.5 sq.mm.	40 A	10 sq.mm.
25 A	4.0 sq.mm.	63 A	16 sq.mm.
32 A	6.0 sq.mm.		

RCCB / MCB:

The RCCB should suffice all the requirements of IS as per code IS – 12640 – 1988. The RCA should be current operated and not on line voltage.

The RCCB should ensure mainly the following functions.

Measurement of the fault current value.

Comparison of the fault current with a reference value.

The RCCB should have a toroidal transformer which has the main conductors of primary (P – N) which check the sum of the current close to zero.

All metal parts should be inherently resistant to corrosion and treated to make them corrosion resistant.

It should be truly current operated.

It should operate on core balance toroidal transformer.

It's accuracy should be $\pm 5\%$.

It should operate even in case of neutral failure.

It should trip at a present leakage current within 30 M.S.

It's enclosure should be as per IP 30.

It's mechanical operation life should be more than 20,000 operations.

It should provide full protection as envisaged by IE rules – 61-A, 71 – ee, 73 – ee, 1985 and also rule 50 of IE rule 1956.

It should conform to all national and international standards like IS 8828: 1993, IS 12640 – 1988, BS 4293 – 1983, CEE 27 (International commission Rules for the approved of electrical equipment)

MEDIUM VOLTAGE CABLING

Scope :

The scope consists of Laying & testing L. T. Cable and its termination.

Standards :

AS PER SCHEDULE OF INDIAN STANDARDS; ATTACHED IN THE DOCUMENT

Cables :

All cables shall be 1100 Volt grade XLPE insulated, sheathed with or without steel armoring as specified and with an outer PVC protective sheath. Cables shall have high conductivity stranded aluminum or copper conductors and cores color coded to the Indian Standards. All cables laid up to load should be without any joint.

All cables shall be new without any kind of visible damage. The manufacturers name, insulating material, conductor size and voltage class shall be marked on the surface of the cable at every 600 mm centers.

Cable joints and termination:

Connectors :

Cable terminations shall be made with copper Heavy duty long neck copper crimping lugs only crimped type solder less lugs for all aluminum cables and stud type terminals. For copper cables copper crimped solder less lugs shall be used. Crimping shall be done with the help of hydraulically operated crimping tool. All cable lugs should be long neck type only.

Cable Glands :

Cable glands shall be of heavy duty brass single compression type as specified. Generally single compression type cable glands shall be used for indoor protected locations and double compression type shall be used for outdoor locations. Glands for classified hazardous areas shall be CMRS approved.

Ferrules :

Ferrules shall be of self-sticking type and shall be employed to designate the various cores of the control cable by the terminal numbers to which the cores are connected, for ease in identification and maintenance.

Cable joints :

Kit type joint shall be done and filled with insulating compound. The joint should be for 1.1 KV grade insulation.

CONDUIT WIRING

1.0 Scope :

1.1 The scope of work shall cover supply, installation testing and commissioning of all.

2.0 Standards : **As per annexure - iv**

3.0 Rigid and Flexible conduits :

3.1 All PVC conduits shall be laid in open/concealed manner which are approved by F.I.A. & I.S.I. & of 25 mm.Diameter.

3.2 Flexible conduits shall be formed from a continuous length of spirally wound interlocked steel strip with a fused zinc coating on both sides. The conduits shall be terminated in brass adapters.

4.0 Accessories :

4.1 PVC conduit fittings such as bends, elbows, reducers, chase nipples, split couplings, plugs etc. shall be specifically designed and manufactured for their particular application. All conduit fittings shall conform to IS: 2667-1974 and IS: 3887-1966. All fitting associated with galvanized conduit shall also be galvanized.

5.0 Wires :

5.1 All wires shall be single core multi-strand/ flexible copper or single strand Aluminum / Copper, PVC insulated as per IS: 694 and shall be 660v/ 1100V grade.

5.2 All wires shall be color coded as follows :

Phase	Colour of wire
R	Red
Y	Yellow
B	Blue
N	Black
Earth	Green (insulated)
Control (If any)	Grey
All off wires	Same as Phase wire

5.3 **Color code should be strictly used for all wiring.**

- ii) Installation, commissioning and testing.
- iii) Cable marking.

For cable buried underground :

- i) Cables and protective bricks & tiles.
- ii) Installation, commissioning & testing.
- iii) Cable markers.

6.0 **Switches & Sockets:**

6.1 Switches shall be module type/ flush piano type with silver-coated contacts. Sockets shall be 3 pin with switch and plate type cover. Combination of multiple switch units and sockets should be used to minimize the switch boxes.

- 6.2 For heavy duty, metal clad sockets with M.C.B./ Isolator mounted in a galvanized steel box shall be provided.
- 7.0 Installation:
- 7.1 Conduits shall be kept at a minimum distance of 100 mm. From the pipes of other non-electrical services. And maintain minimum 300 mm distance between telephone, TV & Computer piping.
- 7.2 Separate conduits/raceways shall be used for:
1. Normal lights and 5 A 3 pin sockets on lighting circuit.
 2. Separate conduit shall be laid from D.B. to switch board or point.
 3. Power outlets – 15 A 3 pin 20 A/30 A, 2 pin scraping earth metal clad sockets.
 4. Emergency lighting.
 5. Telephones.
 6. Fire alarm system.
 7. Public address system & Music system.
 8. For all other voltages higher or lower than 230 V.
 9. T.V. Antenna.
 10. Water level guard.
 11. Computer Wiring.
- 7.3 Call bell wiring layout of conduits shall be generally indicated on drawings and the layout shall be supplemented and complemented by contractor on site with approval of the Engineer.
- 7.4 Wiring for short extensions to outlets in hung ceiling or to vibrating equipments, motors etc., shall be installed in flexible conduits. Otherwise rigid conduits shall be used. No flexible extension shall exceed 1.25 m.
- 7.5 Conduits run on surfaces shall be supported on metal 12 mm. thick saddles which in turn are properly screwed to the wall or ceiling. Saddles shall be at intervals of not more than 500 mm. Fixing screws shall be with round or cheese head and of rust-proof materials. Exposed conduits shall be neatly run parallel or at right angles to the walls of the building. Unseemly conduit bends and offsets shall be avoided by using fabricated mild steel junction/pull through boxes for better appearances. No cross-over of conduits shall be allowed unless it is necessary and entire conduit installation shall be clean and neat in appearance.
- 7.6 Conduits embedded into the walls shall be fixed by means staples at not more than 500 mm. intervals. Chases in the walls shall be neatly made and refilled after laying the conduit and brought to the finish of the wall but final finish will be done by the building contractor. The contractor shall provide wire mesh before making rough plaster.
- 7.8 Conduits buried in concrete structure shall be put in position and securely fastened to the reinforcement and got approved by the Engineer, before the concrete is poured. Proper care shall be taken to ensure that the conduits are neither dislocated nor choked at the time of pouring the concrete suitable fish wires shall be drawn in all conduits before they are embedded.
- 7.9 Inspection boxes shall be provided for periodical inspection to facilitate withdrawal and removal of wires. Such inspection boxes shall be flush with the wall or ceiling in the case of concealed conduits. Inspection boxes shall be spaced at not more than 12 meters apart or two 90° solid bends or equal. All junction and switch boxes shall be covered by 6 mm. clear Perspex plate truly cut and fixed with cadmium plated brass screws. These junction boxes shall form part of point wiring or conduit wiring as the case may be including the cost

of removing the Perspex cover for painting and re-fixing. No separate charges shall be allowed except where specially mentioned.

- 7.10 Conduits shall be free from sharp edges and burrs and the threading free from grease or oil. The entire system of conduits must be completely installed and rendered electrically continuous before the conductors are pulled in. Conduits should terminate in junction boxes of not less than 32 mm. deep.
- 7.11.1 An insulated earth wire of copper rated capacity shall be run in each conduit for entire length.
- 8.0 Lighting & Power Wiring:
 - 8.1 All final branch circuits for lighting and appliances shall be single conductor/ stranded/ flexi-cables run inside conduits. The conduit shall be properly connected or jointed into sockets, bays, and junction boxes.
 - 8.2 All circuits shall preferably be kept in a separate conduit up to the Distribution Board. No other wiring shall be bunched in the same conduit except those belonging to the same phase. Each lighting branch circuit shall not have more than ten outlets or 800 watts whichever is lower. Each conduit shall not hold more than three branch circuits of same phase.
 - 8.3 Flexible cords for connection to appliances, fans and pendants shall be 650/1100V grade (three or four cores i.e with insulated neutral wire of same size) with tinned stranded copper wires, insulated, twisted and sheathed with strengthening cord. Color of sheath shall be subject to the Engineer's approval.
 - 8.4 Looping system of wiring shall be used. Wires shall not be jointed. Where joints are unavoidable, they shall be made through approved mechanical connectors. No such joints shall be made unless the length of the sub-circuit, sub-main or main is more than the length of the standard coil.
 - 8.5 Control switches shall be connected in the phase conductors only. Switches shall be fixed in 3 mm. thick painted or galvanized steel boxes with cover plates as specified. Cadmium plated brass screws shall be used.
 - 8.6 Power wiring shall be distinctly separate from lighting wiring. Conduits not less than 25 mm. and wires not less than 2.5 sq. mm. copper shall be used.
 - 8.7 Every conductor shall be provided with identification ferrules at both ends matching the drawings.
- 9.0 Testing :
 - 9.1 The entire installation shall be tested for :
 - a) Insulation resistance.
 - b) Earth continuity.
 - c) Polarity of single pole switches.

A test certificate shall be submitted in the Performa shown under Appendix – I.

10.0 Mode of measurement:

10.1 The definition of point wiring shall be in accordance with sketch drawing and should wiring from D.B. onwards together with all junction boxes, connectors, earth wire, fixing accessories, connection to all light fittings switches etc. as specified and shown on drawings. The point rate shall include circuit wiring from distribution board to switch board and/or directly to the point. The circuit wire shall be in separate conduit. The contractor may draw maximum 2/3 circuits of the same phase in circuit mains conduit.

10.2 All switches sockets with boxes, earthing interconnection and plate type silver contact switch shall be inclusive in point wiring.

10.3 All empty conduit runs, including junction boxes fish wires etc. shall be paid on the basis of unit length.

Measurements shall be along the conduit and concurrent length of sub-circuit wiring.

10.4 Buzzer indicator of the ways specified shall consist of indicating lamps, reset button, electromagnet, Perspex cover plate, chromium plated brass screws etc. shall be considered as on unit for measurement and payment.

10.5 Two way light points shall be classified according to and consist of 2 Nos. 2 way plate type switches, wiring from the 1st 2 way switch to the 2nd 2 way switch to the first light controlled. Subsequent lights, if any, shall be measured as ordinary secondary point.

EARTHING

Scope :

The Scope of work shall cover supply of earthing stations, laying copper earth strips and connecting the power panels, DB's and switch boards.

Standards :

AS PER ANNEXURE – IV.

Plate Earthing Station :

The substation earthing shall be with copper plate earthing station unless otherwise specified.

The earthing station shall be as shown on the drawing. The earth electrodes shall be 450 x 450 x 3 mm / 600 x 600 x 6 mm. Copper plate – as specified in B.O.Q. The earth resistance shall be maintained with a suitable soil treatment as shown on drawings.

The resistance of each earth station should not exceed 1 ohms.

The earth lead shall be connected to the earth plate through copper/brass bolts as shown on the drawing.

Minimum distance between two earth pits shall be 2 Mts.

All earth pits shall be minimum 1 Mt. Away from building foundation.

Pipe Earthing Station :

The earth station shall be as shown on the drawing and shall be used for equipment earth grid. The earth electrode shall be 2.5 m. long 50 mm. Diameter galvanized steel pipe. The earth resistance shall be maintained with a suitable soil treatment as shown on drawings.

The resistance of each earth station should not exceed 5 ohms.

The earth lead shall be fixed to the pipe with a and safety set screws. The clamps shall be permanently accessible.

Earth leads and connections :

Earth lead shall be bare copper or aluminum or galvanized steel as specified with sizes shown on drawings. At road crossings necessary Hume pipes shall be laid. Earth lead run on surface of wall or ceiling shall be fixed on saddles or wall.

The complete earthing system shall be mechanically and electrically bonded to provide an independent return path to the earth source.

Equipment Earthing :

All apparatus and equipment transmitting or utilizing power shall be earthed in the following manner. Copper earth wires shall be used unless otherwise indicated in the schedule of work and drawings.

Power transmission apparatus :

Metallic conduit shall not be accepted as an earth continuity conductor. A separate Insulated/bare earth continuity conductor of size 50% of the phase conductor subject to the minimum and maximum shall be provided.

Non-metallic conduit shall have an insulated earth continuity conductor of the same size as for metallic conduit. All metal junction and switch boxes shall have an inside earth stud to which the earth conductor shall be connected. The earth conductor shall be distinctly colored (green) for easy identification.

In the case of cable, an earth continuity conductor shall either be run outside along the cable or should form a separate insulated core of the cable.

Three Ph. Power panels and distribution boards shall have 2 distinct earth connections of the size correlated to the incoming cable size. In case of 1 Ph. DB's a single earth connection is adequate. Similarly for 3 Ph and 1 Ph isolating switches there shall be 2 and 1 earth connections respectively, sizes being correlated to the incoming cable.

Testing :

The following earth resistance values shall be measured with an approved earth meggar and recorded.

Each earthing station

Earthing system as a whole

Earth continuity conductors

Mode of measurements :

Providing earthing station complete with excavation, electrode, watering pipe, soil treatment, masonry chamber with cast iron cover etc. shall be treated as one unit of measurement.

The following items of work shall be measured and paid per unit length covering the cost of the earth wires/strips clamps, labor etc.

Main equipment earthing grid and connections to the earthing stations.

Connections to the switchboard, power panels, distribution boards etc.

The cost of earthing the following items shall become part of the cost of the item itself and no separate payment for earthing shall be made.

Isolating switches and starters should form part of mounting frame, switch starter etc.

Light fittings – form part of installation of the light fitting.

Conduit wiring cabling – should form part of the wiring or cabling.

TELEPHONE DISTRIBUTION

This cover supply ,installation, testing, commissioning of telephone system.

1) The scope of work shall cover supply, installation, commissioning and testing of :

Telephone cables

Telephone Tag Blocks

Telephone wiring in conduits

The telephone exchange and the hand sets shall be supplied by the clients.

2) **Conduits :**

Conduits shall be as given below :

Indoor :medium gauge Rigid PVC conduit.

If in flooring provide heavy gauge.

The conduit shall generally be as specified under section 'CONDUIT WIRING'.

3) **Cables and Wires :**

The type of cables and the services shall be as follows :

Indoor Multi pair, PVC insulated sheathed armored and sheathed.

Inside Twin core PVC insulated with conduit twisted cores.

All multi core cables and wires shall be of tinned copper conductor of not less than

0.5 mm dia and shall be color coded twisted pairs with rip cord.

The conductor resistance shall be less than 150 ohms per KM and the insulation resistance between the conductors not less than 50 mega ohms and the nominal capacitance of about 0.1 micro farad per kilometer.

Cables laid underground or locations subject to dampness and flooding shall be filled with polyethylene compound and shall have sufficient protection against moisture and water ingress.

All armoring shall be of galvanized steel wires and protected against corrosion by an outer sheath of PVC in the case of indoor cables and polyethylene in the case of outdoor cables. Outer sheathing must be fire retarding and anti - termite.

All unarmored single core cables and inner sheath of armored cables shall be provided with rip cord.

All single pair cables for final extension to the telephone outlet box shall be unarmored tinned copper conductors of not less than 0.6 mm. Diameter and shall be drawn in conduits. All telephone outlets shall consist of 2 A 2 pair polythene connector in G.I box with 6 mm bus bar cover with bus bar edges and chromium plated brass hardware.

Tag blocks :

The telephone tag blocks shall be suitable for the multi core telephone cables and shall have two terminal blocks, cross connect type. All incoming and outgoing cables shall be terminated on separate terminal blocks and termination shall be silver soldered. The cross connecting jumpers shall be insulated wires of same diameter and screw connected.

The tag blocks shall be mounted inside fabricated sheet steel boxes with removable hinged covers and shall be fully accessible. The enclosure shall be painted with 2 coats of red oxide and stove bus bar.

Installation :

The installation of conduits shall generally be as specified under section `CONDUIT WIRING`.

Telephone / Data pipes shall be kept 100 from power conduit.

Separate J.B. shall be provided for telephone & Computer.

All cables shall be on cable racks and neatly stitched together.

The connection at the tag blocks shall be silver soldered so as to achieve minimum contact resistance.

The final branch connections with single pair cables in conduits and the maximum number of cables in each conduit shall be as follows :

Conduit diameter		Max. No. of cables
inch	mm.	
	¾" 20	2 Nos. single pair
	1"	25 6 Nos. single pair
	1¼" 32	12 Nos. single pair

1½" 40

18 Nos. single pair

INSTALLATION TESTS CERTIFICATE

BY ELECTRICAL CONTRACTOR

This contractor is to certify that the work is carried Out work confirming to IE Rules and

code of practice. He has to give the test report is under.

- (i) Insulation Resistance test is
- R - N M. Ohms
 - Y - N M. Ohms
 - B - N N. Ohms

- (ii) Load test : -

5A - 1000 W Power Point - 15 Minutes

15A - 3000 W Power Point - 15 Minutes

- (iii) Earth resistance for each electrode - 1 Ohm
- 2 Ohm
 - 3 Ohm
 - 4 - N - E Volts

- (iv) Certificate of makes of materials used in the work

- (v) Circuit diagram

- (vi) Certified that the electrification work has been carried out under the supervision of licensed Electrical supervision.

- (vii) Certified that the earthing plate / pipe has been verified and Placed at correct depth confirming to IE Rules.

Signature of Electrical Supervision Signature of Contractor

Name :

License No. :

IMPORTANT POINTS TO BE NOTED

- 1) Rates for **LIGHT, FAN, EX. FAN, CALL BELL, RAW POWER ETC. POINTS** includes the cost of main wires and PVC pipes from **LDB-ROW POWER DB to DIFFERENT SWITCHBOARDS WITH REQUIRE CIRCUITS .**
- 2) Rates for **COMPUTER POWER POINTS** include the cost of wires and PVC pipes from **UPS DB to COMPUTER POWER POINTS.**
- 3) Rates for **COMPUTER I/O** include the cost of **DATA** cables and PVC pipes from **SERVER SWITCH to COMPUTER NODES.**
- 4) Rates for **TELE POINTS** include the cost of TELEPHONE Wires and PVC pipes from **EPABX/CRONE BOX to TELE. POINTS.**
- 5) Rates for **A.C. / POWER POINTS** include the cost of wires and PVC pipes from **A.C.DB to DIFFERENT A.C. AND POWER POINTS WITH REQUIRE CIRCUITS.**
- 6) THE CONTRACTOR SHOULD SUBMIT THE BUILTUP **SLD OF PANEL, SLD OF DIFFERENT DBS TO DIFFERENT SWITCHBOARDS WITH NUMBERING, SLD OF DATARACK TO DIFFERENT I/O POINTS WITH NUMBERING, TELE. KRONE BOX TO DIFFERENT TELE. POINTS WITH NUMBERING, ETC.** AFTER EXECUTION OF THE BRANCH. – 2 SETS OF COPIES – 1 WITH LAMINATION.
- 7) **THE CONTRACTOR SHOULD USE MAX. 3 CIRCUITS IN ONE CONDUIT FOR UPS & RAW POWER POINTS.**
- 8) **THE CONTRACTOR SHOULD USE MAX. 3 WIRES OF DATA & TELE. IN ONE CONDUIT.**
- 9) **EVERY CONDUIT FOR UPS , RAW POWER , DATA & TELE., POWER POINTS, AC POINTS , LIGHTING POINTS SB SHOULD BE SEPARATE.**
- 10) **FOR DATA & TELE. POINTS, BIG JUNCTION BOX MUST BE REQUIRED.**
- 11) **FOR UPS & RAW POWER POINTS, BIG/ SMALL JUNCTION BOX MUST BE REQUIRED.**
- 12) **EMPTY CONDUIT MUST BE LAID FOR SECURITY SYSTEM.**
- 13) **PVC CONDUITS MUST BE CLAMPED WITH SADDLES IN CEILING ONLY.**
- 14) **ELE. CONTRACTOR MUST SUBMIT CERTIFIED LOAD LIST WITH ELE. LICENSE NO. / SUPERVISOR CERTIFICATE NO.**
- 15) **CONTRACTOR SHOULD SUBMIT TEST REPORT.**
- 16) **CONTRACTOR SHOULD PRESENT EARTHING PLATES BEFORE EXECUTION**

APPROVED MAKE LIST OF EQUIPMENT AND ACCESSORIES

1	PVC rigid conduits & Accessories:	1.5 mm thick (MMS) ISI and FIA approved - Precision / Vraj / Nihir / BLP / FFI / Astral / Polycab / Anchor make. (Only white coloured pipes FRLS type to be used.).
2	L.T. Cables:	Havells / KEI / Polycab / R. R. Kable / Finolex.
3	Wires (FRLS):	Havells / KEI / Polycab / R. R. Kable / Finolex / Anchor.
4	Main Distribution Boards:	MDS Legrand (Lexic)/ Hager / Havalls / Schneider (Eazy 9)/ C & S Wintrip / Siemens Bitaguard / ABB.
5	ELCB / RCCB / Miniature Circuit Breaker:	MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9)/ C & S Wintrip / Siemens Bitaguard / ABB.
6	Switch gears:	MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9)/ C & S Wintrip / Siemens Bitaguard / ABB.
7	Change Over Switch:	HPL Socomac/ Havells / L & T / Hager.
8	Domestic fittings:	
	a) All Switching Modular Accessories.	Schneider Livia / Anchor Roma Plus / Crabtree Verona / Legrand Myris / ABB / Salzer (S 90).
	b) Holders / ceiling roses	Anchor / ABB or equivalent approved make.
	c) Adhesive Tape	Bhor (Steel Grip) or approved .
9	10 - 30 A Polycarbonate Socket & Top:	MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9)/ C & S Wintrip / Siemens Bitaguard / ABB.
10	Telephone Wires / Cable:	Finolex / R. R. Kable / Havells / L & T / Polycab.
11	Telephone tag block:	Krone make.
12	Cable Lugs:	Dowell / Lotus / Jainson / 3 D.
13	Cable gland Single / Double Compression:	HMI / Comet / 3D.
14	Ammeter / Voltmeter:	AE / HPL / MECO / Enercon make.
15	Selector switches:	L & T salzer / Kaycee / ABB make.
16	Indicator lamps:	LED type Teknic / Precifine/ Binay / ABB.
17	Connector strips:	Wago / Elmex make.
18	Lighting Fixtures :	Wipro / Philips / GE / Crompton / Havells.
19	Exhaust fan (Light duty):	Khaitan / Crompton / Havells.
20	Ceiling Fan (5 star rated):	Crompton (High Breeze Plus) / Havells / Orient (PSPO).
21	Wall mounted Fan (5 star rated):	Crompton (High Flow Wave) / Havells.
22	Data Cable - I / O Unit:	D - Link / Digi Link.
LIGHTING / FAN FIXTURES - SEE CAT NO. & SPECIFIED MAKE IN THE PRICE BID.		
CONTRACTOR SHOULD USE ONLY ONE COMPANY FOR ALL SWITCHBOARDS / DBS.		
CONTRACTOR SHOULD SUBMIT SIGNED COPY OF MAKE LIST BEFORE WORK STARTED.		

PRICE BID

**BOQ : Interior Decoration & Furniture work : ELECTRICAL WORK of
Shrinandnagar for State Bank of India.**

Sr. No.	DESCRIPTION	QTY	UNIT
	NOTE : ALL CHARIS OR CHASES IN WALLS / COLUMNS / SLABS MADE BY THE ELECTRICAL CONTRACTOR FOR INSTALLATION OF CONDUITS / S.B. / BOXES ETC. THE FILLING OF THE SAME IS IN THE SCOPE OF THE ELECTRICAL CONTRACTOR INCLUDING ALL NECESSITY MATERIAL AND LABOUR.		
	PART - A ::: BRANCH		
A	INTERNAL WIRING :Phase wire must be Red colour for LDB, Yellow colour for PDB & Blue for ACDB, Neutral Wire of Black colour& Green Wire for Earthing. Color code must be maintained. Tagging from DB MCB and Switch board must be done.		
1	SITC of point wiring in concealed in walls, furniture's & for above false ceiling, or on ceiling, on beams shall be fixed with saddles & spacers etc., with conduits taken in slab with 20 mm dia PVC Rigid conduits 1.5 mm thick ISI mark with 2 nos. of 1.5 sq. mm. phase & nutral& 1 nos. of 1.0 sq. mm. earthing with modular switch with company made flush metal box/surface PVC box etc. comp. with nec. main lines for switch board from LDB of mains of 2 nos. of 2.5 sq.mm wire and 1 no.of 1.0 sqmmpvc Insulated copper conductor wire FRLS type laying in with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark . These will be used with point wiring of light, fan, ex. fan, callbell points, etc { Max. 3 Switchboards in one circuit - One Sp MCB }.Phase wire must be Red colour, Nutral Wire must be Black color & Green Wire for Earthing. Color code must be maintained. Tagging from Lighting DB MCB and Switch board must be done.		
1.1	One 5A switch controlling one light / fan point.	36	nos
1.2	One switch controlling Two light points .	9	nos
1.3	One switch controlling Three light points .	7	nos
1.4	5A socket outlet with 5A switch (on common board) (1 FOR WATER COOLER).	19	nos
1.5	5A socket outlet with 5A SP switch (as an independent point) [for ex. Fan, wall fan , QMS, Token M/C Display, etc. points.]	7	nos
1.6	Call bell point with bell push complete.	1	nos

1.7	SITC of loop light points 0f 2 nos. of 1.5 sq. mm. off wires & 1 nos. of 1.0 sq. mm. earth wire from Main panel timer of mains of 2 nos. of 2.5 sq.mm wire and 1 no.of 1.0 sqmmpvc Insulated copper conductor earth wire laying in with 20 mm/25 mm dia type PVC rigid conduits 1.5 mm thick ISI mark. (This point is for Signage and Down Lighter Points at Entrance).	2	nos
2.1	SITC of 6/16 Amp. Switch and socket complete with necessary require wiring from LDB of 2 no of 2.5 sq mm wires and 1 no of 1.0 sq mm PVC Insulated copper conductor earth wire laying in with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark. These will be used with point wiring of power points ,etc. No Looping of Neutral or earthing is allowed. Each point needs to provide seperatecircuit.This Points Need to Be Connected through LDB.(For Cash Room, Locker Room, small Record Room - wiring points) .	3	nos
2.2	SITC of 6/16 Amp. Switch and socket complete with necessary require wiring from LDB of 2 no of 4.0 sq mm wires and 1 no of 2.5 sq mm PVC Insulated copper conductor earth wire laying in with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark. These will be used with point wiring of power points ,etc. No Looping of Neutral or earthing is allowed. Each point needs to provide seperatecircuit.This Points Need to Be Connected through LDB.(For Big Record Room - wiring points) .	1	nos
2.3	SITC of 6/16 Amp. Switch and socket complete with necessary require wiring from PDB of 2 no of 4.0 sq mm wires and 1 no of 2.5 sq mm PVC Insulated copper conductor earth wire laying in with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark. These will be used with point wiring of power points ,etc. . No Looping of Neutral or earthing is allowed. Each point needs to provide seperatecircuit.This Points Need to Be Connected through PDB. (For Printer, Water Cooler, Freeze, Motor, Note Counting Machine points) .	2	nos
3	SITC of 20 A/ 25 A , 230 V, with DP ELCB, 100 mA all enclosed in a prefabricated M S boxes complete to the satisfaction of E.I.C. For SPLIT AC 1.5TR / 2.0 TR unit with necessary require wiring from ACDB of 2 no of 4.0 sqmm wires and 1 no of 2.5 sqmm PVC Insulated copper conductor wire FRLS type laying in with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark. These will be used with point wiring of A.C. points ,etc . Server Room AC Supply need to be given through Main Panel. Color code must be maintained. Tagging from DP MCB and AC point must be done.This point should be installed near Split/ window AC in concealed manner. No Looping of Neutral or earthing is allowed. Each point needs to provide seperate circuit.	6	nos

	For Cassate AC power supply indoor or outdoor need to be given as per AC vendor's requirement. The height of switchboard must be at reachable point for easily operation.from that point to Split AC,empty conduit + necessary bends must in concealed mode by ele. contractor. THE ENCLOSURE SHOULD BE SAME MAKE AS MCB MAKE.		
B	LIGHTING FIXTURES :		
	(NOTE : ANY OF FIXTURES AND FITINGS SHALL BE RE-CONFIRMED WITH THE ARCHITECTS / CONSULANTS BEFOTE ORDERING THEM.		
4	SITC of (including supply and fixing flexible wires from holder to fixtures hardwares etc.) of.... - The LED lamps should be of same make as fixture make. - The marking & cutting of fixtures should be in ele. contractor's scope.. fixtures should be approved by bank's ele. engineer / ele. consultant / architect. from the given make list before installations. LM 79 & LM 80 test reports to be submitted. nichia / LUmileds / cree - LED should be used by manufacture. Lighting Luminaire of LED for Office single piece die cost aluminiumM24 housing complete with driver unit, mirror optic and other accessories Lamps of about 100 lumen/W injection moulded PC diffusers with high brightness complete unit complying with international standard (LU49, LH801) - opertive on 190V - 270 V 50 Hz with Mini 3 years warranty complete with mounting stystem and lamp dully wired and tested Details as under.		
4.1	SITC of LED 1 x 31 W (3100 lumens) (2' X 2') RECESS MOUNTED LUMINAIRE with 2KV surge protection, making earthingconnection complete to be recessed in false ceiling with all necessary hardwares, hanging - die cast frame arrangement, chains or hook arrangement with ceiling, connected to supply wire with PVC connector. Earthing connection with lugging need to given to body of Fixture, etc. complete. (Crompton Model ORION II Cat Ref No: LCTRLN-36-FO-CDL, CCT 6000 K and CRI > 80, lumen O/P > 3300 lumen, Syatem wattage (LED + Driver) < 40 Watt. or Equivalent in GE/ Philips / Havells / Wipro make) .	21	nos
4.2	SITC of 1x12 W Square / Round LED DOWN LIGHT pressure die cast fixture with 2KV surge protection (950 lumens) to be recessed in false ceiling with all necessary hardwares, chains, hook etc. complete.(CROMPTON make cat no. Crompton Model CROM LCDD-15-CDL/TL/ WW ,CCT 6000 K and CRI > 80,Lumen output1450 lumen, System wattage(LED + Driver) 12 Watt or Equivalent in GE / Philips / Havells / Wipro make). Energy Efficient round recessed mounted LED down lighter with premium white powder coating and die cast aluminium housing. as per details above. Die casting material should not be CRCO type material. should be connected to supply wire with PVC connector. Earthing connection with lugging need to given to body of Fixture.	30	nos

4.3	SITC of LED tube light 1 x10 W (560 lumens) Surface mounting type with LED tube, complete. (Crompton Model : LINNET; CAT Ref No: LCL-07-CDL or Equivalent PHILIPS / GE / Wipro make) . For Toilet area.	3	nos
4.4	Supply and insallation of Call bell with Indicatore. (Max or equivalent make)	1	nos
4.5	SITC of Exhaust fan of 300 mm, fresh air vantilator type complete & 6 Amp. 3 pin TOP. (Crompton/ Khaitan / Havells make) [Wooden mounting frame should be fixed in coordination with carpenter - furniture contractor.] - Two Ex. Fan is of heavy duty industrial for Ups room.	4	nos
4.6 1	SITC of 48" Ceiling Fan with fan step socket modular regulator, Max. 3 feet Fan Rode, Anchor Fastner, etc. (WHITE COLOUR - BEE 5 star labeled ceiling fan Alluminium body and copper winding.) (Orient PSPO or Equivalent approved make in Crompton / Havells. - Model High Breeze Plus BEE 5 Star labeled ceiling fan , Aluminium body , copper winding .).	5	nos
4.7	SITC of 1 x 18W led batten light fixture (T-5) with electronic driver and tube complete with necessaryhardwares, etc and per watt lumens output must be above 120/watt and 90%lumems maintaiance for 90% of life with input voltage 90-270v ac 50hz operational without affecting the life, input mov.gtd protection in driver for above 270v protection. and 2 years waranty.LED Batten Comprises of Thermally conductive material. Pre-wired with high efficiency electronic driver. High translucent frosted diffuser gets glare free, smooth light distribution. (Cormpton / GE/ Philips / Havells / Wipro make) .	7	nos
4.8	SITC of 450 mm sweep wall mounted fan with metal body, metal stand, guard and blade, 6 a. 3 pin top With on site 2 years warranty. (ALMONARD tempest mark II or equivalent make.) Wall fan with PVC body strictly rejected.	4	nos.
4.9	SITC of Decoretive 3 W (180 lumens) LED DOWN LIGHT PANEL with its driver also. (wipro make or philips or equivalent co. make). (Approved by Architrct) basic rate of fixture Rs. 900/-. (<u>This is for down lighter in ACP work near entrance</u>).	2	nos
C	COMPUTER POWER SUPPLY & NETWORKING - TELE. SYSTEM.:Phase wire must be Yellow colour for UPS O/P DB, Red colour for PDB , Neutral Wire of Black colour& Green Wire for Earthing. Color code must be maintained. Tagging from DB MCB		

	and Switch board must be done.		
5	SITC of 2 nos. of 6 A, 5 pin Sockets and 1 no. of 6 \ 16 A socket below table outlets with one 16 A switche with indicator Computer power supply with concealed company made metallic boxes or PVC flush box on walls / furniture's / trunkingetc complete all respect with necessary wiring of mains of 2 no of 2.5 sq mm and 1 no of 1.5 sqmmpvc insulated copper conductor multi-stranded flexible wire with 20/25 dia. PVC conduits with accessories duly burried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. complete from UPSDB to Computer power supply boards.{Maxi. 3 computers in one circuit}. complete with necessary termination etc. complete.[White Colour Outer Plate For These Switchboards]. LOOP POINTS MUST BE OF SAME SIZED WIRES. Phase wire must be Red colour, Nutral Wire must be Black color & Green Wire for Earthing. Color code must be maintained. Tagging from UPS O/P DB MCB and Switch board must be done.	23	nos
6	SITC of 2 nos. of 6 A, 5 pin Sockets and 1 no. of with one 6 A switches raw power supply with concealed company made metallic boxes or PVC flush box on walls / furniture's / trunkingetc complete all respect with necessary wiring of mains of 2 no of 2.5 sq mm and 1 no of 1.5 sqmmpvc insulated copper conductor multi-stranded flexible wire with 20/25 dia. PVC conduits with accessories duly burried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. complete from PDB to Computer power supply boards.{Maxi. 3 Raw Power Points in one circuit}. complete with necessary termination etc. complete.. [BlackColour Outer Plate For These Switchboards]. LOOP POINTS MUST BE OF SAME SIZED WIRES. Phase wire must be Red colour, Nutral Wire must be Black color & Green Wire for Earthing. Color code must be maintained. Tagging from PDB MCB and Switch board must be done. .	10	nos
7	SITC of CAT 6 UTP pvc insulated copper conductor data cable of D - Link with 20/25 dia. PVC conduits with accessories duly burried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. or to be cleated on wall / ceiling with saddles / spacer etc. necessary termination etc. with ferrule numbering at both ends of each piece of cable complete. [2 Lines from BSNL Krone to new krone in server room].	50	mtr
8	SITC of CAT 6, RJ 45 information outlet (I/O) of D-link mke with front modular cover plate, flush box metallic or PVC for trucking system etc. complete with terminations etccomplete.with Providing, installing, testing, commissioning of CAT 6 UTP pvc insulated copper conductor	23	nos

	data cable of D-link make with 20/25 dia. PVC conduits with accessories duly burried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. or to be cleated on wall / ceiling with saddles / spacer etc. necessary termination etc. with ferrule numbering at both ends of each of piece of cable etc. complete as per the requirement from data rack to I/O points below tables. etc. (One for LCD & Two for ATM & one for IP phone in BM cabin). Dual jack plate will not be allowed. Cross Ferruling need to be provided for each point. on Data point tagging must be done).		
9	SITC of 12 U metal rack for computer clamping switch etc complete with Tray Mounting Fan + power supply board. Bank's hardware - port switch / patch panel must be installed by ele. Contractor in this rack. - (make : D Link / Digi Link / Elixer) .	1	nos
11	SITC of 24 port patch panel for computers mounting in metal rack. (make : D Link / Digi Link) .	1	nos
13	Supply & fixing the Patch cord 1 mtr. Long (factory built) .-When supplying , then first ask to BM / Consultant / Architect / Bank Authority.	23	nos
14	Supply & fixing the Patch cord 2 mtr. Long (factory built) .-When supplying , then first ask to BM / Consultant / Architect / Bank Authority.	23	nos
15	SITC of telephone point with Telephone socket outlets of RJ 11 of aapproved make with company made concealed boxes in walls / furniture's etc. complete with Providing, installing, testing, commissioning of 2 pair of 0.51 cross section pvc insulated copper conductor telephone wire of ITI approved with 20/25 dia. PVC conduits with accessories duly burried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. or to be cleated on wall / ceiling with saddles / spacer etc. necessary termination etc. complete.from krone box to tele. RJ - 11 sockets below tables. etc.- for Intercom / fax / direct Tele. facility. Cross Ferruling need to be provided for each point. on Telephone point tagging must be done .	11	nos
17 (A)	SITC of 30 pair krone telephone tag block duly enclosed in sheet metal powder coated box with locking arrangement complete with necessary terminations .	1	nos
D	DISTRIBUTION BOARD AND PANELS :		

18	SITC of metallic double door type distribution board with all necessary connection complete to be installed concealed in wall / surface mount complete to the satisfaction of the Engineer in charge. The DB should be of same make as MCB make.		
18.1	6 - WAY TPN DB : (LDB). All MCB should be ' B ' type.	1	nos
	incoming : 40 A FP MCB - 1 NO.		
	outgoing : 25 A DP ELCB, 100 mA - 3 NO .		
	outgoing : 6 to 20 A SP MCB (9 nos).		
18.2	6 - WAY TPN DB : (PDB). All MCB should be ' C ' type.	1	nos
	incoming : 63 A FP MCB - 1 NO .		
	outgoing : 40 A DP ELCB, 100 mA - 3 NO .		
	outgoing : 10 to 20 A SP MCB (9 nos).		
18.3	6 - WAY TPN DB : (ACDB). All MCB should be ' C ' type.	1	nos
	incoming : 63 A FP MCB - 1 NO .		
	outgoing : 20 A / 25 A DP MCB (4 nos) for HI- WALL SPLIT AC points.		
	outgoing : 25/ 32 A FP ELCB (2 nos) for cassette AC points.		
18.4	8 - WAY SPN DB : (ATMDB). All MCB should be ' C ' type.	1	nos
	incoming : 40 A FP MCB - 1 NO .		
	outgoing : 20 A / 25 A DP MCB (1 nos) for HI- WALL SPLIT AC points.		
	outgoing : 10 to 20 A SP MCB (1 nos).		
18.5	8 WAY SPN DB : (UPS DB - branch main.) OUTPUT. - All MCBs must be C Type Characteristic.	1	nos
	incoming : 63 A DP 100 mA ELCB.		
	outgoing : 10 to 20 A SP MCB (6 nos).		
18.6	4 WAY SPN DB . (For essential ups points - UPS O/P DB.).	1	nos
	outgoing : 25 A. DP MCB - 1 NO FOR UPS OUTPUT.		
	outgoing : 10 A / 20 A. SP MCB - 2 NO FOR essential ups points - DATA RACK / FIRE PANEL / CCTV NVR PTS.		

18.7	4 WAY SPN DB . (ForATM ups points - UPS O/P DB - in ATM AREA.).	1	nos
	outgoing : 25 A. DP MCB - 1 NO FOR UPS OUTPUT.		
	outgoing : 10 A / 20 A. SP MCB - 2 Nos.		
18.8	4 WAY SPN DB . (For UPS O/P DB. AT UPS ROOM). - BRANCH.	1	nos
	outgoing : 40 A. DP MCB - 1 NO FOR UPS OUTPUT.		
	outgoing : 25 A. DP MCB - 1 NO FOR UPS OUTPUT.		
18.10	UPS 12 WAY SPN DB (For all computers). - All MCBs must be C Type Characteristic.	1	nos
	incoming : 63 A FP MCB - 1 NO FOR 3 - phase UPS.(big) .		
	outgoing : 20 A / 25 A DP MCB (1 nos) for UPS I/P DB. - E LOBBY.		
	outgoing : 10 A SP MCB - 1 NO FOR UPS ROOM LIGHTING.		
	outgoing : 25 A DP MCB - 1 NO FOR INVERTER.		
20	SITC of 40 A FP changeover switch - mcb type (C - Curve) with powder coated compny made metallic double door sheet stell enclosure complete for inverter supply to LDB - check SLD. THE ENCLOSURE SHOULD BE SAME MAKE AS MCB MAKE.	1	nos
20.1	SITC of 32 A FP MCB (C - Curve) with powder coated compny made metallic double door sheet stell enclosure complete for three phase 3.0/4.0 TR CASSETTE AC units. This will be executed near trap door of indoor unit at reachable height. (as per IP 65 protection). THE ENCLOSURE SHOULD BE SAME MAKE AS MCB MAKE.	2	nos
21	SITC of Main panels as per drawing and specifications. Panel should be dust and vermin proof. Panel shall be fabricated from 14/ 16 SWG CRCA sheet metal duly powder coated of approved paints. Panel should be as per the sepecifications of ERDA/CPRI. fabrication, Switch gear installation. Internal wiring and Test Certificate from Manufacturer to be submitted. - All MCBs must be C Type Characteristic. Panel Drawing Need to be approved by Electrical Consultanat / Bank's Engineer before starting work. READ SLD CAREFULLY.		
	MAIN PANEL :	1	nos
	Incoming feeder : 100 A C&S Make CSE1N100ETM4P-125A (1 No.). The MCCB should have inbuilt Earth Fault & Nutral Overload Protection with Power Supply & Display Module for Metering & Fault Recording.		

	Incoming feeder : 80 A C&S Make CSE1N80ETM4P-80A (2 No.).		
	* 63 A, FP Change over switch (1 No.).		
	* 63 A, FP Change over switch (1 No.).		
	* 160 AMP. 500 Volts, 3 phase 50 Hz FP Alu. bus bars of suitable length -Current ratio shall be 1 sq mm = 1.2 A.		
	* 80 AMP. 500 Volts, 3 phase 50 Hz FP Alu. bus bars of suitable length -Current ratio shall be 1 sq mm = 1.2 A.		
	* 63 AMP. 500 Volts, 3 phase 50 Hz FP Alu. bus bars of suitable length -Current ratio shall be 1 sq mm = 1.2 A.		
	* Digital AVF Meter with control fuses. C.T. shall be of 15VA class 1 type and shall be resin cast type.		
	* Phase indicator lamps phase wise.		
	* Outgoing feeder:		
	* Timer of L & T make Cat. No. 67DDTO digicom Timer with 16A. 4P contactor /Theben make Cat no. SUL 180 a - T180 0 001 ANALOG Timer with L & T make contactor MNX 18 (operating coil voltage 230V, 50 Hz). (24 hrs).-1 No for signage light.		
	* 25 A DP MCB (1 no - Sign board for branch).		
	* 40 A FP MCB (1 NO - LDB).		
	* 63 A FP MCB (1 NO - PDB).		
	* 63 A FP MCB (1 NO - UPSDB).		
	* 40 A FP MCB (1 NO - ATMDB).		
	* 63 A FP MCB (1 NO - ACDB).		
	* 40 A FP MCB (1 NO - SPARE DB)		
21	SITC of 100A FP MCCB- C&S Make CSE1N160ETM4P-125A (36KA) (1 No.) with (Ics =100% Icu., confirmed to IS / IEC 60947 -2 adjustableIr rating from 0.7 to 1) Unit M. S. compartment enclosure IP65 with hinged door & locking arrangement duly fabricated from 18 SWG sheet metal box duly painted with one coat of red-oxide paint and two coats of approved enamell paints with 100A OPEN TYPE FP MCCB UNIT with Phase indicator lamps phase wise , control fuses & wooden back complete. THIS WILL BE INSTALLED NEAR MAIN DOOR - INSIDE OR OUTSIDE - OF THE BANK. (first ask to BM / Consultant / Architect / Bank Authority.	1	nos
E	EARTHING SYSTEM:		
23	SITC of Earthing Pit with all necessary mattrerialand making masonry kundi, watering arrangmentetc complete as per ISI 3043-1987 (FOLLOWING ITEMS MAY OPERATE). Resistivity as per IEC / IS. (3 years Manufacturer Warranty. Earthing Certificate Need to Attached). (At the Time of buried of earthing Photograph must be		

	taken Without Photographic Proof Earthing Will be Rejected. Earthing Rod Photo Must be attached with Bill.). Earthing need to measure at Site and it should be less than 5 Ohm. If found more than 5 ohm than will be rejected. Earthing Pit Must be Provided for both Cu as well as GI earthpit.		
23.1	ECO SAFE environment friendly electrical grounding system with T-193- Hot Dip Galvanised, having 50mm dia. of outer pipe and 25 mm dia. of inner pipe and length of 3mtrs with 50kg Back Fill Compound as per UL 476, of Powerfill Eco friendly electrical grounding backfill compound and clamp (DB - PANEL) - G. I. -(Chemical GI Earthing) ERDA & NSIC approved, E link or ETP MAKE or ASHLOK MAKE. Any other make will not be consider. (1 for DB - PANEL .) .	1	nos
23.2	ECO SAFE environment friendly electrical grounding system with T-193- Copper electrode used upto 11 KV, having 50mm dia. of outer pipe and 25 mm dia. of inner pipe and length of 3mtrs with 50kg Back Fill Compound as per UL 476, of Powerfill Eco friendly electrical grounding backfill compound and clamp (UPS) - Chemical GI Earthing) ERDA & NSIC approved, E link or ETP MAKE or ASHLOK MAKE. Any other make will not be consider. - Cu. (UPS) .	1	nos
24	SITC and jointing of following wire / strip / earth cable on walls, ceiling etc. With necessary non rusting clamps, washers, nuts and bolts etc complete.		
24.1	25 x 3 mm G.I. Strip - From G. I. earthing pit to Main Panel + From Cu. Earthpit to UPS I / P DB.	50	Rmt
24.3	8 SWG G.I. Wire with 20 mm dia. PVC rigid conduit duly cleated / concealed / burried in floor etc. complete for ELE. PANEL, ALL DBS , ETC.	50	Rmt
24.4	8 SWG CU. Wire with 20 mm dia. PVC rigid conduit duly cleated / concealed / burried in floor etc. complete.	20	Rmt
F	CABLES & CABLE TERMINATIONS:		
25	Supply, Laying, installation, testing and commissionig of following sizes of PVC insulated PVC sheathed copper / aluminum conductor armoured cable to be laying in existing cable trench or to be laid in existing pipes of with necessary clamps, spacers with cleating on wall ceilling etc. complete to the satisfaction of EIC. All types of cable excavation works should be in contractor's scope.(LENTH TO BE VERIFY AT SITE) with end termination of following PVC insulated armoured cables incluming supply and fixing of brass single compression type cable glands and crimping type aluminum / copper lugs suitable for terminations of armoured cables of following overall		

	diameters, incl.		
25. 1	3 C x 2.5 sq. mm Cu . Conductor YWY cable. (for Signboard).	10	mtr
25. 3	4 C x 6.0 sq. mm Cu. Conductor YWY cable. (Main Panel to UPS I/P DB).	25	mtr
25. 5	4 C x 16.0 sq mm Alu. Conductor AYFY cable. (Main Panel to LDB, PDB , ACDB , ATM DB.).	20	mtr
25. 6	3.5 C x 50.0 sq. mm Alu. Conductor AYFY cable. (main cable from Panel to main mcbnr. energy meter) (LENGTH as per site contition) .	15	mtr
25. 8	25.0 sq. mm single core Cu. wire supply & laying for main load wire from meter to main switchin flexible pipe. if required.	8	mtr
25. 10	3 C X 6.0 sq. mm flexible Cu. cable with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark .(UPS to UPS O/P DB & UPS I/P DB to UPS). - for branch.	28	mtr
25. 11	3 C X 6.0 sq. mm flexible Cu. cable with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark .(INVERTER to MCB CHANGEOVER & UPS I/P DB to INVERTER). - for INVERTER.	24	mtr
25. 12	3 C X 4.0 sq. mm flexible Cu. cable with 20 mm/25 mm dia PVC rigid conduits 1.5 mm thick ISI mark .(UPS to UPS O/P DB & UPS I/P DB to UPS - for ATM & UPS O/P DB MAIN to Essential UPS O/P DB).	60	mtr
G	MISCELLANEOUS ITEMS :		
26	SITC of 300 x 300 x 40 mm size GI box duly fabricated from 18 SWG m.s. sheet with top cover of s. s. sheet complete with necessary knock outs at all the sides of box for conduit entries duly fixed in floor, including breaking in floor and re-finished the same etc. complete (Wire Draw Box).	2	nos
27	SITC of 150 x 150 x 40 mm size GI box duly fabricated from 18 SWG m.s. sheet with top cover of s. s. sheet complete with necessary knock outs at all the sides of box for conduit entries duly fixed in floor, including breaking in floor and re-finished the same etc. complete (Wire Draw Box).	10	nos
28. 1	SITC of 2.5 sq. mm. 3 core flexible cable of approved make (3 mtr. Length) with heavy duty industrial pvc flexible pipe & 15 amp. 3 pin top of approved make for the supply of RECORD ROOM, LOCKER	3	nos

	ROOM, CASH ROOM.		
28. 2	SITC of 4.0 sq. mm. 3 core flexible cable of approved make (3 mtr. Length) with heavy duty industrial pvc flexible pipe & 15 amp. 3 pin top of approved make for the supply of BIG RECORD ROOM.	1	nos
29	SITC of CABLE TV cable line with proper fixing and connecting with modular Co-Axial TV Socket. - 2 run.	30	mtr
30. 1	SITC of 24 Hr, 7 days A/C timer with 2 nos of TP power contactor of M.D.S, L & T , SEIMENS, THEBEN (indoasian) Make. All enclosed in sheet steel <u>powder coated enclosure of 200 X 200 mm</u> complete with all necessary termination for e lobby AC supply. <u>Here Ready made Cyclic Timer Will not be permitted. - to be installed in E lobby near main DB.</u>	1	nos
30. 2	SITC of 24 Hr, 7 days A/C timer with 2 nos of DP power contactor of M.D.S, L & T , SEIMENS, THEBEN (indoasian) Make. All enclosed in sheet steel <u>powder coated enclosure of 200 X 200 mm</u> complete with all necessary termination for UPS room ex fan supply. <u>Here Ready made Cyclic Timer Will not be permitted. - to be installed in ups room.</u>	1	nos
32	Supply & laying of the empty conduit . - 40 mm. used for GI strip in flooring at GF & upto FF branch.	30	mtr
35	Removal of old wiring in area which will be proposed to be redesigned & providing Necessary plug points & light points for tube lights (including necessary wiring) at various locations as required by various contractors for execution of various works / to run equipments such as drill / cutter etc. during the entire execution process. The accessaories used for this purpose shall be of temp. nature (anchor piano or eq.) & the contractor has to take back the same on completion of the project. The supply for this shall be taken from the temporary connection provided at / from nearby general meter under co.ordintion with the LANDLORD. & also providing temporary power supply for computers and data connection for computers with wiring, switchboard, Comp. I/O Points,etc. for smoothly running of the branch with removing &reshifting of the computers , printers, etc. bank hardware accessories.	1	job
	<u>TOTAL - PART A :::</u>		

PART - B ::: BUYBACK			
1	BUY BACK : FROM premises - Entire existing electrification, telephone wirings, LAN wirings with conduits shall be removed and shall be purchased by the contractor including switches and accessories, lighting fixtures, exhaust fan , Cables, etc. (Contractor shall last visit site before quoting and the submit the list of material with quantities which are buying and the quoted rate shall be lump sump basis)	1	Job
	TOTAL - PART B :::		
	TOTAL ::::: PART A - PART B :::		
	GRAND TOTAL :::		
1	ALL RATES SHOULD BE INCLUDE OF ALL TAXES EXCLUDING GST WHATEVER IS APPLICABLE.		
2	THE CONTRACTOR SHOULD DEPUTE ONE PERSON AT SITE FROM START OF WORK TO FINISH FOR GIVING TEMPORARY CONNECTIONS & ATTENDING PROBLEMS.		
3	THE CONTRACTOR SHOULD WORK ACCORDING TO THE FINAL LAYOUT.		
4	THE CONTRACTOR SHOULD SUBMIT & APPROVE MAKE LIST WITH ARCH./ BANK'S ENGINEER / ELE. CONSULTANT BEFORE WORKING & SUBMIT SIGNED COPY WITH FINAL BILL SUBMISSION.		
5	THE CONTRACTOR SHOULD CHECK ELE. APPROVED MAKE LIST BEFORE QUOTE.		
6	THE CONTRACTOR SHOULD SUBMIT TEST CERTIFICATE OF PANEL FROM PANEL BUILDER AS PER PERFORMA GIVEN IN TENDER. BUT THE PANEL SHOULD BE MADE AS PER CPRI TERMS & CONDITIONS & ALSO APPROVED BY BANK'S ELE. ENGINEER / CONSULTANT . THE CONTRACTOR SHOULD FOLLOW THE GA DRAWING & PANEL SLD IF GIVEN IN TENDER.		
7	LOWEST BIDDER SHALL BE DECIDED AFTER DEDUCTING THE BUYBACK VALUE.		
8	THE CONTRACTOR SHOULD SUBMIT BANK GUARANTEE OR WARRANTY OF FIXTURES - LED FOR MIN. 3 YEARS.		
9	CONTRACTOR SHOULD BE SUBMITTED THE CERTIFICATE OF WIRES THOSE USED FOR THE BRANCH FROM DULY SIGNED BY COMPANY AUTHORISED PERSON. - PER PROJECT BASIS.		
10	EARTH RESISTANCE SHOULD BE CHECKED & SUBMITTED THE REPORT WITH DULY SIGNED BY ELE. CONTRACOTR AT THE TIME OF BILL CHECKING.		
11	SINGLE LINE DIAGRAM SHOULD BE SUBMITTED AT BRANCH & ONE COPY SHOULD BE ATTACHED NEAR DB / MAIN PANEL.		

12	SHOCK TREATMENT CHART SHOULD BE PEST NEAR DB / MAIN PANEL. STICKERS SHOULD BE PEST ON DBS / MAIN PANEL.
13	THE CONTRACTOR'S PRESENCE MUST BE COMPULSORY FOR SHIFTING / INSTALLING OF UPS , DATA RACK, EPABX SYSTEMS. - MUST HELP TO BANK'S VENDORS LIKE PCS (HARDWARE), UPS , DATACRAFT (PORT SWITCH - SOFTWARE), ETC.
14	CONFIRMATION/ RECEIVED SIGNATURE FROM BRANCH MANAGER REQUIRED FOR SUPPLY OF PATCH CORDS.
15	THE RATES QUOTED BY THE CONTRACTOR IN THE COLUMN WHERE QUANTITY & UNIT ARE NOT MENTIONED IN THE TENDER ARE NOT NECESSARY BE ACCEPTED , IF LATER THE SAME ARE TO BE FIXED ON SITE.
16	THE CONTRACTOR SHOULD BE ADVISED NOT TO LAY ANY CONDUIT / CABLE MAIN LINES THROUGH THE CASH ROOM / LOCKER ROOM / RECORD ROOM FOR SECURITY SAFETY AUDITS.
17	IF THE CONTRACTOR HAS NOT CARRIED OUT ELECTRICAL WORK AS PER STANDARD SPECIFICATION THEN CONTRACTOR IS LIABLE TO REMOVE AND REWORK AS PER STANDARD SPECIFICATION AND WHATEVER THE DAMAGE IN CONNECTION WITH CIVIL/ FURNITURE/ AC WORK WILL BE BEAR BY CONTRACTOR. IF CONTRACTOR WILL NOT DONE REWORK THEN WHATEVER BEEN THE COST FOR REWORK WILL BE DEDUCTED FROM CONTRACTOR'S BILL.
18	THE CONTRACTOR SHOULD BE ADVISED TO FIX 2 / 3 INCH SIZE PIES FOR HOLES IN OUTSIDE AREA WHERE THERE WILL BE CREATED THE HOLES IN WALL FOR CABLES / EARTH STRIP LAYING WORKS. FILLED WITH CEMENT / MORTAR WITH END CAPS OF PIPES.

APPROVED MAKE LIST OF EQUIPMENT AND ACCESSORIES

1	PVC rigid conduits & Accessories. :
	1.5 mm thick (MMS) ISI and FIA approved - Precision / Vraj / Nihir / BLP / PFI / Astral / Polycab / Anchor make. (Only white coloured pipes FRLS type to be used.).
2	L.T. Cables :
	Havells / KEI / Polycab / R. R. Kable / Finolex.
3	Wires (FRLS) :
	Havells / KEI / Polycab / R. R. Kable / Finolex / Anchor.
4	Main Distribution Boards :
	MDS Legrand (Lexic)/ Hager / Havalls / Schneider (Eazy 9)/ C & S Wintrip / Siemens Bitaguard / ABB.
5	ELCB / RCCB / Miniature Circuit Breaker:

	MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9) / C & S Wintrip / Siemens Bitaguard / ABB.
6	Switch gears : MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9) / C & S Wintrip / Siemens Bitaguard / ABB.
7	Change Over Switch : HPL Socomac / Havells / L & T / Hager.
8. A	Domestic fittings : - All Switching Modular Accessories. : Schneider Livia / Anchor Roma Plus / Crabtree Verona / Legrand Myris / ABB .
8.B	Domestic fittings : - Holders / ceiling roses. : Anchor / ABB or equivalent approved make.
8.C	Domestic fittings : - Adhesive Tape. : Bhor (Steel Grip) or approved .
9	10 - 30 A Polycarbonate Socket & Top : MDS Legrand (Lexic)/ Hager / Havells / Schneider (Eazy 9) / C & S Wintrip / Siemens Bitaguard / ABB.
10	Telephone Wires / Cable : Finolex / R. R. Kable / Havells / L & T / Polycab.
11	Telephone tag block : Krone make.
12	Cable Lugs : Dowell / Lotus / Jainson / 3 D.
13	Cable gland Single / Double Compression : HMI / Comet / 3D.
14	Ammeter / Voltmeter :

	AE / HPL / MECO / Enercon make.
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15	Selector switches :
	L &T salzer / Kaycee / ABB make.

16	Indicator lamps :
	LED type Teknic / Precifine/ Binay / ABB.

17	Connector strips :
	Wago / Elmex make.

18	Lighting Fixtures :
	Wipro / Philips / GE / Crompton / Havells.

19	Exhaust fan (Light duty) :
	Khaitan / Crompton / Havells.

20	Ceiling Fan (5 star rated) :
	Crompton (High Breeze Plus) / Havells / Orient (PSPO).

21	Wall mounted Fan (5 star rated) :
	ALMONARD tempest mark II or equivalent make. Wall fan with PVC body strictly rejected.

22	Data Cable - I / O Unit :
	D - Link / Digi Link.

LIGHTING / FAN FIXTURES - SEE CAT NO. & SPECIFIED MAKE IN THE PRICE BID.

CONTRACTOR SHOULD USE ONLY ONE COMPANY FOR ALL SWITCHBOARDS / DBS.

CONTRACTOR SHOULD SUBMIT SIGNED COPY OF MAKE LIST BEFORE WORK STARTED.

PROJECT
 SHRIHANNAGAR BRANCH, STATE BANK OF INDIA, AHMEDABAD.
 GROUND FLOOR PLAN - 4

DATE: 10/11/2011
 DRAWN BY: S. S. S. S.
 CHECKED BY: S. S. S. S.
 APPROVED BY: S. S. S. S.
 ARCHITECT: S. S. S. S. ARCHITECTS

NO. 08

101 3 6 11 FT



